CS PROFESSIONAL – FINANCIAL TREASURY & FOREX MANAGEMENT – THEORY Q & A

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Chapter 1	Nature, Significance & Scope of Financial Management

Q. 1. What are the Objectives of financial management?

Ans. Financial management deals with the planning and control of firm's financial resources.

The fundamental objective of financial management is wealth maximisation. The following are the main objectives of financial management which ultimately leads to wealth maximisation in the long run:

1) Proper Utilisation of Funds leading to a value addition.
2) Maximisation of Return on Investment (ROI): It is one of the primary objectives of every firm to generate higher return on investment so that then it need not depend on external borrowings, and at the same time can reward its shareholders in terms of dividends and bonus shares.
3) Survival: The survive means to stay alive. The problem of survival is common to all types of business units and arises due to increased competition, change in consumer behaviour or technology, Labour problem and so on. It is an immediate objective of a firm. Even the once powerful and prosperous companies battle it out for their survival in this competitive world.
4) Cash Flow: Another short term or immediate objective of financial management is to ensure availability of adequate cash flow to meet its working expenses such as payment of raw materials, wages and salaries, rent, etc. An organisation with goods cash flows can take advantage of many opportunities such as availing of cash discounts on purchases, bulk buying, offering credit terms to customers, etc.
5) Break-Even Point: It is one of the important short term objectives of financial management. The break-even point refers to a situation when a firm is able to achieve a certain level of sales turnover to cover all costs. There is neither profit nor loss. Every business must aim to achieve break-even level as early as possible because once this point is achieved then it can begin to make profits sooner or later in the future.
6) Minimum Profits: The firm must be able to earn minimum profits in the short term which must be able to cover up the cost of capital, whether dividends are paid or not. It also motivates owners/management to work hard. Profit is justified as a return on investment. If profit is not remunerative, it would make people withdraw their investment and discourage future investors.
7) Ensure Co-ordination: To ensure proper co-ordination in the activities of finance departments with those of other departments in the organisation is one of the very important objectives.
8) Good Image for the Organisation: One of the aims of finance department is to bring a good name, reputation; image and goodwill for the firm in the market which will help not only to survive in the short run but also to succeed in the long run even during tough times.

Q. 2. Explain Profit Maximisation & Wealth Maximisation or
"Wealth maximisation is redefined as value maximisation" Do you Agree?

Ans. A firm's financial management may often have the following as their objectives;

(i) The maximisation of firm's profit

(ii) The maximisation of firm's value / wealth.

The maximisation of profit is often considered as an implied objective of a firm. To achieve the aforesaid objective various type of financing decisions may be taken. Options resulting into maximisation of profit may be selected by the firm's decision makers They even sometime may adopt policies yielding exorbitant profits in short run which may prove to be unhealthy for the growth, survival and overall interests of the firm. The profit of the firm in this case is measured in terms of its total accounting profit available to its shareholders.

The value/Wealth of a firm is defined as the market price of the firm's stock. The market price of a firm's stock represents the focal judgment of all market participants as lo what the value of the particular firm is. It takes into account present and prospective future earnings per share, the timing and risk of these earnings, the dividend policy of the firm and many other factors that bear upon the market price of the stock.

The value maximisation objective of a firm is superior to its profit maximisation objective due to following reasons.

1. The value maximisation objective of a firm considers all future cash flows, dividends, earning per share, risk of a decision etc. whereas profit maximisation objective does not consider the effect of EPS, dividend paid or any other returns to shareholders or the wealth of the shareholder,
2. A firm that wishes to maximise the shareholders wealth may pay regular dividends whereas a firm with the objective of profit maximisation may refrain from dividend payment to its shareholders.
3. Shareholders would prefer an increase in the firm's wealth against its generation of increasing flow of profits.
4. The market price of a share reflects the shareholders expected return, considering the long-term prospects of the firm, reflects the differences in timings of the returns, considers risk and recognizes the importance of distribution of returns.

The maximisation of a firm's value as reflected in the market price of a share is viewed as a proper goal of a firm. The profit maximisation can be considered as a part of the wealth maximisation strategy.

Q.2. "Investment, Financing & Dividend decisions are inter related" - Comment

Ans. Inter-relationship between Investment, Financing and Dividend Decisions: The finance functions are divided into three major decisions, viz., investment, financing and dividend decisions. It is correct to say that these decisions are inter-related because the underlying objective of these three decisions is the same, i.e. maximisation of shareholders' wealth. Since investment, financing and dividend decisions are all interrelated, one has to consider the joint impact of these decisions on the market price of the company's shares and these decisions should also be solved jointly. The decision to invest in a new project needs the finance for the investment. The financing decision, in turn, is influenced by and influences dividend decision because retained earnings used in internal financing deprive shareholders

of their dividends. An efficient financial management can ensure optimal joint decisions. This is possible by evaluating each decision in relation to its effect on the shareholders' wealth.

The above three decisions are briefly examined below in the light of their inter-relationship and to see how they can help in maximising the shareholders' wealth i.e. market price of the company's shares.

Investment decision: The investment of long term funds is made after a careful assessment of the various projects through capital budgeting and uncertainty analysis. However, only that investment proposal is to be accepted which is expected to yield at least so much return as is adequate to meet its cost of financing. This have an influence on the profitability of the company and ultimately on its wealth.

Financing decision: Funds can be raised from various sources. Each source of funds involves different issues. The finance manager has to maintain a proper balance between long-term and short'term funds. With the total volume of long-term funds, he has to ensure a proper mix of loan funds and owner's funds. The optimum financing mix will increase return to equity shareholders and thus maximise their wealth.

Dividend decision: The finance manager is also concerned with the decision to pay or declare dividend. He assists the top management in deciding as to what portion of the profit should be paid to the shareholders by way of dividends and what portion should be retained in the business. An optimal dividend pay-out ratio maximises shareholders1 wealth

The above discussion makes it clear that investment, financing and dividend decisions are interrelated and are to be taken jointly keeping in view their joint effect on the shareholders1 wealth

Q. 3. Explain relationship between Economic Value Added & Wealth maximisation

Ans.

- Management guru Peter Drucker refers to it as a measure of total factor productivity.
- EVA is the surplus left after making an appropriate charge for the capital employed in the business. i.e. EVA = NOPAT - (WACC x Capital Employed).
- EVA will rise if operating efficiency is improved, if value adding investments are made, if uneconomic activities are curtailed, and if the cost of capital is lowered.
- EVA is the right measure for goal setting and business planning, performance evaluation, bonus determination, investor communication, capital budgeting, and valuation.
- The goal of all companies is to create value for the shareholder. EVA is a performance metric that calculates the creation of shareholder value, but it distinguishes itself from traditional financial performance metrics such as net profit and earnings per share (EPS).
- EVA is the calculation of what profits remain after the costs of a company's capital – both debt and equity - are deducted from operating profit.
- E.g. X Ltd capital is ' 100 million - including debt and shareholder equity - and the cost of using that capital (interest on debt and the cost of equity) is ' 13 million a year, X Ltd. will add economic value for his shareholders only when profits are more than ' 13 million a year. If X Ltd. earns '20 million, the company's EVA will be '7 million.

- Big corporations, including Coca-Cola, GE and AT&T, employ EVA internally to measure wealth creation performance. In turn, investors and analysts are now scrutinizing company EVA just as in the past they observed EPS and P/E ratios.
- EVA is a critical driver of a company's stock performance. If EVA is positive but is expected to become less positive, it is not giving a very good signal. Conversely, if a company suffers negative EVA but is expected to rise into a positive territory, a good buying signal is given.
- Thus maximizing EVA will maximize wealth of shareholders.

Q.4 ."Financial sector acts as conduit for the transfer of financial resources from net savers to net borrowers" Explain Role and Functions of Financial sector

Ans. The Inter financial sector plays a major role in the mobilisation and allocation of savings, Financial institutions, Instruments and markets which constitute the financial sector act as conduct for the transfer of financial resources from net savers to net borrowers,

The financial sector performs tins basic economic function of intermediation essentially through four transformation mechanisms:

(i) Liability-asset transformation (i.e., accepting deposits as a liability and converting them into assets such as loans);

(ii) Size-transformation (i.e., providing large loans on the basis of numerous small deposits);

(iii) Maturity transformation [i..e., offering savers alternate forms of deposits according to their liquidity preferences while providing borrowers with loans of desired maturities); and

(iv) Risk transformation (i.e., distributing risks through diversification which substantially reduces risks for savers which would prevail while directly in th e absence of financial intermediation),

Q.5. Financial policy & corporate strategy are most significant concerns of top management - Comment

Ans. Capital investment is the springboard for wealth creation. In a world of economic uncertainty, the investors want to maximize their wealth by selecting optimum investment and financial opportunities that will give them maximum expected returns at minimum risk. Since management is ultimately responsible to the Investors, the objective or corporate financial management should implement investment and financing decisions which should satisfy the shareholders by placing them all in an equal, optimum "financial position. The satisfaction of I he Interests of the shareholders should be perceived as a means to an end, namely maximization of shareholders' wealth. Since capital is the limiting factor, the problem that the management will face is the strategic allocation of limited funds between alternative uses In such a manner, that the companies have the ability to sustain or increase investor returns through a continual search for Investment opportunities that generate funds for (heir business and are more favourable for the investors. Therefore, all businesses need to have the following throe fundamental essential elements:

- A clear and realistic strategy,
- The financial resources, controls and systems to see It through and

- The right management team and processes (o make it happen,

We may summarise this by saying that:

Strategy + Finance + Management = Fundamentals of Business

Strategy may be defined as (he long term direction and scope of an organization 1o achieve competitive advantage through the configuration of resources within a changing environment for the fulfillment! of stakeholder's aspirations and expectations. In an idealized world, management is ultimately responsible lo the investors. Investors maximize their wealth by selecting optimum Investment and financing opportunities, using financial models that maximize expected returns In absolute terms at minimum risk. What concerns (he Investors Is not simply maximum profit but also the likelihood of of arising: a risk-return trade of from a portfolio of investments, with which they feel comfortable and which may be unique far each individual.

We call this overall approach strategic financial management and define it as being the application to strategic decisions of financial techniques in order to help achieve the decision maker's objectives. Although linked with accounting, the focus of strategic financial management is different. Strategic financial management combines the backward-looking, report-focused discipline of (financial) accounting with the more dynamic forward-looking subject of financial management It Is basically about the Identification of the possible strategies capable of maximizing an organization's market value, it involves the allocation of scarce capital resources among competing opportunities. It also encompasses the implementation and monitoring of the chosen strategy SD as to achieve agreed objectives.

Q.6. DCF is very close to economic value added - Comment

Ans. For EVA calculation WACC is deducted from NOPAT.

For calculating NPV all future cash inflows are discounted to their PV using WACC.

Thus in both the calculations surplus generated after deducting WACC are considered for evaluation. Higher the surplus higher the efficiency and more wealth generation.

The **value of a firm, in DCF terms,** can be written as:

Firm's Value = Capital Invested in existing Assets + PV of EVA from Existing Assets + PV of EVA from new projects

Thus DCF is very close to economic value added.

Q.7. Time value of money is important concept for wealth maximisation - Comment

Ans. Time value of money in ears that worth of a rupee received today is different from the worth of a rupee to he received in future. Tine preference of money now as compared to future money is known as lime preference for money,

A rupee today is more valuable than rupee after a year due to several reasons:

> Risk - There is uncertainty about the receipt of money in future.

> Preference for present consumption - Most of the persons and companies in general, prefer current consumption over future consumption.

> Inflation - In an inflationary period a rupee today represents a greater real purchasing power than a rupee a year hence.

> Investment opportunities - Most of the persons and companies have a preference for present money because of availabilities of opportunities of investment for earning additional cash flow,

Many financial problems involve cash flow accruing at different points of time for evaluating such cash flow an explicit consideration of time value of money is required.

Thus for maximizing wealth in real terms, time value of money should be considered.

Q.8. High return on investment indicates efficient use of resources - Comment

Ans. Return on investment (RQI) is an important profitability ratio from the point of view of shareholders and inflects on the ability of management to earn a return on resources put in by the shareholders. Under ROI ratio the earning of the company can be viewed from different angles so as to take decisions on different causes responsible, to reduce or to enhance the profitability of the company. One way of finding out rate of return on assets employed in the company is to find the ratio of earnings before interest and taxes (EBIT) to capital employed. This ration indicates operating income to the assets used to produce income. Another way of computing the ROI ratio is through the assets turnover ratio and margin of profit which gives the same results as EBIT to capital employed. It may be seen from the following:

$$\text{ROI} = \frac{EBIT}{Sales} \; x \frac{Sales}{assets} \; x \; \frac{EBIT}{Assets}$$

A high ratio of RO) indicates efficient use of assets and low ratio reflects inefficient use of as sets by a company.

Q. 9. What are the functions of Finance Manager?

Ans. The Finance Manager's main objective is to manage funds in such a way so as to ensure their optimum utilization and their procurement in a manner that the risk, cost and control considerations are properly balanced in a given situation. To achieve these objectives the Finance Manager perform the following functions:

(1) Estimating the requirement of funds: Both for long-term purposes i.e. investment in fixed assets and for short term i.e. for working capital. Forecasting the requirements of funds involves the use of techniques of budgetary control and long- range planning.

(2) Decision regarding Capital Structure: Once the requirement of funds has been estimated, a decision regarding various sources from which these funds would be raised has to be taken. A proper balance has to be made between the loan funds and own funds. He has to ensure that he raises sufficient long term funds to finance fixed assets and other long term investments and to provide for the needs of working capital.

(3) Investment Decision: The investment of funds, in a project has to be made after careful assessment of the various projects through capital budgeting. Assets management policies are to be laid down regarding various items of current assets. For e.g. receivable in coordination with sales manager, inventory in coordination with production manager.

(4) Dividend decision: The finance manager is concerned with the decision as to how much to retain and what portion to pay as dividend depending on the company's

policy. Trend of earnings, trend of share market prices, requirement of funds for future growth, cash flow situation etc. are also to be considered.

(5) Evaluating financial performance: A finance manager has to constantly review the financial performance of the various unit of organization generally in terms of ROI
Such a review helps the management in seeing how the funds have been utilized in various divisions and what can be done to improve it.

(6) Financial negotiation: The finance managers play a very important role in carrying out negotiations with the financial institutions, banks and public depositors for raising of funds on favorable terms.

(7) Cash management: The finance manager lays down the cash management and cash disbursement policies with a view to supply adequate funds to all units of organization and to ensure that there is no excessive cash.

(8) Keeping touch with stock exchange: Finance manager is required to analyse major trends in stock market and their impact on the price of the share.

(9) Mergers & Acquisitions.

(10) Mobilization of needed funds for the business.

(11) Deployment of the funds as per budget allocation

(12) Control over proper use of the Funds

(13) Risk-return Trade off

(14) Financial negotiations

(15) Interface with other functions To Management like Production, Personal, and Marketing etc.

Thus the key challenges to finance manager appear to be in following area:

> Investment planning
> Financial Structure
> Treasury Operations
> Foreign exchange risk management
> Investor communication
> Management control

Q.10."Financial distress is different from insolvency" Comment

Ans. Financial Distress

- Financial distress is a condition where a company cannot meet, or has difficulty paying off, its financial obligations to its creditors, typically due to high fixed costs, illiquid assets or revenues sensitive to economic downturns. A company under financial distress can incur costs related to the situation, such as more expensive financing, opportunity costs of projects and less productive employees.
- Employees of a distressed firm usually have lower morale and higher stress caused by the increased chance of bankruptcy, which would force them out of their jobs.
- Poor profits indicate a company is not experiencing financial health. Struggling to break even indicates a business cannot sustain itself from internal funds and needs to raise capital externally. This raises the company's business risk and lowers its creditworthiness with lenders, suppliers, investors and banks. Limiting access to funds typically results in a company failing.

- Poor sales growth or decline indicates the market is not positively receiving a company's products or services based on its business model. When extreme marketing activities result in no growth, the market may not be satisfied with the offerings, and the company may close down.
- Likewise, if a company offers poor quality in its products or services, consumers start buying from competitors, eventually forcing a business to close its doors.
- When debtors take too much time paying their debts to the company, cash flow may be severely stretched. The business may be unable to pay its own liabilities. The risk is especially enhanced when a company has one or two major customers.

Financial Insolvency

Financial distress leads to Financial insolvency.

Financial **insolvency** occurs when an individual or a firm is unable to meet their financial obligations. Accounting insolvency happens when total liabilities exceed total assets (negative net worth).

Financial insolvency involves a lack of liquidity to pay debts as they fall due. Insolvency is not a synonym for bankruptcy, which is a determination of insolvency made by a court of law with passing legal orders intended to resolve the insolvency.

Q.11."Liquidity & profitability are competing goals" Comment

Ans. Profitability and liquidity are the two terms which are most widely watched by both the investors and owners in order to gauge whether the business is doing good or not. Given below are the differences between profitability and liquidity -

1. Profitability refers to profits which the company has made during the year which is calculated as difference between revenue and expense done by the company, whereas liquidity refers to availability of cash with the company at any point of time.
2. A profitable company may not have enough liquidity because most of the funds of the company are invested into projects and a company which has lot of cash or liquidity may not be profitable because of lack of opportunities for putting idle cash.
3. Gross profit, net profit, operating profit, return on capital employed are some of the ratios which are used to calculate profitability of the firm while current ratio, liquid ratio and cash debt coverage ratio are some of the ratios which are used to calculate liquidity of the firm.
4. A company which is profitable can go bankrupt in the short term if it does not have liquidity whereas a company which has liquidity but is not profitable cannot go bankrupt in the short term.

Hence as one can see from the above that profitability and liquidity are not same and the company has to maintain a fine balance between the two because if company focuses on too much profitability then it runs the risk of not able to pay its creditors, employees and other parties whereas on the other hand if company focuses on liquidity and then it runs the risk of going into loss

Q.12. Financial gearing is double edged sword - Comment

Ans. Gearing Ratio indicates how much of (he business is Funded by borrowing. In theory the higher the level of borrowing {gearing), the higher are the risks to a business, since the

payment of interest and repayment of debts are not 'optional* in the same way as dividends. However, gearing can be a financially sound part of a business's capital structure particularly if the business has strong, predictable cash flows. The formula for the Gearing Ratio is as follows:

General Ratio = $\frac{\text{Borrowings (all long term debts including normal overdraft)}}{\text{Net assets or Shareholders' funds}}$

In general, a company with excessive leverage, as demonstrated by its high gearing ratio, may be more vulnerable to economic downturns. This is because it has to make interest payments and service its debt through cash flows that may be significantly lower due to the downturn. The flip side of this argument is that leverage works well during good times, since all the excess cash flows accrue to shareholders once the debt service payments have been made.

In contrast, lower leverage does not guarantee sound financial management on the part of the business. Certain industries that are highly cyclical in nature, such as those with significant seasonal variances, may not have the funds available year-round to meet debt obligations over a specific amount. This could include businesses in certain agricultural sectors as well as those tied to fluctuating seasonal demands, such as garden centers.

Q.13. Distinguish between Business Risk & Financial Risk

Ans. • Financial risk refers to a company's ability to manage its debt and financial leverage, while business risk refers to the company's ability to generate sufficient revenue to cover its operational expenses. An alternate way of viewing the difference is to see financial risk as the risk that a company may default on its debt payments, and business risk as the risk that the company will be unable to function as a profitable enterprise.

- Financial risk is concerned with a company's ability to generate sufficient cash flow to be able to make interest payments on financing or meet other debt-related obligations. Obviously, a company with a relatively higher level of debt financing carries a higher level of financial risk, since there is a greater possibility of the company not being able to meet its financial obligations and becoming insolvent.
- Business risk refers to the basic viability of a business, the question of whether a company will be able to make sufficient sales and generate sufficient revenues to cover its operational expenses and turn a profit. While financial risk is concerned with the costs of financing, business risk is concerned with all the other expenses a business must cover to remain operational and functioning. These expenses include salaries, production costs, facility rent, and office and administrative expenses.
- The level of a company's business risk is influenced by factors such as its cost of goods, profit margins, competition, and the overall level of demand for the products or services that it sells.

Q.14. Explain the effect of Tax Provisions on financial planning.

Ans. Financial management can be broken down into three major decisions as functions of finance:

a) The investment decision
b) The financing decision and
c) The dividend policy decision.

Tax provisions influence all 3 decisions

- Any new Investments are made on the basis of future profitability of the project & such future profitability reduces due to tax.
- Any project in backward areas provides tax benefits.
- Raising new finance in the form of equity is most expensive because no tax benefit. Whereas debt finance is cheaper due to tax savings on interest.
- Dividend distribution will put burden of dividend distribution tax on distributing co.

Q.15. An investor suffers dilution of interest when Rights are not subscribed - Comment

Ans. A rights issue is an invitation to existing shareholders to purchase additional new shares in the company. More specifically, this type of issue gives existing shareholders securities called "rights", which, well, give the shareholders the right to purchase new shares at a discount to the market price on a stated future date. The company is giving shareholders a chance to increase their exposure to the stock at a discount price. If rights are not subscribed then company may issue this shares to an outsider and then holdings of existing shareholders will reduced or suffers dilution.

Chapter 2	Capital Budgeting

Q. 1. What is Capital Budgeting?

Ans. The term capital budgeting is used interchangeably with capital expenditure decisions and long-term investment decisions. Capital expenditure includes all those expenditure which are expected to produce benefits to the firm over more than one year, and mainly it includes expenditure on tangible fixed assets. The investment decisions taken by the firm for employment of funds in the Fixed Assets is termed as Capital Budgeting.

Features:

(1) Decisions are non repetitive.
(2) It involves large amount of investment over a long period of time.
(3) Returns are in future & uncertain.
(4) The top management is involved in capital expenditure decision-making.
(5) Since the size of the expenditure is huge it requires sophisticated methods to evaluate the benefits of the expenditures.
(6) Number of Variables.
(7) Uncertainties and Risk Factors.
(8) Irreversible Decisions.

Q. 2. What are the factors affecting Capital Budgeting Decisions?

Ans. 1) **Cash Flows:**
   a. Initial investment outlay: The initial investment includes the up-front cost of the fixed assets associated with the project plus any increase in working capital. Inflow from sale of old fixed assets should be deducted.
   b. Operating cash flows over the project's life: Annual operating cash flow equals after tax operating income plus depreciation.
   c. Terminal year cash flow: These include the after tax salvage value of the fixed assets plus the return of net working capital.

2) **Company Policy**: Company policies play a great role in decision-making. In many organizations decision making is done within the framework of the policies of the company.

3) **Evaluation method:** The outcome under different methods may be different. Therefore the decisions made by the management will be influenced by the particular method.

4) **Intuition:** Many studies have showed that for making most of the strategic decisions managers depend on the judgment rather than explicit analysis and are not able to explain adequately the how or why of their strategic decisions.

5) **Vision:** Most successful business groups/companies all over the world are guided by a vision of its leaders, which serves as a prime goal and influences the investment decisions directly and indirectly.

6) **Internal Politics among the employees:** Internal political games can mar the quality of decision-making and investment proposals may not be viewed in an unbiased and objective manner.

7) **Intangible Benefits:** A capital project may generate some benefits that cannot be easily quantified. It may increase the flexibility available to the organisation; it may improve the attractiveness of the product; it may give the organisation a sense of pride; it may make the work environment more pleasing; it may strengthen the technological capability of the firm; it may enhance the morale of the firm. Referred to generally as intangibles, these benefits cannot be translated into monetary terms. Yet, they are relevant and cannot be ignored in investment decision-making.

Q. 3. Explain different methods of Appraisal of Capital Expenditure Proposals.

Ans.

Traditional Methods	**Modern Methods**
(1) Payback period method	(Discounted Cash Flow Models)
(2) Discounted Payback period method	(1) NPV Method
(3) Pay Back Profitability	(2) Profitability Index Method
(4) Accounting Rate of Return Method	(3) IRR Method
	(4) Annual Cost Method

Pay Back Period Method

Payback period is the measure of the time it will take to recoup, the initial amount of outlay, in the form of cash inflows from operations.

$$\text{Pay Back Period} = \frac{\text{Initial amount Invested}}{\text{Equal Annual inflow after Tax}}$$

In case of mixed cash flows PB period is calculated by cumulating cash inflows till the cumulative cash flows equal the initial investment.

This method measures how quickly investment may be recouped, it doesn't measure profitability. This is its major weakness. The main objective in investing is profit, not the recapturing of the initial outlay. If a company wants to recover its outlay fast, it need not spend in the first place.

It is a simple technique and does not use the discounted cash flow techniques. It simply measures the number of years within which the initial investment of the project would be recovered based on the cash accruals generated by the project. Project with shortest payback period would be given priority.

Acceptance rule

Accept if PB < Standard pay back

Reject if PB > Standard pay back

Merits	**Demerits**
• Easy to understand and compute and inexpensive to use	• Ignores the time value of money
• Emphasises liquidity	• Ignores the cash flow occurring after the payback period
• Easy and crude way to cope with risk	• Not a measure of profitability
• Uses cash flow information	• Not objective way to determine the pay back

Discounted Pay-Back Period Method

It is the variation of ordinary payback method. Under this method cumulative present value of cash inflows are to be considered. This method is better compared to ordinary payback period because it takes into account the time value of money.

Average/Accounting Rate of Return Method:

The accounting rate of return method (also known as return on investment or return on capital employed) employs the normal accounting technique to measure the profit expected from an investment in % form.

$$\text{Accounting rate of return} = \frac{\text{Average annual profit after tax} \times 100}{\text{Average or initial investment}}$$

$$\text{Average investment} = \frac{\text{Initial investment} + \text{Salvage value}}{2}$$

Sometimes, initial investment is used in place of average investment. Of the various accounting rates of return on different alternative proposals, the one having highest rate of return is taken to be the best investment proposal.

Merits	Demerits
• Uses accounting data with which executives are familiar	• Ignores the time value of money
• Easy to understand and calculate	• Does not use cash flows
	• Gives more weight age to future receipts
	• No objective way to determine the minimum acceptable rate of return

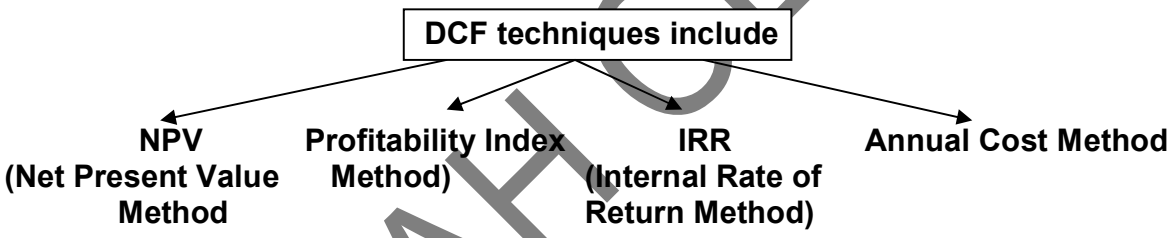
Discounted Cash Flow Techniques (DCF):

It explicitly and systematically weighs the time value of money. It is the best method to use for capital budgeting decisions. DCF focuses on cash inflows and outflows rather than on net income.

There are three main variations of DCF:

(1) Net present value (NPV)
(2) Profitability Index (PI)
(3) Annual Cost method,
(4) Internal rate of return (IRR)

All the variations are based on the theory of compound interest.



Net Present Value Method (NPV)

The objective of the firm is to create wealth by using existing and future resources. To create wealth, inflows must exceed the present value of all anticipated cash outflows.

It is DCF approach to capital budgeting that discounts all expected future cash flows to the present using a minimum desired rate of return. Higher the risk, higher the minimum desired rate of return. The minimum rate of return is the cost of capital i.e. what the firm pays to acquire more capital. It is also known as required rate of return or discount rate.

Managers discounts all expected cash flows from the project to the present, using this minimum desired rate. If the sum of PV of cash flows is positive, the project is desirable. If the sum is negative, it is undesirable. When choosing among several investments, the one with the greatest NPV is most desirable.

NPV = PV of cash inflow – PV of cash outflow

The discount factor is given by the expression: $\frac{1}{(1+r)^n}$

Where, r = rate of interest p.a. and n = number of years

Merits	Demerits
• Considers all cash flows	• Requires estimates of the cash flows which is a tedious task
• True measure of profitability	• Requires computation of the opportunity, cost of capital which possess practical difficulties
• Consistent with wealth maximization principle	• Sensitive to discount rates

Profitability Index:

$$PI = \frac{\text{PV of cash inflows}}{\text{PV of cash outflows}}$$

The proposal is worth accepting if the PI exceeds 1. In case of several proposals highest PI proposal should be selected.

Profitability index is an extension of NPV method.

When the firm has unlimited funds available for investment then the NPV method is better than PI method.

Merits	Demerits
• Considers all cash flows	• Requires estimates of the cash flows which is a tedious task
• Recognises the time value of money	• At times fails to indicate correct choice between mutually exclusive projects
• Relative measure of profitability	
• Generally consistent with the wealth maximization principle	

Annual Cost method

Under this method, the capital as well as the operating costs of projects is converted into equivalent annual costs at an assumed interest rate. Method is used in cost minimization proposals. Annualised cost is calculated by dividing the PV of outflows by the appropriate annuity factor. This enables comparison of assets with unequal life. Proposal having the lowest annual cost is to be preferred.

IRR method

Internal Rate of Return: It is that rate at which discounted cash inflows are equal to the discounted cash outflows. In other words, it is the rata which discounts the cash flows to zero. It can be stated m the Torn of a ratio as follows-

$$\frac{\text{Cash inflows}}{\text{Cash Outflows}}$$

This rate is to be round by trial and error method. This rats is used in the evaluation of Investment proposals. In this method, the discount rate is not known but the cash outflows and cash inflows are known.

In evaluating investment proposals, internal rate of return is compared with a required rate of return, known as cut –off rate. If it is more than cut –off rate the project is treated as acceptable; otherwise project is rejected.

Q. 4. Do the profitability index, and the NPV criterion of evaluating investment proposals lead to the same acceptance-rejection and ranking decisions ? in what situations will they give conflicting results?

Ans. In the moat of the situations the Wet Present Value Method (NPV) and Profitability Index (PI) yield same accept or reject decision. In general items, under PI method a project is acceptable Lf profitability index value is greater than 1 and rejected if it less than 1. Under NPV method a project is acceptable if Net present value of a project is positive and rejected if it is negative. Clearly a project offering a profitability index greater than 1 must also offer and present value which is positive. But 3 conflict may arise between two methods if a choice between mutually exclusive projects has to be made. Consider the following example-

	Protect A	**Project R**
PV of Cash inflows	2,00,000	1,00,000
Initial cash outflows	1,00,000	40,000
Net present value	1,00,000	00.000
P.I	$\frac{2,00,000}{1,00,000} = 2$	$\frac{1,00,000}{40,000} = 2.5$

According to NPV method, project A would be preferred. whereas according to profitability Index method project B would be preferred.

This is because Net present value gives ranking on the basis of absolute value of rupees, whereas, profitability index gives ranking on the basis of ratio. Although PI method is based on NPV, it is a better evaluation technique than NPV in a situation of capital rationing.

Q. 5. Compare and contrast NPV Vs IRR

Ans. NPV versus IRR; NPV and IRR methods differ in the sense that the results regarding the choice of an asset under certain circumstances are mutually contradictory under two methods, in case of mutually exclusive investment projects, in certain situations, they may give contradictory results such that If the NPV method finds one proposal acceptable, [RR favours another. The different rankings given by the NPV and [RR methods could be due to size disparity problem, time disparity problem and unequal expected lives.

The net present value is expressed in financial values whereas internal rate of return (IRR) is expressed m percentage terms.

In (he net present value cash flows are assumed to be re-invested at cost of capital rate. In IRR reinvestment is assumed to be made at IRR rates.

Q. 6. What is the sensitivity analysis in Capital Budgeting ?

Ans. Sensitivity Analysis in Capital Budgeting: sensitivity analysis is used In Capital budgeting for more precisely measuring the risk. It helps in assessing information as to how sensitive are the estimated parameters of the project such as cash flows, discount rate, and the project life lo the estimation errors. Future being always uncertain and estimations are always subject to error, sensitivity analysis takes care of estimation errors by using a number of possible outcomes in evaluating a project, the methodology adopted in sensitivity analysis Is to evaluate a project by using a number of estimated cash flows so as to provide to the decision maker an Insight into the variability of outcome. Thus, ii is a technique of risk analysis which studies the responsiveness of a criterion of merit like NPV or 1RR to variation in underlying factors like soiling price, quantity sold returns from an investment etc. Sensitivity analysis answers questions like.

(i) What happens to the present value (or some other criterion at merit) if flows are, say ₹ 50,000 than me expected r SD.QDD'?

(ii) What will nap pen to NPV in the economic life of the project is only 3 years rather than expected s years?

Therefore, wherever there is an uncertainty, of whatever type, the sensitivity analysis plays a crucial role. However., it should not be viewed as the method lo remove- the risk or uncertainty, it is only a tool to analyse and measure the risk and uncertainty. In terms of capital budgeting the possible sash flows arc based on three assumptions:

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

Sensitivity analysis involves three steps

(1) Identification of all those variables having an Influence on the project's NPV or IRR
(2) Definition of the underlying quantitative relationship among the variables.
(3) Analysis or the impact of the changes in each or the variables on the NFV or the project.

The decision maker. In sensitivity analysis always oaks himself the question - what If?

Q. 7. What is Capital rationing?

Ans. Capital Rationing: When there is a scarcity of funds capital rationing is resorted to. Capital rationing means the utilization of existing funds in most profitable manner by selecting the acceptable projects in the descending order or ranking with limited available funds. The firm must be able to maximize the profits by combining the most profitable proposals. Capital rationing may arise due to {i) external factors such as high borrowing rate or non-availability of loan funds due lo constraints of Debt-Equity Ratio: and (II) Internal Constraints Imposed by management. Project should be accepted as a whole or rejected. It cannot be accepted and executed in piecemeal.

IRR or NPV are the best basis of evaluation even under Capital Rationing situations. The Objective is to select those projects which have maximum and positive NPV. Preference should be given to interdependent projects. Projects are lo be ranked In the order of NPV. Where there is multi-period Capital Rationing, Linear Programming Technique should be used to maximize NPV. In times of Capital Rationing, the investment policy of the company may not be the optimal one.

In nutshell Capital Rationing leads lo:

(i) Allocation of limited resources among ranked acceptable investments.
(ii) This function enables management to select the most profitable Investment first.
(iii) It helps a company use limited resources to the best advantage by investing only in the projects that offer the highest return.

Q. 8. Compare & Contrast Sensitivity Analysis Vs Scenario analysis.

Ans. Sensitivity Analysis in Capital Budgeting seeks to identify the effect of changes in one variable, eg Life of the Project, Cost of Capital, Project size, etc on the Net Present Value or Internal Rate of Return by keeping all other variables constant. It is a study which determines how changes or errors in the values of parameters affect the output of a model.

In the case of scenario analysis, the focus is on the deviation of a number of interconnected variables. It is different from sensitivity analysis, which usually concentrates on the change in one particular variable at a specific point of time. Scenario Analysis is an analysis of Net Present Value or Internal Rate of Return of a Project under series of specific scenarios, based on macro economic factors, industry and firm specific factors.

Scenario analysis is a strategic process of analyzing decisions by considering alternative possible outcomes. It is not a predictive mechanism, but rather an analytic tool to manage uncertainty today.

Scenario analysis provides a means to evaluate the potential variability in a capital budgeting project's NPV. Scenario analysis computes several net present values for the project based on different scenarios. The initial capital budgeting analysis using the

analyst's estimates of expected cash flows is called the base-case scenario. From this base case, typically at least two other scenarios are developed — a worst-case scenario and a best-case scenario — and NPVs are computed for each. The worst case NPV and the best case NPV give managers a likely range in which the project's NPV will fall. The purpose of scenario analysis is to examine the joint impact on NPV of simultaneous changes in many different factors. For example, a firm might use scenario analysis to determine the net present value (NPV) of a potential investment under high and low inflation-scenarios.

Q. 9. What are the different Mathematical & Statistical Methods for Risk Analysis in Capital Budgeting?

1. Probability Assignment
2. Expected NPV calculation
3. Standard Deviation
4. Coefficient of variation
5. Probability Distribution Approach
6. Normal Distribution
7. Monte Carlo Simulation
8. Decision Tree Analysis

Q.10. Write short note on "Risk & Uncertainties in Capital Budgeting"

Ans. - Risk and uncertainty are quite inherent in capital budgeting decision,

- Capital budgeting involves various elements which have uncertainties,
- This is so because capital budgeting are actions of today which bears fruits in future which is unforeseen. Future is uncertain and involve risk.
- The estimations of cash inflows may not hold true,
- The cost of capital which offers cut-off rates may also be inflated or deflated under business cycle conditions,
- Besides all these, technological developments are other factors that enhance the degree of risk and uncertainty by rendering the plants or equipments obsolete and the projects out of date.

Chapter 3	Capital Structure Decisions

Q.1. What is meant by 'Capital Structure'?

Ans. The capital structure is how a firm finances its overall operations and growth by using different sources of funds. Debt comes in the form of bond issues or long-term notes payable, while equity is classified as common stock, preferred stock or retained earnings. Short-term debt such as working capital requirements is also considered to be part of the capital structure.

A firm's capital structure can be a mixture of long-term debt, short-term debt, common equity and preferred equity. A company's proportion of short- and long-term debt is considered when analyzing capital structure. When analysts refer to capital structure, they are most likely referring to a firm's debt-to-equity (D/E) ratio, which provides insight into how risky a company is. Usually, a company that is heavily financed by debt has a more aggressive capital structure and therefore poses greater risk to investors. This risk, however, may be the primary source of the firm's growth.

Q.2. What are factors Determining Capital Structure?

Ans.1) **Trading on Equity:** A company earns the profits on its total capital (borrowed and owned). On the borrowed capital (including preference capital company pays interest or dividend at a fixed rate. If this fixed rate is lower than the general rate of earnings of the company, the equity shareholders will have an advantage in the form of additional profits. This may be referred to as trading on equity.

2) **Desire to Control the Business:** Quite often, the promoters want to retain the control of the affairs of the company. They raise the capital from the public by issuing different types of securities in such a way as to retain the control of whole or substantially the whole of the affairs of the company with them. For this purpose, they raise a large proportion of funds by the issue debentures and preference shares.

3) **Nature of Business:** A manufacturing company may have a differing capital structure from Trading, financing, extractive or public utility concerns. These, differences enable one type of business to issue securities which are not profitable to other business. So, public utility concern may enjoy advantages of fixed interest securities like bonds and debenture because of their monopoly and stability of income. But, on the other hand, manufacturing concerns do not enjoy such advantages and rely to a great extent on equity share capital.

4) **Purpose of Financing:** If funds are raised for betterment expenditure, it is quite apparent that it will add nothing to the earning capacity of the company. Such expenditure may be incurred either out of funds raised by issue of shares or still better out of retained earnings but, in no case, out of borrowed funds. On the other hand productive projects may be financed out of borrowings also.

5) **Period of Finance:** Normally funds which are required for a short time say for 5 to 10 years should be arranged through borrowing because these can easily be repaid as soon as company's financial position improves. On the other hand, if funds are required permanently or for a fairly long time, issue of ordinary shares should be preferred.

6) **Elasticity of capital structure:** The capital structure should be as elastic as possible so as to provide for expansion for future development or to make it feasible to reduce the capital when it is not needed. Too much dependence on debentures and preference shares from the very beginning makes the capital structure of the company rigid because of payment of fixed interest or dividend.

These sources should be kept in reserve for emergency or for expansion purposes.

7) **Nature of Investors:** Some investors who prefer security of investment and stability of income usually go in for debentures. Preference shares will be preferred by those who want a higher and stable income with enough safety of investment. Equity shares will be taken up by those who are ready to take risks for higher income and capital appreciation. Those who want to acquire control over the affairs of the company like equity shares.
8) **Market Conditions:** Conditions of capital market have an important bearing on the capital structure of the company because investor is very often influenced by the general mood or sentiment of the capital market although his own mood or sentiments guide him to invest his funds. For example, in times of depression, investor will look more for safety than to income and will be willing to invest in debenture and not in equity shares. During boom period, when people have plethora of funds, any type of security can be sold easily hence equities can have a better market. The management while designing the capital structure of the company must watch the mood or sentiments of the capital market.
9) **Legal Restrictions:** Every company has to comply the law of the country regarding the issue of different types of securities. Therefore, hands of the management are tied by these legal restrictions. For example in India, Banking companies are not allowed to issue any type of securities except equity shares under the Indian Banking Companies Act. Within this overall framework, the management should strive towards capital structure.
10) **Policy of Term Financing Institution:** If financial institutions offer credit to the industry on strictly restrictive terms and adopt harsh policy of lending. They allow raising of fresh capital by specific manner.
11) **Stability of Earning or Possibilities or Regular and Fixed Income:** The stability of capital structure of a company very much depends upon the possibility of regular and fixed income.
    (a) If company expects sufficient regular income in future, debenture should be issued
    (b) Preference shares may be issued if company does not expect regular income but it is hopeful that its average earnings for a few years may be equal to or in excess of the amount of dividend to be paid on such preference shares.
    (c) If company does not expect any regular income in future, it should never issue any type of securities other than equity shares.
12) **Trends in Capital Market:** Capital market conditions determine not only the types of securities to be issued, but also the rate of interest on debentures, fixed rates of dividends on preference shares and the prices of equity shares.
13) **Cost of Capital and Availability of Funds**
14) **Tax benefit**
15) **Assets Structure:** Asset structure also influences the sources of financing in several ways. Firms with long-lived fixed assets, especially when demand for the output is relatively assured can use long-term debts. Firms whose asses are mostly receivable and inventory whose value is dependent on the continued profitability of the individual firm can rely less long-term debt financing and more on short-term funds.
16) **Attitude and temperament of management**
17) **Lender's Attitude**: Sometimes, the lender's attitude is also an important determinant of capital structure. In the majority of cases, the firm's management discusses its capital structure with lenders and gives much weight to their advice. But where management is the confident of future, it may use leverage beyond norms for the industry.

18) **Fiscal Incentives and Tax Concession:** Incentives and tax concession being provided by the Government to various types of industrial units like relaxation of security margin, 15% subsidy by the Government, of repayment period extension beyond 10 years, gestation period 2 years, reduction in application to the extent of 50% in application is made for the promotion in backward areas also affect the capital structure.

19) **Advice given by Financing Agencies:** Such agencies are specialized in tendering expert financial advice concerning the capital structure of firm. Their advice should be given due weight and consideration in financial plan of the concern.

Thus, we see, the determination of a suitable pattern of capital structure requires a thorough consideration of a large number of factors. There can be no ideal pattern of capital structure for all companies even in the same industry. So each company has to be studied as an individual case.

Q.3 What are the objectives of Capital Structure Decisions?

Ans. Whenever the management of a concern develops capital structure of a newly promoted organization or revises an existing capital structure of a company, their main aims are to balance it. The main objectives of management are devising a sound and balanced capital structure which are as follows:

(A) Economic Objectives:

a) **Minimization of Capital Costs:** One of the major objectives of business enterprise is to raise capital at the lowest possible cost under a given set of circumstances in terms of interest and dividend and the relationship of earnings to the prices of shares. The management aims to keep the cost of capital at a minimum as saving in such costs maximize the returns to the equity share holders.

b) **Minimization of Risks:** Business operations are constantly subject to various risks which have a direct bearing on the capital structure of the firm. These various risks are business risks, poor management risk, cycle risk, purchasing power risks, interest rate risk, tax risks, and so on. A prudent management tries to minimize all such risks by making suitable adjustments in the various components of capital structure. The management tires to balance the sound financial position and the goal of liquidity at the same time.

c) **Maximisation of Return:** The third main aim of management is to provide the maximum earnings of return to the real owners of the business, i.e. equity shareholders. The earnings of the enterprise should permit the maximum possible earnings to the suppliers of equity capital. It necessitates the stability as well as regularity in the earnings.

d) **Preservation of Control:** Capital structure should be so designed as to prevent t.he erosion of control from the hands of equity-holders. It must ensure maximum control in their hands. This requires that a proper balance is to be maintained between the voting right and non-voting right capital.

(B) Other Objectives:

Besides the major financial objectives, there are some other objectives too:

a) **Simplicity:** The capital structure should be simple as far as possible. It must consist of high grade securities so as to enhance the credit worthiness of the enterprise. It should be manageable also.

b) **Flexibility:** An important objective in designing balanced capital structure is the maintenance of flexibility in it. The management prefers that source of capital which is very convenient and adjustable. Maximum possible freedom of action must be available to the management. The suppliers of funds should not impose too many restrictions on the management of income and capital.

Q.4. What is Optimum Capital Structure?

Ans.Capital structure or financial plan refers to the composition of long-term sources of funds such as debentures, long-term debts, preference and ordinary share capital and retained earnings (reserves and surpluses). Companies that do not plan their capital structure may prosper in the short run, but ultimately they will face serious problems in raising funds to finance their activities in the long run. Therefore, it is important for a company to take a decision regarding its capital structure.

Optimal Capital Structure: An optimal or sound capital structure can be defined as that combination of debt and equity that attains maximization of the firm's market value. Moreover, the optimal capital structure is also defined as that combination of debt and equity that minimizes the firm's cost of capital. Hence, the optimal capital structure is concerned with the two important variables at one time the minimization of cost as well as maximization of worth.

Optimum or balanced capital structure means an ideal combination of borrowed and owned capital that may attain the marginal goal i.e., maximizing of market value per share or minimization cost of capital. The market value will be maximized or the cost of capital will be minimized when the real cost of each source of funds is the same. It is formidable task of the financial manager to determine the combination of the various sources of long-term finance.

Q.5. Explain Net Operating Income Approach to capital structure.

Ans. Net Operating Income Approach to capital structure believes that the value of a firm is not affected by the change of debt component in the capital structure. It assumes that the benefit that a firm derives by infusion of debt is negated by the simultaneous increase in the required rate of return by the equity shareholders. With an increase in debt, the risk associated with the firm, mainly bankruptcy risk, also increases and such a risk perception increases the expectations of the equity shareholders.

The capital structure of a company is a mix / ratio of debt and equity in the company's mode of financing. This ratio of debt in the capital structure is also known as financial leverage. Some companies prefer more of debt while others prefer more of equity while financing their assets. The ultimate goal of a company is to maximize its market value and its profits. At the end, the question stands in front is the relation between the capital structure and value of a firm.

There is one school of thought advocating the idea that increasing the debt component or the leverage of a company will increase the value of a firm. On the other hand, increasing the leverage of the company also increases the risk of the company. There are various theories which establish the relationship between financial leverage, weighted average cost of capital and the total value of the firm. One such theory it the Net Operating Income Approach.

Assumptions / Features of Net Operating Income Approach:

1. The overall capitalization rate remains constant irrespective of the degree of leverage. At a given level of EBIT, value of the firm would be "EBIT/Overall capitalization rate"
2. Value of equity is the difference between total firm value less value of debt i.e. Value of Equity = Total Value of the Firm – Value of Debt
3. WACC (Weighted Average Cost of Capital) remains constant; and with the increase in debt, the cost of equity increases. An increase in debt in the capital structure results in increased risk for shareholders. As a compensation of investing in the highly leveraged company, the shareholders expect higher return resulting in higher cost of equity capital.

Q.6. Explain Net Income Approach to Capital Structure.

Ans. The theory suggests increasing value of the firm by decreasing the overall cost of capital which is measured in terms of Weighted Average Cost of Capital. This can be done by having a higher proportion of debt, which is a cheaper source of finance compared to equity finance.

According to Net Income Approach, change in the financial leverage of a firm will lead to a corresponding change in the Weighted Average Cost of Capital (WACC) and also the value of the company. The Net Income Approach suggests that with the increase in leverage (proportion of debt), the WACC decreases and the value of firm increases. On the other hand, if there is a decrease in the leverage, the WACC increases and thereby the value of the firm decreases.

For example equity-debt mix is 50:50, if the equity-debt mix changes to 20: 80, it would have a positive impact on the value of the business and thereby increase the value per share.

Assumptions of Net Income Approach

Net Income Approach makes certain assumptions which are as follows.

1. The increase in debt will not affect the confidence levels of the investors.
2. The cost of debt is less than the cost of equity.
3. There are no taxes levied.

Q.7. Explain Modigliani and Miller Approach to Capital Structure.

Ans. This approach was devised by Modigliani and Miller during 1950s. The fundamentals of Modigliani and Miller Approach resemble that of Net Operating Income Approach. Modigliani and Miller advocate capital structure irrelevancy theory. This suggests that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has lower debt component in the financing mix, it has no bearing on the value of a firm.

Modigliani and Miller Approach further states that the market value of a firm is affected by its future growth prospect apart from the risk involved in the investment. The theory stated that value of the firm is not dependent on the choice of capital structure or financing decision of the firm. If a company has high growth prospect, its market value is higher and hence its stock prices would be high. If investors do not see attractive growth prospects in a firm, the market value of that firm would not be that great.

Assumptions of Modigliani and Miller Approach

1. There are no taxes.
2. Transaction cost for buying and selling securities as well as bankruptcy cost is nil.
3. There is symmetry of information. This means that an investor will have access to same information that a corporate would and investors would behave rationally.
4. The cost of borrowing is the same for investors as well as companies.
5. Debt financing does not affect companies EBIT.

Modigliani and Miller Approach indicates that value of a leveraged firm (a firm which has a mix of debt and equity) is the same as the value of an unleveraged firm (a firm which is wholly financed by equity) if the operating profits and future prospects are same. That is, if an investor purchases shares of a leveraged firm, it would cost him the same as buying the shares of an unleveraged firm.

Modigliani and Miller Approach: Two Propositions without Taxes

Proposition 1:

With the above assumptions of “no taxes”, the capital structure does not influence the valuation of a firm. In other words, leveraging the company does not increase the market value of the company. It also suggests that debt holders in the company and equity shareholders have the same priority i.e. earnings are split equally amongst them.

Proposition 2:

It says that financial leverage is in direct proportion to the cost of equity. With an increase in debt component, the equity shareholders perceive a higher risk to for the company. Hence, in return, the shareholders expect a higher return, thereby increasing the cost of equity. A key distinction here is that proposition 2 assumes that debt-shareholders have upper-hand as far as the claim on earnings is concerned. Thus, the cost of debt reduces.

Modigliani and Miller Approach: Propositions with Taxes (The Trade-Off Theory of Leverage)

The Modigliani and Miller Approach assume that there are no taxes. But in the real world, this is far from the truth. Most countries, if not all, tax a company. This theory recognizes the tax benefits accrued by interest payments. The interest paid on borrowed funds is tax deductible. However, the same is not the case with dividends paid on equity. To put it in other words, the actual cost of debt is less than the nominal cost of debt because of tax benefits. The trade-off theory advocates that a company can capitalize its requirements with debts as long as the cost of distress i.e. the cost of bankruptcy exceeds the value of tax benefits. Thus, the increased debts, until a given threshold value will add value to a company.

This approach with corporate taxes does acknowledge tax savings and thus infers that a change in debt equity ratio has an effect on WACC (Weighted Average Cost of Capital). This means higher the debt, lower is the WACC. This Modigliani and Miller approach is one of the modern approaches of Capital Structure Theory.

Q.8. What are the different kinds of capital structures?

Ans. Capital structure can be of various kinds as described below:

- **Horizontal capital structure:** the firm has zero debt components in the structure mix. Expansion of the firm takes through equity or retained earnings only.
- **Vertical capital structure:** the base of the structure is formed by a small amount of equity share capital. This base serves as the foundation on which the super structure of preference share capital and debt is built.
- **Pyramid shaped capital structure:** this has a large proportion consisting of equity capital, and retained earnings.
- **Inverted pyramid shaped capital structure:** this has a small component of equity capital, reasonable level of retained earnings but an ever-increasing component of debt.

Q.9. Distinguish between Capital Structure & Financial Structure

BASIS FOR COMPARISON	CAPITAL STRUCTURE	FINANCIAL STRUCTURE
Meaning	The combination of long term sources of funds, which are raised by the business, is known as Capital Structure.	The combination of long term and short term financing represents the financial structure of the company.

Appear on Balance Sheet	Under the head Shareholders fund and Non-current liabilities.	The whole equities and liabilities side.
Includes	Equity capital, preference capital, retained earnings, debentures, long term borrowings etc.	Equity capital, preference capital, retained earnings, debentures, long term borrowings, account payable, short term borrowings etc.
One in another	The capital structure is a section of financial structure.	Financial structure includes capital structure.

Q.10 Distinguish between ROCE & ROE

Basis	Return on capital employed (ROCE)	Return on net worth
Meaning	It expresses the relationship between EBIT and capital employed	It reflects the relation between profit available for equity shareholders and equity shareholders funds.
Objective	It helps us to analyse the overall profitability of the firm	It is a tool which examines the profitability from the point of view of shareholders
Formula	ROCE= EBIT X 100 / Capital employed	= Profits available for equity shares X 100 / Equity shareholders fund

Q.11 Distinguish between Horizontal & Vertical Capital Structure

Horizontal capital structure	**Vertical capital structure**
(1) In case of Horizontal capital structure,the firm has zero debt component in the structure mix (2) The incremental addition is made only through equity or retained earning. (3) As no debt component is involved in the capital structure,there is less degree of financialrisk and also the profitability of disturbance of the structure is remote.	In case of Vertical capital structure,base of the structure is formed by the small amount of equity share capital and consist of preference share capital and debt also. The incremental addition is made only through debt. The high component of debt in the capital structure increases the financial risk of the firm and renders the structure unstable.

Q.12 Distinguish between NOI & NI approach

Net operating Income(NOI) Approach	Net Income (NI) Approach
As per this approach, the capital structure decision is not relevant and change in debt will not affect the total value of the firm.	Net income approach states that change in capital structure directly affects the value of the firm as increase in debt reduces cost of capital and increases value of firm
Thus in NOI approach,cost of capital independence of degree of leverage	In NI approach the cost of capital & consequently capital structure is dependent on degree of leverages.

Q.13 "Debt Is Cheapest But Dangerous Source of Finance" - Explain.

Ans. The debt may be of three types, depending upon its period of use.

(a) Trade creditors, bill payable, bank overdrafts and current liabilities such as outstanding current expenses like rent, salaries, wages, etc. constitute as an important short-term debt.

(b) Public deposits and other types of loans for period ranging from three to five years are termed as medium term loans or debts.

(c) Term loans secured from banks or from other financial institutions are long term debts. Long term loans can also be raised by the issue of debentures or bonds.

A company borrows capital in order to utilize all avenues opened for expansion and growth. A company may borrow either to diversify and maximize its profit range or to utilize the available capacity to the fullest extent.

Debts are considered as the cheapest source of finance due to following reasons:

(a) Interest payable on the debts is at fixed rate.

(b) Interest is payable is deductible as an expense for computation of taxable income. Payment of interest also saves the Income Tax e.g. Company is in the tax bracket of 40% then interest payment of Rs 10,000 would save the Income Tax of Rs 4,000 and effective interest cost would be only Rs 6,000.

However debts are considered as dangerous source of finance due to following reasons:

(a) It is the fixed financial commitment i.e. irrespective of earnings interest has to be paid at decided rate.

(b) Repayment of debt would strain the financial position of the company.

(c) In case of excess borrowings terms & conditions of the financers have to be fulfilled e.g. financers may insist on appointment of nominee director from their office.

(d) Excess borrowings may lead the company to debt trap.

(e) Non payment of debts in time may create bankruptcy AND loss of reputation.

In short borrowings within the limit would reduce weighted average cost of capital, inflate the EPS of the shareholders and control of the company would be retained by the shareholders. An excess borrowing is therefore dangerous.

Advantages of Debt Financing

(a) **No sharing of Capital:** Creditors are only concerned with the rate of interest they can get from the company. They are not entitled to vote and participate in the management of the company. Thus, control is retained by the same body of shareholders as before.

(b) **Trading on Equity:** Debt financing facilitates a company to trade on equity which means when returns are much higher and a company can pay higher rates of dividend than those of interest the equity shareholders benefit from debt finance. This is because the interest payable on debts is fixed and lower than the average rate of earnings. The company can thus maximize the dividend to shareholders.

(c) **To lower the overall cost of capital:** The average cost of capital can be lowered by the issue of debt capital because the cost of such capital (interest payable) is much lower than the cost of other capital (dividend on preference and equity shares).

(d) **Tax advantages:** Interest payable on debt capital is a admissible expenditure in the computation of total income of the company while the dividend is not such a deductible expenditure. Thus, an overall cost of running the establishment is reduced by the marginal tax rate applicable to the company.

(e) **Flexibilities:** Debt capital provides enough flexibility in capital structure of the company because the debt can be repaid in case it is more than required by the business. Generally seasonal requirements are met by the debt capital.

(f) **The only source available:** Sometimes, a company finds it difficult to raise funds through any other source except that of debt finance. During recessionary trend in the market, when equity shares are not popular with the investors, debt capital is the only source for raising funds.

(g) **Low Cost of Raising Funds:** The cost of issue of debt capital is considered low in comparison with that of equity capital which requires underwriting as essential. Thus, underwriting commission and other expenses have to be incurred on the legal formalities to be undergone.

Q.14 What is Operating Leverage (Business Risk)?

Ans. The company is said to have a high degree of operating leverage if it employs a greater amount of fixed costs and a small amount of variable costs. On the contrary if the company employs a greater amount of variable costs and a smaller amount of fixed costs, it is said to have a low operating leverage. The degree of operating leverage will, therefore, depend upon the amount of fixed element in the operating cost structure of the company. Thus, there will be no operating leverage in the absence of fixed operating costs. It can be determined as follows:

$$\text{Operating Leverage} = \frac{\text{Contribution}}{\text{EBIT (Operating profit)}}$$

It indicates % change in EBIT for every 1% change in sales.

Operating leverage results when fluctuations in sales revenue produce a wide fluctuation in operating profit. High operating leverage involves a very risky situation because margin of safety is very low. A low operating leverage, on the other hand, gives enough cushions to the management, providing a high margin of safety against the fluctuations in sales.

Operating leverage may be favourable or unfavourable. Where the contribution exceeds the fixed cost, the operating leverage is termed as favourable, and vice versa.

Alternatively; it may be defined as percentage change in EBIT resulting from a percentage change in sales. It is generally expressed in the form of the following formula:

$$\text{Degree of Operating Leverage} = \frac{\text{Percentage change in EBIT}}{\text{Percentage change in Sales}}$$

Utility of Operating Leverage:

The operating leverage shows the impact of change in sales on the operating profits. If a company has a high degree of operating leverage, a small change in sales will bring a large change in EBIT. Thus, the operating profits of a company having a high degree of operating leverage will increase at a faster rate than the increase in sales. Likewise, the operating profits of such a company will also fall at a faster rate than the decrease in its sales. This will help the finance manager to select appropriate infrastructure which will suit the projected sales and income.

Example: The installed capacity of a company's factory is 500 units. Actual capacity used is 300 units. Selling price per unit is Rs. 15. Variable cost per unit is Rs. 7 per unit. Calculate the operating leverage in each of the following three situations:

(i) When fixed cost are Rs. 500.
(ii) When fixed cost are Rs. 1,000.
(iii) When fixed costs are Rs. 1,500.

Computation of Operating Leverage

Situation	I	II	III
Sales [300 @ 15]	4,500	4,500	4,500
[-] Variable Cost [300 @ 7]	2,100	2,100	2,100
Contribution	**2,400**	**2,400**	**2,400**
[-] Fixed Cost	500	1,000	1,500
EBIT	1,900	1,400	900
Operating Leverage = $\frac{\text{Contribution}}{\text{EBIT}}$	1.26	1.71	2.67

It is evident from the above example that the degree of operating leverage increases with the increase in fixed cost in the cost structure of the company. Since operating leverage and margin of safety have a negative correlation, a higher operating leverage would indicate a lower margin of safety, and vice versa.

Q.15 What is Financial Leverage (Financial Risk)?

Ans.Financial leverage results from the presence of fixed financial cost namely interest & preference dividend. These fixed charges do not vary with the EBIT. They are to be paid regardless of the EBIT available to pay them. Capital Employed consist of two types of funds:

(1) Funds with fixed interest or dividend (Long Term Debt & Preference Capital)

(2) Funds without fixed interest or dividend (Equity Share Capital & Retained Earnings)

On debts company has to pay fixed rate of interest irrespective of its earnings. Similarly on preference capital, company has to pay fixed rate of dividend. The equity share holders are entitled to the remainder of the profits of the firm after all prior obligations are met.

Financial leverage involves the use of funds obtained at a fixed cost in the hope of increasing the returns to the shareholders.

Financial Leverage = $\frac{\text{EBIT}}{\text{EBT}}$

It indicates % increase in EPS for every 1% increase in EBIT

Favourable leverage occurs when the firm earns more on the funds, than the fixed costs of their use i.e. if ROI > Interest Rate, the FL is favourable. Unfavourable leverage occurs, when the firm does not earn as much as the funds cost i.e. if ROI < Interest Rate, the FL is unfavourable. Thus financial leverage is based on the assumptions that the firm is able to earn more on the funds, on which a fixed rate of interest/dividend is to be paid. The difference between the earning from the funds and the fixed costs on the use of the funds goes to the equity holders. **Financial leverage is also, therefore, called as 'trading on equity'.** However, in adverse situation when earnings are not adequate, the presence of fixed charge will imply that the shareholders will have to bear the burden.

Example: A Company has a choice of the following three financial plans.

	Financial Plan		
	I	**II**	**III**
Equity Capital	4,000	2,000	6,000
Debt	4,000	6,000	2,000
EBIT	800	800	800
[-] Interest @ 10% on Debt	400	600	200
EBT	400	200	600
Financial Leverage = $\frac{\text{EBIT}}{\text{EBT}}$	800/400=2	800/200=4	800/600=1.33

Although the total amount of capital in all the three cases is the same, but the capital structure is different. Similarly, the EBIT in all the three cases is the same, still financial leverage is varying. This indicates high fixed financial burden of interest and high financial risk to the company. Increase in fixed financial cost requires necessary increase in EBIT level. If a company fails to do so, it may be technically forced into liquidation.

Alternative definition of financial leverage

$$\text{Degree of Financial Leverage} = \frac{\text{Percentage change in EPS}}{\text{Percentage change in EBIT}}$$

There will be however no financial leverage, if there is no fixed-changed financing.

Importance of Using Financial Leverage: Financial leverage is an important tool in the hands of financial management. If used carefully, it can maximize the return to shareholders. In other words, so long as the return on assets exceeds the cost of debt, it is to the advantage of the company and of the shareholders. The higher the leverage, the higher is the rate of return on equity.

But very often, corporate management follows a policy of high degree leverage in its enthusiasm to maximize the return on equity shares; it may prove risky in a competitive market. They should also bear in mind, the limitations of trading on equity while taking a decision on the degree of financial leverage.

Financial leverage is like a super structure which requires a solid foundation. This is provided by the low operating leverage (with high margin of safety). In order to plan a balanced capital structure, both financial and operating leverage should be paid due attention. More dependence on high financial leverage; without paying due attention to operating leverage; result in risky capital structure, high incidence of interest charges, low profits and ultimately sure dissolution.

The companies which go in for a heavy dose of debt without analyzing the operating leverage may be loser at a later stage. Debt is just like a fat which is good for a healthy living for a healthy person. A person with high blood pressure and heart trouble has to regulate the intake of fat. Similarly corporations should resist themselves in administering the dose of debt. Mere availability of debt finance should not induce them to increase their debt proportion without considering their debt-absorbing and debt repaying capacity.

Thus, financial leverage is important tool in the hands of management to plan a balanced capital structure of the company and maximize the return on shares.

Q.16 What is Combined leverage (Total Risk)?

Ans. The operating leverage explains the business risk complexion of the firm where as the financial leverage deals with the financial risk of the firm. But a firm has to look in to the overall risk or total risk of the firm which is business risk plus the financial risk. Therefore, a financial manager should consider both the operating leverage and financial leverage simultaneously.

The operating leverage causes magnified effect of the change in sales level on EBIT level and if the financial leverage is also considered simultaneously, then the change in EBIT will, in turn, have a magnified effect on the EPS. Thus, a firm having both the financial leverage and operating leverage will have wide fluctuations in the EPS for even a small change in the sales levels. This effect of change in sales level on the EPS is known or combined leverage may be defined as the % change in EPS for a given % change in the sale level. Combined leverage is calculated as :

$$CL = OL \times FL$$

$$CL = \frac{\text{Contribution}}{\text{EBT}} = \frac{\text{\% Change in EPS}}{\text{\% change in sales}}$$

It indicates % increase in EPS for every 1% increase in sales.

Q.17 Explain different combinations of leverages and their effect?
Ans.

Operating Leverage	Financial Leverage	Combined effect
High	High	This combination is very risky and should preferably be avoided.
High	Low	It indicates discretion on the part of management because adverse effects of high operating leverage have been taken care of by having a financial plan with low financial leverage.
Low	High	It is an ideal situation for the maximization of profits with minimum of risk in such a situation, management can follow an aggressive debt policy as there is a built-in safely due to low operating leverage.
Low	Low	This combination shows that management is adopting a very cautious attitude and may, in fact, be losing a number of good investment opportunities for expansion or diversification which could be possible by having an additional does of debt financing. A very cautious attitude has also got a cost. The objective of maximizing the interest of the owners of the firm may not be attained by having this combination.

Q.18 Distinction between Operating Leverage and Financial Leverage:
Ans.

Operating Leverage	Financial Leverage
(1) The objective of operating leverage is to magnify the effect of changes in sales on EBIT	(1) The objective of financial leverage is to magnify the effect of changes in EBIT on EPS.
(2) Formula	(2) Formula
(3) It is known as first stage leverage	(3) It is known as second stage leverage.
(4) It affects earnings before interest and tax	(4) It affects earnings after interest and tax.
(5) It relates to the "Assets" side of the Balance Sheet.	(5) It relates to the "Liabilities" side of the Balance Sheet.
(6) It relates with investment decisions.	(6) It relates with financing decisions.
(7) It deals with operating risk of being unable to cover fixed operating cost	(7) It deals with financial risk of being unable to cover fixed financial cost.

Q.19 What are Life Cycle Stages in Capital Structure?
Ans. The firm has to consider the following life cycle stages while deciding upon the capital structure:

(a) **The pioneering stage:**
- It is the initial stage of the company.
- It has to face fierce competition & has to prove itself to create a niche in the market.
- In this stage ,proportion of equity is quite high.

(b) **Expansion stage:**
- The company tries to expand its business operations.
- Also it faces more competition & has to beat its competitors.
- Its fund requirement is quite high which it meets through borrowing funds.

(c) **Stabilization/Stagnation stage:**
- This stage calls for diversification.
- The company goes for merger & acquisition with other companies.

Q.20 Give short note on Pecking Order Theory

Ans. The pecking order theory states that a company should prefer to finance itself first internally through retained earnings. If this source of financing is unavailable, a company should then finance itself through debt. Finally, and as a last resort, a company should finance itself through the issuing of new equity. This pecking order is important because it signals to the public how the company is performing. If a company finances itself internally, it means it is strong. If a company finances itself through debt, it is a signal that management is confident the company can meet its monthly obligations. If a company finances itself through issuing new stock, it is normally a negative signal, as the company thinks its stock is overvalued and it seeks to make money prior to its share price falling.

Q.21 What is Indifference Point?

Ans. The amount of EBIT at which the EPS is the same for two alternative financing plans is referred to as the indifference point i.e. at indifference point; EPS of Plan I = EPS of Plan II.

This level will help management to take better decision regarding financing plans. If expected EBIT is higher than the indifference EBIT then the benefits of financial leverage begins to operate i.e. EPS will increase more than proportionately. Therefore,

If estimated EBIT > indifference EBIT: Debt financing is preferable

If estimated EBIT < indifference EBIT: Equity financing is preferable

Such decision would maximise the EPS and therefore market price & wealth of the shareholders would be maximized.

For newly formed company indifference point can be determined by using the following equations.

(1) Equity shares versus Debentures $\frac{X(1-t)}{N_1} = \frac{(X-I)(1-t)}{N_2}$

X = EBIT, I = Interest,

$N_{1, 2, 3, 4}$ = No. of equity shares

(2) Equity shares versus preference shares $\frac{X(1-t)}{N_1} = \frac{(X-I)(1-t) - P}{N_3}$

P = Preference Dividend,

(3) Equity shares versus preference shares & debentures $\frac{X(1-t)}{N_1} = \frac{(X-I)(1-t)-P}{N_4}$

t = Tax Rate

For an existing company if the debentures already exist, then indifference point can be determined by following equation:

$$\frac{(X-I)(1-t)}{N_1} = \frac{(X-I_1-I_2)(1-t)}{N_2}$$

Q.22 What is Financial BEP?

Ans. It is the amount of EBIT which is exactly equal to the financial FC namely interest + preference dividend. In other words Financial BEP = Interest + Preference Dividend/ (1 – t). At Financial BEP, EPS = 0. It is the minimum EBIT that firm should earn to avoid losses. More the Debt & Preference Capital higher would be the Financial BEP and vice versa.

Chapter 4	Cost of Capital

Q.1. Define & Explain the term Cost of Capital.

Ans. The cost of capital is an important input in the capital budgeting decision. Conceptually, it refers to the discount rate that would be used in determining the present value of estimated future benefits to be derived from the capital projects. It has been defined as the minimum rate of return that a company must earn on its investments so that market value per share remains unchanged. In other words, cost of capital is the minimum return expected by the investors on their investment in the proposal under consideration. Similarly, to achieve the important objectives of the financial management like "wealth maximization" a firm has to necessarily earn a rate of return more than its cost of capital. The cost-of-capital in turn depends on the risk involved in the firm. Generally higher the risk, higher will be the cost-of-capital.

In operational terms, it is defined as the weighted average of the cost of each type of capital. If is visualized as being composed of several elements, the elements being the cost of each component of the capital. The term component means the different sources from which funds are received by a firm. The major long-term sources of funds are (i) debt, (ii) preference shares, (iii) equity capital, and (iv) retained earnings. Each source of fund or component of capital has its cost, called the specific cost of capital. When these are combined to arrive at the overall cost of capital, it results in the weighted average or combined cost of capital.

Q. 2. What is Implicit & Explicit Cost of Capital?

Ans. Opportunity Cost of Capital (Implicit Cost)

The opportunity cost is the rate of return the shareholder foregoes by not putting his funds elsewhere because they are retained by the management. It is the rate of return on best possible investment that the shareholders and the firm would forego if the projects presently under consideration by the firm were accepted. Opportunity cost is technically referred to as the implicit cost of capital. It is a cost in the sense that it is the rate of return at which the shareholders could have invested these funds, had they been distributed to them.

E.g. If the profits are distributed than the shareholders can invest such profits in the stock market where they can earn a return up to 24% p.a. In this case opportunity cost of capital can be regarded as 24% for the retained earnings.

Specific Cost of Capital (Explicit Cost)

The explicit cost of capital is associated with the raising of funds. It involves two steps:

1. Calculation of the specific cost of each type of capital – debt, preference shares, equity shares and retained earnings, and
2. Calculation of the weighted average cost of capital by combining the specific costs.

Q.3. What is Cost of Debt? How is it calculated?

Ans. Long term debts are generally obtained through the issue of debentures or bank loan or loan from the financial institutions. The issue of debentures involves a number of floatation expenses such as printing, underwriting commission, brokerage, discount, etc. Moreover, debentures may be issued at premium or at discount. These floatation costs and modes of issue have important bearing on the cost of debt capital. It is, therefore, necessary to

ascertain the net proceeds from such issue. It is customary to compute the cost of debt capital on an after tax basis as interest payments are treated as tax deductible expenses.

1. Perpetual Debt

The computation of the cost of perpetual or irredeemable debt is relatively easy. Perpetual debt refers to the amount of debt which is not redeemable during the life time of the firm. Further, a decision to maintain fixed amount of debt in the firm's capital structure also amounts to perpetual debt. In this case, if the old debt is redeemed a new debt of an equal amount is raised. The cost of perpetual debt (Kd) can be calculated according to the following formula.

$$K_d = \frac{I\,(1-t)}{NP}$$

Kd = Cost of debt after tax I = Annual interest payment

NP = Net Proceeds = Issue Price – Floatation Cost t = Tax rate

2. Redeemable Debt

When debentures are redeemable after certain number of years, the effective cost of debt may be calculated by using the following formula:

$$K_d = \frac{(I(1-t))+\frac{RV-NP}{2}}{\frac{RV+NP}{2}}$$

RV = Redeemable value of debt

Q.4. How Cost of Preference Capital is calculated?

Ans. The computation of the cost of preference share capital poses some conceptual difficulties as compared to the cost of debt capital. In case of debt capital, the contractual rate of interest is a legal obligation on the part of the company and constitutes the basis for calculating the cost of debt. However, there is no such obligation in case of preference shares. Although preference shares bear a fixed dividend rate and the holders of such shares have a preferential right to receive dividend as well as principal, but unlike debt there is no risk of legal bankruptcy if the company does not pay the dividends to the preference shareholders. Hence, some experts hold the view that dividends payable on preference shares do not constitute cost. However, it is not true. A number of factors make it obligatory on the part of the company to pay the stipulated dividends whenever it makes sufficient profits. This is because – (i) The preference shareholders have priority in dividend payment over the equity shareholders; (ii) the equity shareholders will not receive dividends unless the company pay dividends to the preference shareholders; (iii) the accumulation of preference dividend will prevent the equity shareholders to receive dividend as long as it remains in arrear; (iv) the equity shareholders may even lose control of the company as non-payment of preference dividend may entitle their holders to participate in the general meeting of the company, and (v) the company will face difficulty in raising further equity capital on account of non-payment of preference dividend followed by non-payment of dividend to equity shareholders.

The cost of preference share capital is computed on the basis of the stipulated rate of dividend similar to the cost of debt capital which is computed on the basis of the rate of interest. However, unlike interest payments on debt, dividend payments on preference share are not tax deductible. Hence, there is no need for tax adjustment in calculating the effective cost of preference share capital. Again there are two types of preference shares, viz., irredeemable and redeemable.

1. Cost of Irredeemable Preference Share Capital: The cost of the types of shares, which have no specific maturity date, is computed by using the following formula:

$$k_P \frac{D_p}{NP}$$

K p = Cost of preference share capital D p = Annual dividend on Preference Shares

2. Cost of Redeemable Preference Share Capital: When the preference shares are redeemable during the life-time of the company, the effective cost of redeemable preference share is computed. Formula used for determining the cost of redeemable debentures is as follows:

$$K_p = \frac{D_p + \frac{RV-NP}{N_m}}{RV+NP}$$

Q.5. What are different approaches to find Cost of Equity?

Ans. The cost of equity capital is the most difficult and controversial cost to measure. The return to the equity holders solely depends upon the discretion of the company management. Apart from the absence of any definite commitment to receive dividend the equity shareholders rank at the bottom as claimants to the assets of a company at the time of its liquidation. It may therefore, appear that "Equity capital is cost free".

But this is not true. Equity capital like other sources of funds does certainly involve a cost to the firm. When equity holders invest their funds, they also expect returns in the form of dividends. If the company does not meet the requirements of its shareholders to pay dividends, it will have an adverse effect on the market price of shares. A policy of not paying dividends by a firm would be in conflict with its basic objective, namely net present value maximization. The equity shares thus implicitly involve return in terms of the dividend expected by investors and therefore carry a cost. In fact, the cost of equity capital is relatively the highest amongst all the sources of funds.

1. Dividend/Price ratio approach: This approach is based on the assumption that the return so calculated is what the investors except when they put in their savings in a company. It means that investor arrives at a market price for a share by capitalizing dividends at a normal rate of return. Though this approach is simple, it suffers from two serious weaknesses. Firstly it ignores the earnings on retained earnings. Secondly it ignores the fact that market price rise may be due to retained earnings also and not on account of high dividends. As per formula:

$$K_e \frac{D_1}{NP}$$

K e = Cost of equity Capital D1 = Expected dividend per share at the end of the year

2. Dividend Growth approach: This approach has been advocated by a number of authorities. According to this approach, a project's rate of return has to be higher than present earnings per share relative to present market value per share. The growth rate in dividend (g) is assumed to be equal to the growth rate in earnings per share and market price per share. In other words, if the earnings per share grow at a rate of 10% per year and if dividends are a constant fraction of these earnings, then the growth rate in dividends per share is the same as the growth rate in earnings.

$K_e = \frac{D_1}{NP} + g$ g = Growth in expected dividends

3. Earnings/Price approach: The advocates of this approach establish a relationship between earning and market price of the share. Some people simply use the current

earnings and current market price for determining the capitalization rate while others recommend an average of earnings and average of market price. This approach also suffers from three serious limitations: (i) all earnings are not distributed to the shareholders in the form of dividends; (ii) earnings per share cannot be expected to be constant. (iii) Share price also does not remain constant.

$$K_e = \frac{EPS}{NP}$$

4. Capital Asset Pricing Model (CAPM) Approach

$K_e = R_f + b(R_m - R_f)$

R_f = Rate of return on risk – free investment b = Beta coefficient

R_m = Required rate of return on market portfolio NP = Net Proceeds

Q.6. "Retained Earnings are free of cost" Do you agree?

Ans. Retained earnings are also not without cost. Though they do not have any explicit cost to the firm but their opportunity cost can be computed well. The opportunity of retained earnings in a particular company is the rate of return the shareholder foregoes by not putting his funds elsewhere. If management has the shareholder's interest in mind when it makes its investment decisions, it should use this opportunity cost figure to determine the cut-off rate. The opportunity cost of retained earnings to the shareholders is the rate of return that they can obtain by investing the after-tax dividends in alternative opportunities. In operational terms;

$K_r = K_e$

Where, K_r = Cost of retained earnings K_e = Cost of equity capital

Q.7. What is Weighted Average Cost Of Capital? How is it calculated?

Ans. The cost of capital is an important input in the capital budgeting decision. Conceptually, it refers to the discount rate that would be used in determining the present value of estimated future benefits associated with capital projects. In operational terms, it is defined as the weighted average of the cost of each type of capital. The weighted average cost of capital occupies an important place in finance. The weighted average cost of capital can certainly be computed on after-tax basis. In its calculation each source of capital funds gets the weightage according to its contribution in the total capital. The weights may be historical or marginal. Historical weights are based on the existing capital structure. Two types of historical weights can be used – book value (BV) and market value (MV). Marginal weights are based on the nature of additional funds to be raised by the firm.

In practice, different sources of funds are used in different proportions. Thus, the relative importance of the various sources of funds is recognized in the computation of the weighted average cost of capital. Moreover, the average cost of capital provides one single figure which can be used as discount factor in computing the discounted cash inflows of the future stream of earnings.

K_o (WACC) = $K_d W_d + K_p W_p + K_e W_e + K_r W_r$

Where, K_0 = Weighted Average cost of capital

K_d = Cost of Debt W_d = Percentage of debt to total capital

K_p = Cost of Preference shares W_p = Percentage of preference shares to total capital

K_e= Cost of equity W_e = Percentage of external equity to total capital

K_r= Cost of retained earnings W_r = Percentage of retained earnings to total capital

Q.8. "Accounting Profit doesn't take into account all costs of capital invested in the business" Comment

Ans. - It is true to state that accounting profit does not take into account all cost of capital invested in business.
- Accounting profit takes only cost of debt into consideration.
- It does not give due importance to cost of equity.
- Thus, an important segment of cost of capital being cost of equity is ignored and hence accounting profit do not reflect the correct quantum of profit.

Q.9. "Cost of Capital is used by a company as a minimum benchmark for its yield" Comment

Ans. - It is apt to state that company employs cost of capital as a minimum benchmark for its yield.
- Cost of capital refers to the cost of raising funds, which includes both debt and equity.
- Thus, this is the minimum return that investors seek from the company in return of funds provided by them.
- Hence forth, it sets a benchmark / threshold for the company to earn that minimum return to satisfy its investors.
- To conclude, cost of capital is the minimum benchmark for yield, however the company should try to maximize its yield over and above the cost of capital to increase market value and enable wealth maximization, which is the ultimate objective of business.

Q.10. In real life, the component cost of debt and equity are jointly operational rather than independently determined. Elucidate

Ans. - It is apt to say that in real life, the component cost of debt and equity are jointly operational rather than independently determined.
- In the field of finance, the component costs of debt and equity tend to be jointly as opposed to independently determined. .
- Higher levels of debt, for example, will usually increase the perceived level of risk for debt holders and equity holders alike and therefore, raise the interest rate charged by creditors and the rate of return requirement of stockholders.
- Thus cost of debt and cost of equity should not be determined independently. Both the cost of debt and equity should be determined on joint basis to have a true and fair cost of capital.

Chapter 5	Financial Services

Q.1. Define "Financial Services"

Ans. Financial Services has a broad definition and it can do defined as the products and services offered by institutions like banks of various kinds for the facilitation of various financial transactions and other related activities in the world of finance like Investment Banking, Credit Rating, Consumer Finance, Housing Finance, Asset Restructuring, Mutual Fund Management Company, Depository Services, Debit Card etc.

Q.2. Write short note on functions of merchant bankers.

Ans. Definition & Meaning:

A Merchant Banker has been defined under the Securities and Exchange Board of India (Merchant Bankers) Rules, 1992 as "any 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."

Services & Activities of Merchant Bankers

(a) Project promotion services.
(b) Project finance.
(c) Management and marketing of new issues.
(d) Underwriting of new issues.
(e) Syndication of credit.
(f) Leasing services.
(g) Corporate advisory services.
(h) Providing venture capital.
(i) Operating mutual funds and off shore funds.
(j) Investment management or portfolio management services.
(k) Bought out deals.
(l) Providing assistance for technical and financial collaborations and joint ventures.
(m) Management of and dealing in commercial paper.
(n) Investment services for non-resident Indians.

Q.3. Explain Depository System in India. What are its benefits?

Ans. Although India had a vibrant capital market which is more than a century old, the paper-based settlement of trades caused substantial problems like bad delivery and delayed transfer of title till recently. The enactment of Depositories Act in August 1996 paved the way for establishment of (NSDL), the first depository in India.

In the depository system, securities are held in depository accounts, which is more or less similar to holding funds in bank accounts. Transfer of ownership of securities is done through simple account transfers. This method does away with all the risks and hassles normally associated with paperwork. Consequently, the cost of transacting in a depository environment is considerably lower as compared to transacting in certificates.

Facilities offered by NSDL

NSDL offers following facilities:-

1. Dematerialization i.e., converting physical certificates to electronic form;
2. Rematerialisation i.e., conversion of securities in demat form into physical certificates;
3. Facilitating repurchase/redemption of units of mutual funds;
4. Electronic settlement of trades in stock exchange connected to NSDL;
5. Pledging/hypothecation of dematerialized securities against loan;

6. Electronic credit of securities allotted in public issues, rights issue;
7. Receipt of non-cash corporate benefits such as bonus, in electronic form;
8. Freezing of demat accounts, so that the debits from the account are not permitted;

The Central Depository Services (India) Limited CDSL

CDSL was promoted in February, 1999 by The Stock Exchange, Mumbai (BSE) jointly with leading banks such as State Bank of India, Bank of India, Bank of Baroda, HDFC Bank, Standard Chartered Bank, Union Bank of India and Centurion Bank. CDSL was set up with the objective of providing convenient, dependable and secure depository services at affordable cost to all market participants.

All leading stock exchanges like the National Stock Exchange, Calcutta Stock Exchange, Delhi Stock Exchange, etc have established connectivity with CDSL.

CDSL's demat services are extended through its agents called Depository Participants (DP). The DP is the link between the investor and CDSL. An investor who opens a demat account with a DP can utilize the services offered by CDSL. While the DP processes the instructions of the investor, the account and records thereof is maintained with CDSL. A DP is thus a "service centre" for the investor.

A BANK-DEPOSITORY ANALOGY	
BANK	**DEPOSITORY**
Holds funds in an account	Hold securities in an account
Transfers funds between accounts on the instruction of the account holder	Transfers securities between accounts on the instruction of the account holder.
Facilitates transfers without having to handle money	Facilitates transfers of ownership without having to handle securities.
Facilities safekeeping of money	Facilitates safekeeping of shares.

Benefits of a Depository System

In the depository system, the ownership and transfer of securities take place by means of electronic book entries. At the outset, this system frees the capital market of the dangers related to handling of paper. Depository system provides numerous direct and indirect benefits, like:

1. A safe, convenient was to hold securities;
2. Immediate transfer of securities;
3. No stamp duty on transfer of securities;
4. Elimination of risks associated with physical certificates such as bad delivery, fake securities, Delays, thefts etc.;
5. Reduction in paperwork involved in transfer of securities;
6. Reduction in transaction cost;
7. No odd lot problem, even one share can be sold;
8. Nomination facility;

Q.4. Distinguish between Dematerialisation & Imobilisation

Ans. Some of the difference between the dematerialisation & immobilisation are as under:

(i) In Dematerialisation, no physical scrip is in existence whereas in immobilisation physical shares are kept in vaults with the depository for safe custody.

(ii) In Dematerialisation, only electronic records is maintained by depository whereas in case of immobilisation, all subsequent transactions in the securities take place in book entry form.

(iii) Dematerialisation is cost effective as compared to immobilisation.
(iv) Dematerialisation takes less time in transaction as compared to immobilisation.

Q.5. What is Credit Rating? What are its uses & limitations? State in brief different credit rating agencies of India.
Meaning:

Ans. In simple words, a credit rating is

1. An expression of opinion of a rating agency.
2. The opinion relates to a debt instrument to be issued by an entity
3. The opinion is as of a given date.
4. The opinion is based on risk evaluation and
5. The opinion is indicates probability of interest and principal payments being met by an issuing entity in a timely fashion

These opinions have become important in recent times to investors on account of the increase in the number of issues, and the advent of new and complex financial products, such as asset backed securities and credit derivatives.

A credit rating does not mean

1. Performance evaluation
2. Investment recommendation
3. Opinion on associates: An opinion on the holding company, subsidiaries, fellow subsidiaries, or associates of the issuer-entity.

Legal compliance: That the issuer-entity has complied with (or failed to comply with) any or all legal requirements, or that an audit has been carried out.

Use of credit rating

Credit rating is useful to both the users and the issuers.

1. To users: The ratings are useful to its users because:

a) They aid in investment decisions.
b) They help in meeting regulatory requirements, e.g., a Mutual Fund may evolve specific schemes, funds raised in which are deployed in securities carrying not less than a pre-determined Rating-Score.
c) Analysts working in Mutual Funds use the credit ratings as one of the several valuable inputs to their independent evaluation process.

2. To issuers: Credit ratings are sought by issuers, because:

a) Issuers need to meet regulatory requirements, e.g., SEBI provides mandatory rating of debt-instruments in many areas.
b) Issuers recognize that prospective investors place a value on the ratings, and this in turn will affect their ability to raise debt or equity capital.

To summarize, rating assists.

a) Investors in making investment decisions
b) Provides a marketing tool to entities placing debt with clients.

Credit Rating Agencies in India

There are many rating agencies in India. Four of these deserve special mention.

1. Credit Rating Information Services of India Ltd. (CRISIL)

CRISIL has also set up a Subsidiary known as CRIS-RISC, for providing information and related services – primarily over the internet – and also runs an online news and information service.

2. ICRA

ICRA, formerly known as Investment Information and Credit Rating Agency of India, began its operations in 1991. Major shareholders include leading financial institutions and Banks. Moody's Investor Services, through their Indian Subsidiary, Moody's investment Company India (P) Ltd. is the single largest shareholder.

3. **Credit Analysis and Research Ltd. (CARE)**
   CARE was established in 1993. UTI, IDB, and Canara Bank are the major promoters. With 2500 plus headings under its belt it emerged as a leading rating light.
4. **Fitch Ratings India (P) Ltd.**
   Fitch Group which is an internationally acclaimed statistical rating agency has established its presence in India, through Fitch Ratings India (P) Ltd., as a 100% subsidiary of Fitch Group.

All the four agencies have been recognized by Securities and Exchange Board of India under the SEBI (Credit Rating Agencies) Regulations 1999.

Limitations of Credit Rating

While credit rating is no doubt welcome, we must also be aware of its darker side.

1. Rating changes: Credit rating is at a date. Rating accorded to instruments can change over time. They can be downgraded or kept under rating watch. So far, so good. But actual experience can be a shade different. Rating downgrades may not be timely enough to put investors on alert. Rating agencies have been known to lag rather than lead events. Often downgrading has happened only when it is too late for the investor to act.
2. Industry specific rather than company specific: There is a possibility that downgrades are linked to industry performance rather than Company performance. In short, ratings could be linked to how the industry is doing rather than how the company is doing. Agencies may be drawing comfort in the macro picture than in the micro scene. Put differently, when ratings are modified, it is likely that an agency may have over-reacted to conditions then existing; such reactions could spring from an optimism (or pessimism) during upturns (or downturns).
3. Cost benefit analysis: Rating is mandatory in a number of cases. This compels an organization to go for rating instead of choosing it on a cost benefit analysis basis. There is a gathering debate on whether rating should be left optional and the public could be left to decide whether a company that is not getting itself rated has anything to hide.
4. Conflict of interest: The rating company collects its fees from the company which it rates. This could lead to an element of conflict of interest. With the rating market getting increasingly competitive, there is a possibility, howsoever remote, that such a conflict of interest could creep into the rating.
5. Other issues: There are certain Corporate Governance issues that call for attention:
   a) Rating agencies deriving more of its revenues from a single source or a group.
   b) Rating Agencies of larger size, enjoying a dominant market position engaging in aggressive competitive practices (e.g. either refusing to rate a collateralized and securitized instrument, or inducing an issuer to pay for services rendered).
   c) Greater element of transparency in the rating process, particularly in the area of disclosure of assumptions leading to a specific rating to the general public.

Q.6. Write short not on CAMEL model in credit rating.

Ans. Among the many tools and techniques in the armory of a Rating Agency, the CAMEL Model deserves mention. CAMEL is an acronym for Capital, Assets, Management, Earnings and Liquidity. The focus of the scope of coverage will include:

1. Capital : Composition of retained earnings and external funds raised; fixed dividend component (preference) and fluctuating dividend component (equity), and overall adequacy of long term funds, put together to gearing levels; ability of issuer entity to raise further borrowings.
2. Assets: Revenue generating capacity of existing and proposed assets, fair values, technological and physical obsolescence, linkage of the asset values to turnover,

consistency, appropriateness of methods of depreciation ad adequacy of charge to revenues. [Size, ageing, ad recoverability of monetary assets such as receivables, and its linkage with turnover]

3. Management: Extent of involvement of management personnel, team-work, authority, timeliness, effectiveness and appropriateness of decision making as also the focus of direction of management in the backdrop of corporate goals.
4. Earnings: Absolute levels, trends, stability, susceptibility to cyclical fluctuations, and the ability of the company to service the existing and additional debts, if any, proposed.
5. Liquidity: Effectiveness of working capital management, corporate policies in the areas of stock and creditors, management and the ability of the entity to meet their commitments in the short-run.

These factors form the five core bases for estimating credit-worthiness of an issuer, which in turn leads to an opinion for rating an instrument. Rating agencies determine the predominance of positive or negative aspects under each of these five elements and these are factored in, in the overall rating decision.

Q.7. Write short note Loan Syndication

Ans. - When large amount of funds are to be procured, a few of banks/ financial institutions come together to provide financial services, which is termed as loan syndication.
- Since it involves arrangement of some financial institutions, it is also known as 'consortium financing.
- Loan syndication involves preparation of loan application and finally arranging for the disbursal.
- Such syndication involves lending as well as merchant banking.
- The cost on such loans involve not just interest expense but also syndication fee for arranging fund from different institutions.
- Each bank/financial institution appraises the loan application separately.
- Such a process turns out to be time consuming.
- Co- ordination is ensured by the lead bank.

Q.8. Write short note on Refinancing.

Ans. - Reliance is a process under which large financial institutions provide funds to other institutions for development or promotion of those activities which are the main objective or purpose of the large institutions.
- NABARD (National Bank for Agriculture and Rural Development) and SIDBI (Small Industries Development Bank of India) are the examples of those bigger or larger institutions which provides such refinance facility to those banks/institution which are engaged in fulfilling the objectives of those larger institution.

Q.9. Write short note on External Commercial Borrowing

Ans. •-The foreign currency borrowing raised by the Indian corporate from outside India Is known as 'External Commends! Borrowing' (ECB).
- Those borrowing occupy a very important position as a source of funds for corporate.
- This foreign currency borrowing can be raised within ECB policy guidelines of Govt, of India/Reserve Bank of India issued from time to time.
- Thus, the main ingredients of ECB are:
- It is a commercial loan.
- It is a foreign exchange. .
- It is availed by a person resident in India.
- It is availed from non-resident lenders.

- The ECB route is beneficial to the Indian corporate on account of the following:

1. It provides the foreign currency fund which may not be available in India. .
2. The cost of fund at times works out to be cheaper as compared to the cost of raising domestic funds.
3. The availability of the funds from the international market is huge as compared to domestic market and corporate can raise large amount of funds at competitive price.

- ECB can be accessed under two routes
  (i) Automatic Route and (ii) Approval route.

Q.10. Write short note Trade Credit

Ans. Trade credit is one of the most important sources of short-term finance. Trade credit refers to the sale of merchandise on credit by one business organisation to another. Trade credit terms generally include a provision for a cash discount if payments are to be made within a specified period of time. The credit terms also include the payment period. Availability of trade credit facilities and terms of credit are dependent on several factors such as nature of the product, financial position of sellers., cash discount, degree of credit risk and nature and extent of competition.

Merits of Trade Credit:

1) Availability of trade credit is on a continuous and informal basis. No separate arrangement of financing is necessary.
2) In case of trade credit, there is no need of creating any sort of charge against the assets of the business.
3) Trade credit is a flexible source of finance as the firm has not to sign a not to sign a note, pledge securities or adhere to strict payment schedule.

Demerits of Trade Credit:

1) The cost of trade credit may be very high if all the factors are taken into account. The seller while fixing the selling price considers various factors such as interest, the risk and inconvenience attached to supplying goods on credit.
2) Easy availability of trade credit may induce the firm to resort to overtrading.

Q.11. What is Securitisation of financial assets?

Ans. Securitisation involves packaging a designated pool of assets (mortgage loans, consumer loans, hire purchase receivables, and so on) and issuing securities which are collateralized by the underlying assets and their associated cash flow stream. Securitisation is originated by a firm that seeks to liquefy its pool of assets. Securities backed by mortgage loans are referred to as mortgage backed securities; securities backed by other assets are called asset based securities.

Key Steps in Securitisation

Securitisation can take place in different ways and assume complex structures. Broadly, the following steps are involved in a securitization programme:

1) Seasoning The originator (the firm that seeks to liquefy its assets) identifies the assets to be securitized and packages them in a pool.
2) Credit Enhancement The originator or some other agency may enhance the credit quality of the pool of assets to be securitized by providing insurance, often of a limited kind, to the investors.

3) Transfer to a Special Purpose Vehicle The pool of assets is transferred to a Special Purpose Vehicle (SPV), usually organized as a Trust, for valuable consideration. Once the transfer is completed, the assets are taken off the balance sheet of the originator
4) Issuance of Securities The SPV issues securities backed by the pool of assets held by it. These securities are called Pass Through Certificates (PTCs) because the cash flows received from the pool of assets are transmitted (passed) to the holders of these securities on a pro-rata basis after deduction of service fee.

Role of the merchant Banker

The merchant banker has to coordinate the activities of various agencies to ensure the overall success of the securitisation programme. His principal tasks are to:

1) Bring the originators and the investors together.
2) Set up the SPV.
3) Design the instruments and price them appropriately.
4) Select various agencies like the rating agency, underwriters, credit enhancing agency, and servicing agency.
5) Arrange for the listing of the issue.
6) Market the issue and if necessary, provide market support.

Q.12. What are Sources of real estate funding?

Ans. - Real estate financing refers to the process whereby real estate i.e. land & buildings are financed.
- Thus, the whole process undertaken for arranging line funds for owning real estate is termed as real estate financing.
- The 2 main instruments dealing in real estate financing are as follows :-
- Real estate mortgages
- Real estate leases
- The main source of real estate financing is procuring loans from financial institutions.
- Apart from the aforementioned ways other sources of finance which may be used to acquire real estates are:-
  - Employers loan
  - 'Own your house' scheme of LIG
  - Long term loans of State Housing Board
  - Loans provided by HDFC
  - Schemes of co-operative housing societies.

Q.13."Depreciation is Internal Source of Finance" Do you agree?

Ans. • Amongst all the sources of internal finance, main source is depreciation.
- As regards depreciation, the term denotes the funds set apart for replacement of worn-out assets. Depreciation is a deduction out of profits of the company calculated as per accounting rules on the basis of estimated life of each asset each year to total over the life of the assets to an amount equal to original value of the assets.
- Although depreciation is meant for replacement of particular assets but generally it creates a pool of funds which are available with a company to finance its working capital requirements and sometimes for acquisition of new assets including replacement of worn-out plant and machinery.
- Depreciation is expenditure recorded in the accounting system of a company and is allowed to be deducted while arriving at the net profits of the company subject to adherence of the percentages of allowable depreciation fixed under the tax laws. However this amount remains in the business and utilized for business requirements.

Q.14. Distinguish between Corporate & Business Finance

Ans.

Corporate Finance	Business Finance
If deals with the finance of corporate bodies.	It deals with the financial practices applicable for all types of business enterprises.
It is a specialised branch of business finance.	It includes corporate and noncorporate finance.
Sources of funds are generally from public and government.	Sources of funds are private in nature.

Q.15. Distinguish between Bearer Debentures & Registered Debentures

Ans.

	Basis	Bearer Debentures	Registered
1.	Meaning	These are negotiable instruments and are transferable by mere delivery.	These types of debentures are not bearer in nature but have to be registered in the name of the holder.
2.	Interest & Principal Repayment	The holder is entitled to claim interest &. principal whenever the same becomes due.	Interest and principal repayment is made to holder whose names appear in the register of the company.
3.	Stamp Duty	On transfer of such debentures, no stamp duty is required to be paid	It is subject to stamp duty.

Q.16. Write short note on "Financing through Retained Earnings"

Ans. Retained earnings are not a method of financing but it refers to accumulation of profits by a company to finance its developmental activities or repay loans. It is also called as "internal financing" or "plough back of profits". Raising finance through retained earnings is the best source since it is easily available. Therefore management finds it an easy and cheap source of funds.

Merits of Retained Earnings:

(a) It increases the reputation of the business. It also increases the capacity of the company to absorb unexpected and sudden business shocks.

(b) It is the cheapest source of funds. As compared to other sources of finance, the flotation cost has not to be incurred.

(c) For financing and improvements, this is the most useful source of finance.

(d) It is equally useful since it carries no obligation to pay any dividend or interest.

Demerits of Retained Earnings:

(a) The retained earnings can be misused by the management. It can be misused for manipulation of the value of the company's shares on the stock exchange. Similarly, it can be misused in order to cover the inefficiency of the management of the company.

(b) In case the retained earnings are used excessively and for a long period, it may result in converting the business enterprise into a monopolistic organisation.

(c) Raising finance through retained earnings may prove harmful to social interests. Use of retained earnings by individual business enterprise may not be in the interest of the society may not get an opportunity to invest funds in socially desirable business units.

(d) The shareholders may object the use of retained earnings as they are deprived of regular income.

Q.17. What is Investment Banking? What are its functions?

Ans. This term is mainly used to describe the business of raising capital for companies. Major players in global scenario include Goldman Sach, Merrill Lynch, and Morgan Stanley etc.

The main difference between traditional commercial banking system and investment banking system is that while commercial bank takes deposits for current and savings accounts from customers while an investment bank does not.

The following are, briefly, a summary of investment banking functions:

- Underwriting: The underwriting function within corporate finance involves shepherding the process of raising capital for a company. In the investment banking world, capital can be raised by selling either stocks or bonds to the investors.
- Managing an IPO (Initial Public Offering): This includes hiring managers to the issue, due diligence and marketing the issue.
- Issue of debt: When a company requires capital, it sometimes chooses to issue public debt instead or equity.
- Follow-on hiring of stock: A company that is already publicly traded will sometimes sell stock to the public again. This type of offering is called a follow-on offering, or a secondary offering.
- Mergers and Acquisitions: Acting as intermediary between Acquirer and target company
- Sales and Trading: This includes calling high networth individuals and institutions to suggest trading ideas (on a caveat emptor basis), taking orders and facilitating the buying and Selling of stock, bonds Or other Securities such as Currencies.
- Research Analysis: Research analysts study stocks and bonds and make recommendations on whether to buy. sell, or hold those Securities.
- Private Placement: A private placement differs little from a public offering aside from the fact that a private placement involves a firm selling stock or equity to private investors rather than to public investors.
- Financial Restructuring: When a company cannot pay its cash obligations - it goes bankrupt. In this situation, a company can, of course, choose to simply shut down operations and walk away or, it can also restructure end remain in business.

Q.18. Write short note on consumer finance

Ans. Consequent upon the globalisation of Indian economy, a spurt Increase in employment opportunities has been resulted. This has lead to steady increase in demand of durable consumer goods such as electronic and automobile goods.

Consumers can now easily purchase the goods by way of consumer finance.

Basically consumer finance is concerned with providing short term medium term loans to finance purchase of goods or services for personal use by consumers.

Consumer Finance is provided by Non-Banking Financial Companies (MBFCs) which are governed by RBI's regulations and other banking regulations.

Q.19. What is Non banking Financial Companies? What are its categories? What measures are taken by RBI to regulate NBFC?

Ans. Meaning of NBFC (Non Banking Financial Companies): NBFC stands for Non-Banking financial institutions, and these are regulated by the Reserve Bank of India under RBI Act. 1934. A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 and is engaged in the business of loans and advances, acquisition of shares/stock of bonds of debentures/securities issued by Government or local authority or other securities of like marketable nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, sale/purchase to construction of immovable property/* NBFC's principal business is receiving of deposits under any scheme or arrangement or in any other

manner or lending on any other manner. They normally provide supplementary finance to the corporate sector.

Different categories of NBFC are

1. Loan Companies.
2. Investment Companies.
3. Asset Finance Companies Regulation of NBFCs-RBI Act

RBI regulates the NBFC through the following measures;

(a) Mandatory Registration.
(b) Minimum owned funds.
(c) Only RBI authorized IMBFCs can accept public deposits.
(d) RBI prescribes the ceiling of interest rate and public deposits.
(e) RBI prescribes the period of deposit-
(f) RBI prescribes the prudential norms regarding utilization of funds.
(g) RBI directs their investment policies.
(h) RBI inspectors conduct inspections of such companies.
(i) RBI prescribes the points which should be examined and reported by the auditors of such companies,
(j) RBI prescribes the norms for preparation of Accounts particularly provisioning of possible losses.
(k) If any of interest or principal or both is/ are due from any customer for more than 6 months, the amount is receivable (interest or principal or both) is termed as non-performing asset.

NBFCs (unction similarly as banks; however there are a few differences;

(i) an M&FC cannot accept demand deposits;
(ii) an NBFC is not a part of the payment and settlement system and as such an NBFC cannot issue cheques drawn on itself; and
(iii) deposit insurance facility of Deposit Insurance and Credit Guarantee Corporation is not available for NBFC depositors unlike in case of banks.

Q.20. Write short note on Factoring

Ans. Factoring is an agreement in which receivable arising out of sale are sold by a firm (client) to the factor (a financial intermediary). Factoring is a new financial service that is presently being developed in India. Factoring involves provision of specialized services relating to credit investigation, sales ledger management, purchase and collection of debts, credit protection as well as provision of finance against receivables and risk bearing. In factoring, accounts receivables are generally sold to a financial Institution or subsidiary of commercial bank-called "Factor", who charges commission and bears the credit risks associated with the accounts receivables purchased by it.

Chapter 6	Project Planning

Q.1. What is a Project plan? Enumerate various steps in the Project planning process.

Ans. A project plan is a formal, approved document that is used to manage and control a project. The project plan forms the basis for all management efforts associated with the project. It is a document that is also expected to change over time. The project plan documents the pertinent information associated with the project; the information associated with the plan evolves as the project moves through its various stages and is to be updated as new information unfolds about the project.

Steps in the Project Planning Process are:

The planning process consists of the following basic tasks:

a) Define the technical approach used to solve the problem.
b) Define and sequence the tasks to be performed and identify all deliverables associated with the project.
c) Define the dependency relations between tasks.
d) Estimate the resources required to perform each task.
e) Schedule all tasks to be performed.
f) Define a budget for performing the tasks.
g) Define the organization used to execute the project.
h) Identify the known risks in executing the project.
i) Define the process used for ensuring quality.
j) Define the process used for specifying and controlling requirements.

Q.2. What is a project report and why is it necessary to prepare project report?

Ans. Project report is a working plan for implementation of project proposal after investment decision by a company has been taken.

Importance of preparation of project report has been felt in the wake of sophisticated technology being adopted and the heavy financial state of public funds through financial institutions, banks and investment organization being contemplated. High technology involvement, higher cost in the project implementation and as such economy cannot afford to tolerate failure of the project. Therefore, to ensure before taking in hand a project whether or not the proposed project is viable, preparation of project report has become essential exercise for all corporate units particularly in the light of the following background:

1. Planning in advance, the accomplishment of the following objectives:
   (a) Performance Objectives
   (b) Marketing Objectives
   (c) Operations Objectives
   (d) Technical Objectives
   (e) Financial Objectives
   (f) Personnel Objectives
   (g) Organisation Objectives
   (h) The end product Objectives
   (i) The customer benefit Objectives, and
   (j) The societal Objectives
2. To evaluate above objectives in the right perspective it is essential to consider the input data, analyse the data, predict outcome, choose best alternatives, take action and measure results with predictions. Stress is laid that the objectives become

measurable, tangible, verifiable, attainable and the risk of failures is avoided to the maximum desired extents.

3. To evaluate constraints on resources viz. manpower, equipment, financial and technological.
4. To avail of the financial facilities who require a systematic project report to evaluate desirability of financing the project. Besides, the financial intermediaries today check up and verify the project proposals for accepting the responsibility for a company to procure funds from the capital market. Merchant banks that have entered in the capital market as financial intermediaries are quite careful about the project viability before taking up a contract for making financial services available to corporate units.
5. Successful implementation of a project depends upon the course of action suggested in the project report. Besides, comparison of results will depend upon the projected profitability and cash flows, production schedule and targets as planned in the project report.

Q.3. What guidelines are followed by banks and financial institutions for Project appraisal under inflationary conditions?

Ans. The project appraisal by banks and financial institutions under inflationary conditions is generally done keeping in view the following guidelines:

1. Make provisions for delay in project implementation, escalation in project cost as per the forecasted rate of inflation in the economy particularly on all heads of cost.
2. Sources of finance should be carefully scrutinized with reference to revision in the rate of interest to be made by lender and the revision which could be followed in the interest bearing securities. All these factors will push up the cost of financial resources for the corporate unit.
3. Profitability and cash flow projections as made in the project report require revision and adjustment should be made to take care of the inflationary pressures affecting adversely future projections.
4. Explain fully the criteria followed in adjusting the inflationary pressures viz. there are two criteria followed given as under:-
   - Take inflationary rate at average rate and escalate the total cost at that rate;
   - Adjust each cost item against inflationary rate. This would make adjustment for inflationary pressures in the cost elements responsible outflows and the revenue elements in the cash. Both cash inflows and outflows will accordingly adjust to inflationary changes at the appropriate rate applicable to each of them respectively.
5. Examine the financial viability of the project at the revised rates and assess the same with reference to economic justification of the project. The appropriate measure for this aspect is the economic rate of return for the project which will equate the present value of capital expenditure to net cash flows over the life of the project. The rate of return should be acceptable which accommodates the rate of inflation per annum.
6. In inflationary times, early pay back projects should be prepared. Because projects with long pay back are more subjected to inflationary pressures and the cash flow generated by the project will bear high risk.

Q.4. Explain in detail various Viability tests carried out by a bank/financial institution after analyzing the project and promoter's capacity.

Ans. After analyzing the Project and Promoters capacity, a bank/financial institution carries out following validity tests:

A. Technical Aspects of Project Appraisal

This involves studying the feasibility of selected technical processes and its suitability under home conditions, location of the project, plant layout, appropriateness of the chosen equipment, machinery and technology, availability of raw material, power and other inputs, appropriateness of technology chosen from social point of view, availability of infrastructure for the project, the techno economic assumptions and parameters used for analyzing costs and benefits and viability provision for treatment of effluents, training of manpower, legal requirement on documentation, license and registration.

B. The Financial Aspects of Project Appraisal

The primary aim of financial analysis is to determine whether the project satisfies the investment criteria of generating acceptable level of profitability. The project should be able to service the debt and ensure expected returns to the investor. The important aspects which are examined while conducting financial appraisal are investment outlay, means of financing, projected financial statements, viability and profitability, break-even point analysis, sensitivity analysis and risk analysis.

(a) Measures of Financial Viability – NPV, BCR and IRR

Financial viability is measured by net present value, benefit cost ratio, internal rate of return and debt service coverage ratios.

Net Present Value Method (NPV)

The objective of the firm is to create wealth by using existing and future resources. To create wealth, inflows must exceed the present value of all anticipated cash outflows.

It is DCF approach to capital budgeting that discounts all expected future cash flows to the present using a minimum desired rate of return. Higher the risk, higher the minimum desired rate of return. The minimum rate of return is the cost of capital i.e. what the firm pays to acquire more capital. It is also known as required rate of return or discount rate.

Managers discounts all expected cash flows from the project to the present, using this minimum desired rate. If the sum of PV of cash flows is positive, the project is desirable. If the sum is negative, it is undesirable. When choosing among several investments, the one with the greatest NPV is most desirable.

NPV = PV of cash inflow – PV of cash outflow

Profitability Index (Benefit/Cost Ratio):

$$PI = \frac{\text{PV of cash inflows}}{\text{PV of cash outflows}}$$

The proposal is worth accepting if the PI exceeds 1. In case of several proposals highest PI proposal should be selected.

Profitability index is an extension of NPV method.

When the firm has unlimited funds available for investment then the NPV method is better than PI method.

IRR method

Internal Rate of Return: It is that rate at which discounted cash inflows are equal to the discounted cash outflows. In other words, it is the rate which discounts the cash flows to zero, It can be started in the form of a ratio follows;

Cash inflows _ cash Outflows

This rate is to be found by trial and error method. This rate is used in the evaluation of investment proposals . In this method, the discount rate is not Known but die cash outflows and cash inflows are known.

In evaluating investment proposal wit, internal rate of return is compared with a required rate of return, known as cut-off rate. If I! Is more than cut-off rate the project Is Healed as acceptable: otherwise project is rejected

(b) Sensitivity Analysis

Projects are sensitive to fluctuation in values of critical variables like costs of inputs and prices of outputs. It is important to examine how sensitive is the project to fluctuations in the values of these variables because the basic assumptions taken for projections of balance sheet, cash flow statements for future years have an element of uncertainty. Different projects may, however, get affected differently from changes in the assumption of cost and return items. Sensitivity analysis helps us in finding out that how sensitive is the project to these fluctuations. Sensitivity analysis involves identification of crucial variable relating to costs and returns, specification of alternative values of the crucial variables and re-computation of the NPV and IRR by using the alternative values. A project, which is highly sensitive to even small fluctuations in cost and price, is a risky project for financing.

(c) Scenario Analysis

Sensitivity analysis takes care of only one or two variable which is at times inadequate. This limitation is partially overcome by scenario analysis, where scenario of certain prices, cost and other variables are created and the financial parameters are computed.

(d) Risk Analysis

Under risk analysis, probabilistic analysis is done by identification of key risk variables, finding out values of each risk variable, assigning probabilities for each value to each of the risk variables, using these values for risk analysis and finding out the probability of negative outcome of the project, i.e. what is the probability that the NPV of the project will be negative. The risk analysis adds valuable information to the project analysis and it is an important tool in this respect but to take up investment or not depends on the risk taking capacity of the entrepreneur which will vary from person to person. Therefore, it is judgmental in nature

C. Economic Appraisal

The objective of economic appraisal is to examine the project from the entire economy's point of view to determine whether the project will improve the economic welfare of the country. Economic appraisal is traditionally not conducted in banks or financial institutions. It is generally conducted by agencies like the World Bank and the development agencies of the Government for the projects having huge investment and profound implication for the economy. Examples of the projects where economic analysis is conducted are big dams, forestry projects and big industrial projects.

D. Social/distributive Appraisal

For an analysis of a project to be complete, it should include not only the financial and economic but also social appraisal. The social analysis consists of two parts: measurement of the distribution of the income due to the project and identification of the impact on the basic needs objectives of the society. The steps involved in social appraisal are: conducting financial analysis, economic analysis and appraisal of distributional effect of the net benefits (externalities) of the project. After social and distributive analysis it may emerge that a project is financially unviable but socially and economically is viable. In such situations the decisions to undertake the project would depend upon the goals of the Government. If the Government believes that the positive externalities are worth the negative financial cash flow, it may decide to implement the project.

E. Environmental Aspects

Nowadays huge importance is being attached to the environmental aspects in the projects and most of the banks and financial institutions insist on Environmental Impact Assessment (EIA). The essence of EIA is a prediction of the consequences to the natural environment from development projects. The emphasis in EIA is on those consequences of the projects which are relatively well known and whose magnitudes can be easily estimated. Conditional, uncertain or probabilistic aspects of the impacts are not considered. Another elaborate analysis called Environmental risk Assessment (ERA) is used to differentiate a new and additional analysis in which the probabilistic element is explicitly addressed.

F. Organizational and Managerial Aspects

The organizational and managerial aspects evaluate the managerial capacity of the organization or the entrepreneur, responsible for implementing the project. Even if very good technology is chosen for the project, it may fail due to lack of or inadequate managerial capability. In small agricultural and other projects the entrepreneur is responsible for taking care of all these aspects. It is important for the banker to judge the borrower's managerial capability and also his financial capability (worth). In case of cost escalation he should be in a position to meet the additional financial requirement for the project.

G. Commercial Aspects Including Marketing

Commercial aspects of a project include arrangement for supply of inputs for the initiation and operation of the project and marketing of outputs. Some experts prefer to have a separate marketing module and would treat it as the most important aspect of appraisal.

Q.5. Explain in detail various aspects covered under Technical appraisal/Feasibility

Ans. In ascertaining the technical feasibility of projects, the following aspects are normally considered:

1. Technology and its suitability: In these days of rapidly changing technology, the fear of technological obsolescence is always present. It is, therefore, necessary to examine the suitability of the technology adopted with reference to technical information available on the plant and equipment to be installed by the industrial unit.
2. Size of plant: The size of the plant and its capacity level are very important decisions. A plant should be planned in such a way so that it can be put to its optimum use. Fixed overheads do not vary with the various capacity levels of the plant. It is, therefore, important to determine the adequate and optimum capacity of the plant before it is set up. In certain industries, a unit can be operated economically at a certain minimum scale of operations. Therefore, the proper evaluation of scale of operation of the project is essential.
3. Location: For the success of a project, its location is of a great importance. The location of the project may be influenced by the closeness of source of raw-material, availability of power, fuel, transport, skilled and unskilled labour or closeness to market which would be served by the unit. For example, some industries like cement are located near the source of raw material, whereas in the case of glass industry, it is considered advantageous to locate the factory near the market. Incentives provided by the Government also influence the decision about the location of a project. For example, Concessional financial assistance provided by the Government for backward districts may motivate the promoter to locate the plant in such areas.
4. Selection of proper Plant and Equipment supplier: While selecting the plant and equipment, the reputation and experience of their suppliers is important. In many cases, it is the responsibility of supplier to provide for maintenance and training of

workers etc., for proper utilization of equipment. Therefore, it should be ensured that the supplier would satisfactorily meet their obligations.

5. Plant layout: The layout of the plant is important from the point of view of possible future expansions. It should be evaluated with reference to site plan.
6. Facilities for supply of water, power and fuel: It should be considered whether adequate supply of water, power and fuel will be available. In case of difficulty of power, the company may consider the possibility of installing Diesel Generating Set for continuous supply of power.
7. Disposal of affluent and by-products, if any: It should be considered whether proper arrangement for disposal of affluent harmful to human and marine life has been made. Similarly, it will also be considered how by-products are to be treated.
8. Project schedule: This would involve of scrutiny of the various elements of the project from the stage of engineering design work to the installation and testing of equipment and commercial production. A realistic project schedule is of great significance for the timely completion of the project and to avoid cost over runs.
9. Technical know-how: Arrangements are to be made for securing technical know-how and training of personnel and labour who have to operate the plant.
10. Competent personnel: It is to be examined whether the required work force and competent personnel would be available for the project.

Q.6. What is Social Cost benefit analysis (SCBA) of project? Explain the approaches for SCBA.

Ans. Social cost benefit analysis (SCBA) called Economic analysis developed for evaluating investment projects from the point of view of the society as a whole.

Social cost-benefit analysis is a systematic and interrelated method to survey all the impacts caused by a project. It comprises not just the financial effects (investment costs, direct benefits like tax and fees, etc), but all the social effects, like: pollution, safety, indirect (labour) market, legal aspects, etc. The main aim of a social cost benefit analysis is to attach a price to as many effects as possible in order to uniformly weigh the abovementioned heterogeneous effects. As a result, these prices reflect the value a society attaches to the caused effects, enabling the decision maker to form a statement about the net social welfare effects of a project.

Two approaches for SCBA

UNIDO Approach:

This approach is mainly based on publication of UNIDO (United Nation Industrial Development Organisation) named Guide to Practical Project Appraisal in 1978.

The UNIDO guidelines provide a comprehensive framework for appraisal of projects and examine their desirability and merit by using different yardsticks in a step-wise manner. The desirability is examined from various angles, such as the impact on

(a) Financial profitability of utilization of domestic resources,
(b) Savings and consumption pattern,
(c) Income distribution, and
(d) Production of merit and demerit goods.

L-M Approach

The seminal work of Little and Mirrlees on benefit-cost analysis systematically develops a theoretical basis for the analysis and its underlying assumptions and lays down step-wise procedure for undertaking benefit-cost studies of public projects. The mathematical formulation is identical to the UNIDO method except for differences in assigning value to discount rates and accounting for imperfections and other market failures and social considerations.

Like UNIDO guidelines, the Little-Mirrlees method also suggests valuation of project investment at opportunity cost (shadow prices) of resources to correct distortions due to market imperfections.

SCB is also important for private corporations who have a moral responsibility to undertake socially desirable projects, use scarce natural resources in the best interests of society, generate employment and revenues to the national exchequer.

Indicators of the social contribution include

(a) Employment potential criterion;
(b) Capital output ratio - that is the output per u nit of capital;
(c) Value added per unit of capital;
(d) Foreign exchange benefit ratio.

Q.7. Write short note on SWOT analysis.

Ans. In case of existing companies which are proposing diversification and expansion plans, will conduct a detailed study about the strengths weaknesses, opportunities and threats on the basis of its past business experience. By conducting SWOT Analysis, the strengths and weakness of the proposed project is highlighted. Some of the aspects considered in SWOT analysis are as follows:

1 Internal financial resources.
2 Availability of funds in the capital market.
3 Extent of support from Bank and financial institutions.
4 Existing and proposed level of investments and its impact on ROI, EPS and market value of the firm.
5 The business and financial risk attached to the firm.
6 Technology developed internally or possibility to obtain reliable technical know-how at cheaper cost.
7 Brand loyalty of existing products.
8 Source of raw material, and other infrastructural facilities.
9 Market share, distribution network.
10 Severity of competition.
11 Cost of production and managerial competence.
12 Cost of capital.
13 Government clearances and permissions.
14 Macro and Micro economic environment in which the business operates etc.

Q.8. Write short note on Economic Rate of Return

Ans. Interest rate at which the cost and benefits of a project, discounted over its life, are equal. ERR differs from the financial rate of return. It takes into account the effects of factors such as price controls, subsidies, and tax benefit to compute the actual cost the project to the economy.

- While evaluating any project using social cost benefit analysis (SCBA), economic rate of return (ERR) is deployed.
- As against this, while making economic appraisal of any project Internal Exchange Rate (IER) is made use of.
- Economic rate of return equates real economic cost to its economic benefits during the project life time.
- Thus, economic rate of return acts as an important tool to evaluate and select the project.
- ERR is based on shadow prices which depicts real cost of inputs & real benefits of output to the society.

Q.9. What are the contents of Project Report?

Ans. The following aspects need to be taken into account tor a Project Report -

1. Promoters: Their experience, past record of performance form the key to their selection for the project under study.
2. Industry Analysis: The environment outside and within the country is vital for determining the type of project one should opt for.
3. Economic Analysis: The demand and supply position of a particular type of product under consideration, competitor's share of the market along with their marketing strategies, export potential of the product, consumer preferences are matters requiring proper attention in such type of analysts.
4. Cost of Project; Cost of land, site development, buildings, plant and machinery, utilities e.g. power, fuel, water, vehicles, technical know how together with working capital margins, preliminary/pre-operative expenses, provision for contingencies determine the total value of the project.
5. Inputs: Availability of raw materials within and outside the ho me coon try, reliability of suppliers cost escalations, transportation charges, manpower requirements together with effluent disposal mechanisms are points to be noted.
6. Technical Analysis: Technical know-how, plant layout, production process, installed and operating capacity of plant and machinery form the core of such analysis.
7. Financial Analysis: Estimates of production costs, revenue, tax liabilities profitability and sensitivity of profits to different elements of costs and revenue, financial position and cash flows, working capital requirements, return on investment, promoters contribution together with debt and equity Financing are items which need to be looked into for financial viability.
8. Social Cost Benefit Analysis: Ecological matters, value additions, technology absorptions, level of import substitution form the basis of such analysis.
9. SWOT Analysis : Liquidity/Fund constraints In capital market, limit of resources available with promoters, business / financial risks, micro/macro economic considerations subject to government restrictions, role of Banks/financial Institutions in project assistance, cost of equity and debt capital in the financial plan for the project are factors which require careful examinations while carrying out SWOT analysis.
10. Project Implementation Schedule: Date of commencement, duration of the project, trial runs, cushion for cost and time over runs and date of completion of the project through Network Analysis have #1/ to be property adhered to the order to make the project feasible.

Q.10. Explain the various sources of Finance for Project financing.

Ans. Different sources of finance for Project financing are:

1. Term Loans from Financial Institutions and Banks: Term loan is a long term secured debt extended by banks or financial institutions to the corporate sector for carrying out their long term projects maturing between 5 to 10 Years which is normally repaid in monthly or quarterly equal installment. They are external source of finance paid in installments governed by loan agreement and covenants. Term loan is a type of funding which is most suitable for projects involving very heavy investment which is not possible by an individual or promoters. Big projects cannot be concluded in a year or two. To yield return from them, long term perspective is required. Such big ventures are normally financed by big banks and financial institutions. If the investment is too large, several banks come together and finance it. Such type of term loan funding is also called as consortium loan Term loan is acquired for new projects, diversification of business, expansion projects, or for modernization or technology up gradation.

2. Lease finance: A lease represents a contractual arrangement whereby the lessor grants the lessee the right to use an asset in return for periodic lease rental payments. There are two broad types of lease: finance lease and operating lease.
3. Hire-purchase: Hire Purchase is a loan or contract that involves an initial deposit, linked to a specific purchase, which is a way of obtaining the use of an asset before payment is completed. The payments of the HP are in monthly installments, plus interest within which at the end of the agreement. Finance companies usually offer the facility of leasing as well as hire-purchase to its clients.
4. Venture capital: Venture capital is a source of financing for new businesses. Venture capital funds pool investors' cash and loan it to startup firms and small businesses with perceived, long-term growth potential. This is a very important source of funding startups that do not have access to other capital and it typically entails high risk (and potentially high returns) for the investor.
5. Private equity: Private equity is a way to invest in some assets that isn't publicly traded, or to invest in a publicly traded asset with the intention of taking it private. Unlike stocks, mutual funds, and bonds, private equity funds usually invest in more illiquid assets, i.e. companies. By purchasing companies, the firms gain access to those assets and revenue sources of the company, which can lead to very high returns on investments. Another feature of private equity transactions is their extensive use of debt in the form of high-yield bonds. By using debt to finance acquisitions, private equity firms can substantially increase their financial returns.
6. Deferred payment arrangements: A deferred payments arrangement is one of the sources of finance to industry. Machinery suppliers in India or overseas where machinery is proposed to be imported may agree to accept payment in a scheduled manner in installments in the period ahead of delivery. This is known as deferred payment arrangement with the machinery suppliers. The machinery suppliers in India or abroad may agree to above arrangement on security which is procured in the form of guarantee from financial institutions and banks of repute relied upon by the machinery suppliers.
7. International finance and syndication of loans: International finance plays a very important role in financing the cost of capital of projects of the corporate sector. In international financial market the borrower from one country may seek lenders in other countries in specific currency which need not be of the participant country. In international financial market, the availability of foreign currency is assured under four main systems: (a) Euro currency market; (b) Export credit facilities; (c) Bond issues; and (d) Financial institutions.
8. Some new financial instruments like Swaps are also available as a source of International finance. Swap is the international finance market instrument for managing funds. The basic concept involved in swaps is matching of difference between spot exchange rate for a currency and the forward rate. The swap rate is the cost of exchanging one currency into another for a specified period of time. The swap will represent an increase in the value of the forward exchange rate (premium of a decrease discount). There are three main types of swaps (a) interest swap; (b) currency swap; (c) combination of both.
9. Syndicated Euro Currency Loans: The Eurocurrency market refers to the availability of a particular currency in the international financial market outside the 'home country' of that currency. For example, the Eurodollar market refers to the financial market for US dollars in England, France, West Germany, Hong Kong and other financial centers outside the US.

Q.11.Rising prices may lead to cost escalation of project. As a finance manager how can you finance such a cost escalation?

Ans. Financing cost escalation depends upon the corporate arrangements as to how the project cost has originally been financed. There may be two different aspects to treat the financing of cost escalation as discussed below:

1. Firstly, financing cost escalation in the case when he project is new and financed by owner fund only. In such cases, the raising of equity is costly but issue of right shares to existing shareholder could be planned and this cost be met out. There may be another situation when the company is existing company and project cost is being financed by its internal funds. In this case the company can capitalize its reserves and surplus and use the amount in financing cost escalation.
2. In the second situation where the company has been using borrowed sums in addition to equity capital for financing the project cost, it can always make request of additional funds to the lending institutions to meet the cost escalations or over runs in the project cost. In case the cost escalation is of greater magnitude then the company will have to go to raise funds from equity holders besides raising loans from the institutions so as to maintain the debt equity ratio tin the existing balanced and planned proportions.

Q.12.Distinguish between Financial Viability & Economic Viability

Ans.

Basis	Financial viability	Commercial viability
Meaning	It takes into account whether the project is financially feasible taking into consideration profitability aspects and fixed expenses including interest.	It considers whether the project is commercially possible taking into account its ability to withstand national & international competition
Scope	It takes in its purview cost of project, projection of cash flow, forecast of profits etc.	Demand of the product, supply of raw materials, import or export are covered in it.

Q.13. Write short note on Financial & Economic Aspects of Project Appraisal

Ans. The Financial Aspects of Project Appraisal

The financial aspects of the project are analysed under the following heads:

(i) Amount of resources required to bring the project into operation and the sources from which finance will be obtained.
(ii) Equity-Debt ratio.
(iii) Profitability and cash flow.
(iv) Security.

Economic Aspects of Project Appraisal

An economic analysis of industrial projects is made on the basis of the following techniques of economic appraisal.

There are three measures commonly used for economic appraisal:

1. Economic Rate of Return (ERR)
2. Domestic Resources Cost (DRC)
3. Effective Rate of Protection (ERP)

Q.14. Write short note on Domestic Resource Cost

Ans. - Domestic resource cost refers to the resource cost involved in manufacturing a particular product rather than importing the same.
- It reflects the competitive edge the country has in producing the good.
- It helps in maintaining favourable balance of payment.
- By calculating the domestic resource cost (DRC) a judicious decision can be made whether or not it is feasible to produce the good or is it better to outrightly purchase (import) the goods under consideration.

Q.15. What is Project Review?

Ans. - Project review is a very important aspect of entire project life.
- Even projects that are well designed, comprehensively planned, fully resourced and meticulously executed will face challenges. These challenges can take place at any point in the life of the project and the project team must work to continually revisit the design, planning and implementation of the project to confirm they are valid and to determine whether corrective actions need to be taken when the project's performance deviates significantly from its design and its plan.
- Purpose of the project control is to Monitor, Evaluate and Control the project. Project review involves:
  1. Project Monitoring: Project Monitoring tracks the operational work of the project
  2. Project Evaluation: Project Evaluation tends to focus on tracking progress at the higher levels of the logical framework — i.e. project
  3. Project Control: Project Control involves establishing the systems and decision-making process to manage variances between the project plans.

Q.16. What is leasing? Which are the parties to leasing transaction? Specify main terms of lease agreement.

Ans. Meaning of A Lease

In the lease agreement a party (Lessee) acquires the right to use an asset for an agreed period of time in consideration of payment of rent to another party (Lessor)

Essentials of a lease:

- It is an agreement between the lessor and the lessee.
- The lease agreement is for a certain period.
- The lessor conveys to the lessee the right of using an asset owned by him.
- The lessee pays the rental in exchange for the right of using the asset.

Lease is an arrangement whereby one party who owns certain property permits another party to use the property in consideration of specified rental for specified period. Upon expiry of the period the owner takes the possession of the property. The ownership of asset does not change at any time. This arrangement can also be regarded as method of financing.

Parties to Lease

Generally there are two parties to the transaction

(a) Lessor: Owner of property called "Lessor" or "Landlord". Normally the term lessor is used in context of owner of movable property and landlord is used in case of immovable property. In case of equipments often the manufacturer also acts as a lessor.

(b) Lessee: The user of property called "Lessee" or "Tenant". Former term is used in context of movable property while latter in case of immovable property.

(c) Financier: In a special class of lease called "Leveraged Lease", there is one more party called Financier. This party, normally banker, finances the purchase of asset.

Terms of Lease

The term of lease comprises two factors (i) Period and (ii) Payments

(a) Lease Period: The period for which the right of use of asset is transferred under the lease is called Lease Period. The period of lease may be specific. The lease may be for perpetual period. The lease agreement should specify the commencement of lease. The date of commencement of lease is also known as Inception of Lease. The agreement may provide for cancellation of lease before expiry of the lease period in the specified manner and circumstances. On the expiry of the lease period the lessor takes back the possession of lease property. Alternatively lessee may be provided option to buy property at residual value.

(b) Rental or Lease Payments: The payments under the lease are called "Rental" or "Lease Payments". This is the consideration for lease. The rentals are payable regularly during the lease period. In case of certain type of lease, particularly of immovable property, in addition to rentals, a lump-sum is also payable. Such payment is called premium.

For determining lease rentals the following factors are taken into consideration (a) Interest on cost of property paid by lessor (b) Residual value (c) Risk of obsolescence of property (d) Depreciation. (e) Legal and administrative expenses. (f) Profits for lessor.

Q.17. What are different types of lease?

Ans. Under the lease agreement the lessee is in a position to use the asset without paying the cost of the same. In the absence of such an arrangement the lessee would be required to pay cost of the asset and for the purpose to borrow the money. Such borrowings require payment of interest. Further lessee, being the owner of asset is also exposed to risk of obsolescence. Thus, lease agreement indirectly provides finance for asset.

Types of Leases

1. **Finance lease/Capital lease:**

   It is essentially a form of borrowing. Its salient features are:

   a) It is an intermediate term to long-term non-cancellable arrangement. During the initial lease period, referred to as the 'primary lease period', which is usually 3 years or 5 years or 8 years, the lease cannot be cancelled.
   b) The lease is more or less fully amortised during the primary lease period. This means that during this period, the lessor recovers, through the lease rentals, his investment in the equipment along with an acceptable rate of return.
   c) The lessee is responsible for maintenance, insurance, and taxes.
   d) The lessee usually enjoys the option for renewing the lease for further periods at substantially reduced lease rentals.

2. An **operating lease** can be defined as any lease other than a finance lease. The salient features of an operating lease are:

   a) The lease term is significantly less than the economic life of the equipment.
   b) The lessee enjoys the right to terminate the lease at short notice without any significant penalty.
   c) The lessor usually provides the operating know-how and the related services and undertakes the responsibility of insuring and maintaining the equipment. Such an operating lease is called a 'wet lease'. An operating lease where the lessee bears the costs of insuring and maintaining the leased equipment is called a 'dry lease'

   The lessor, structuring an operating lease transaction, has to depend upon multiple leases or on the realization of a substantial resale value (on expiry of the first lease) to recover the investment cost plus a reasonable rate of return thereon. Therefore, specializing in operating lease calls for an in-depth knowledge of the equipments as

well as the existence of a secondary (resale) market for such equipments. Given the fact that the resale market for most of the used capital equipments in India lacks breadth, operating leases are not in popular use. In recent years there have been attempts to structure car and computer lease transactions in the operating lease format.

3. **Leveraged Lease**
In a leveraged lease transaction, the leasing company (called the equity participant) and a lender (called the loan participant) jointly fund the investment in the asset to be leased to the lessee. The funding provided by the loan participant is usually structured in the form of a fixed rate loan without recourse to the lessor. Each lease rental received from the lessee is bifurcated into two parts: a part which represents the debt service charge on the loan that is passed on to the loan participant; and the balance one which is passed on to the lessor. The loan provided by the loan participant is secured by a first charge on the future rentals payable by the lessee and a fixed charge on the leased asset.

4. **Net Lease & Update Lease**
A net lease is a lease agreement that assigns the lessee all the costs relating to the asset being leased, in addition to the lease rent. The structure of this type of lease requires the lessee to pay the net amount for three types of costs, including net taxes, net insurance and net maintenance. This type of lease can also be referred to as a net-net-net (NNN) lease. The rent charged in the triple net lease is generally lower than the rent charged in a standard lease agreement.
Update lease intended to protect the lessee against the risk obsolescence. Lessor agrees to replace obsolete asset with new one at specified rent.

Q.18. Distinguish between Operating Lease & Finance Lease
Ans.

Operating Lease	**Financial Lease**
(a) It is for a short duration. (b) It is a revocable contract. (c) The lessor bears maintenance, repairs, taxes and insurance. (d) There is a protection to the lessee against the risk of obsolescence. (e) Rentals are not sufficient to fully amortise the cost of the asset.	(a) It is for a longer duration (b) It is a non-revocable contract. (c) The lessee bears the expenses (d) There is no protection to the lessee. (e) Rentals would cover the lessor's original investment cost plus a reasonable return on investment.

Q.19. Distinguish between Lease & Hire Purchase Financing
Ans.

Lease Financing	**Hire Purchase Financing**
1. Ownership : The lessor (Finance company) is the owner and the lessee (user) is entitled to the economic use of the leased asset/equipment only in case of lease financing. The ownership is never transferred to the user.	The ownership of the asset passes on to the user (hirer), in case of hire purchase finance, till the payment of the last installment, the ownership of the asset vests in the hands of the finance company.

2. Depreciation: The depreciation on the asset is charged in the books of the lessor in leasing except finance leasing where lessee is allowed to show the asset as purchase and claim depreciation.	In this case the hirer is entitled to the depreciation shield on the asset hired to him and not the vendor
3. Magnitude: The magnitude of funds involved in lease finance is very huge.	The magnitude of funds involved in hire purchase is comparatively low.
4. Down-payment: Lease financing is invariably 100% financing. It requires no margin money or intermediate cash down payment.	In hire purchase transaction typically margin money or cash down payment is required.
5. Maintenance: In case of finance lease it is the lessee and in case of operating lease it is the lessor who has to bear the maintenance cost.	In this case the cost of maintenance is to borne typically by the hirer himself.
6. Tax Benefits: The lessee does not enjoy the salvage value of the asset.	Hirer enjoys the salvage value of the asset.

Q.20. Write short note on Sale & Lease Back

Ans. In a sale and lease back transaction, the vendor of an asset sells the asset to a leasing company, and leases it back in order to enjoy the uninterrupted use of the asset in his business. The lease back arrangement in this transaction can be structured in the form of either a finance lease or an operating lease. Usually, manufacturing companies use this arrangement to unlock investment in fixed assets such as factory buildings.

From the leasing company's point of view, a sale and lease back arrangement poses certain issues. First, it is difficult to establish a fair market value of the asset being acquired because the secondary market for the asset may not exist; even if it exists, it may lack breadth. Second, as per the Indian Income Tax Act, the depreciation that can be claimed by the leasing company for tax purposes cannot exceed the depreciation that would have been claimed by the vendor had he continued to own the asset. So the price paid by the lessor is irrelevant for the purpose of calculating the tax relevant depreciation. Assuming that the depreciation tax shield is not significant, the leasing company is likely to charge a higher lease rate to make the transaction financially viable from its point of view.

Q.21. Write short note on Venture Capital Financing

Ans
- The venture capital financing refers to financing of new high risky ventures promoted by qualified entrepreneurs who lack experience and 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.

- This is a very important source of funding startups that do not have access to other capital and it typically entails high risk (and potentially high returns) for the investor.
- Most venture capital comes from groups of wealthy investors, investment banks and other financial institutions that pool such investments or partnerships.
- This form of raising capital is popular among new companies, or ventures, with a limited operating history that cannot raise capital though a debt issue or equity offering.
- Often, venture firms will also provide start-ups with managerial or technical expertise.
- For entrepreneurs, venture capitalists are a vital source of financing, but the cash infusion often comes at a high price.
- Venture firms often take large equity positions in exchange for funding and may also require representation on the start-up's board.

Q.22. Project Planning aims at choosing the minimum quantum of Investment which may yield the highest return or maximize investments for obtaining highest growth of the capital – Comment

Ans. - It is true to state that project planning aims at choosing minimum quantum of investment which may yield the highest return or maximise investments for obtaining highest growth of the project.
- Rate of return on investment is also decided by management.
- Management strives to maximise this return on investment by formulating proper plans & executing the same.
- Return on investment (R;) should exceed cost of capital (R_c/K(e).
- Therefore, cost of capital also acts as a determinative / crucial factor in taking decision whether to take an investment project or drop it.

Q.23. Write short note on Corporate Taxation & Borrowed funds

Ans. Our financing decision is greatly influenced by the corporate taxation.

- The external sources are tax deductible i.e. the interest paid loans and debentures are tax deductible.
- The deductibility of interest greatly influences the company to opt for loan or debt as a source of finance.
- There is also an increase in EPS (Earning per share) due to the gearing effect.
- Corporate taxation creates incentives for advancement to the company by utilising borrowed funds for financing its growth schemes.
- The government has offered various tax incentives for following expenditure incurred:-
  - Development of undertaking in Special Economic Zone.
  - Depreciation allowance
  - Amortisation of preliminary expense
  - Capital expenditure.
  - Interest on loan borrowed.
- Thus, we can conclude that the corporate financing is directly or indirectly influenced by corporate taxation.

Q.24. Bank Should Lend prudently & with care - Comment

Ans. In respect of banks, a major effort was undertaken to simplify the administered structure of interest rates. In September, 1990, a process of simplification was undertaken by reducing the number of slabs for which lending rates had hitherto been prescribed. Until some time ago, the Reserve Bank was prescribing a minimum lending rate, two concessional rates of lending for small borrowers and a maximum deposit rate. The rationalisation in the structure of interest rates culminated in the Reserve Bank abolishing and minimum lending rate in October, 1994 and leaving banks to determine their prime lending rates. On the deposit side, since July, 1996 the Reserve Bank prescribes only a maximum rate for deposits upto one year.

A gradual approach has thus far been adopted in reforming the interest rates structure in India. Care has been taken to ensure that banks and financial intermediaries do not have incentives which tempt them to lend at high rates of interest assuming higher risks. A major safeguard in this regard has been the prescription of prudential norms relating to provisioning and capital adequacy. These combined with higher standards of operational accountability and appraisal of credit risks would ensure that banks lend prudently and with care.

Chapter 7	Dividend Policy

Q.1. What are the Determinants of Dividend Policy?

Ans. 1) Liquidity: Dividend payout results in cash outflow for the firm. Hence the quantum of dividends proposed to be distributed depends on the liquidity position of the firm. In practice, firms often face cash crunch in spite of having good earnings. Such firms may not be in a position to declare dividends despite their profitability.

2) Repayment of debt: Dividend payout maybe made difficult if debt is scheduled for repayment.

3) Stability of profits: Other things being equal, a company with stable profits is more likely to pay out a higher percentage of earnings than a company with fluctuating profits.

4) Investment Opportunities: Normally firms tend to have low payout if profitable investment opportunities exist and conversely firms tend to resort to high payouts if profitable investment opportunities are lacking.

5) Access to Finance: A company, which has easy access to external sources of finance, can afford to be more liberal in its dividend payout. Firms having little or no access to external financing have rather limited flexibility in their dividend decisions.

6) Floatation Costs: Issue of securities to raise capital in lieu of retained earnings involves floatation costs. Hence company in need of finance would prefer less dividend and use retained earnings for financing the projects.

7) Corporate Control: Further issue of shares (unless done through rights issue) results in dilution of the stake of the existing shareholders. On the other hand, reliance on retained earnings has no impact on the controlling interest. Hence companies prefer retained earning rather than fresh issue of securities and as a result dividend declared would be less.

8) Investor Preferences: A firm tends to have a high payout ratio if the shareholders have strong preferences towards current dividends. On the other hand, a firm resorts to retained earnings if the shareholders prefer capital appreciation.

9) Restrictive Covenants: The restrictive covenants of term loan agreements often include restrictions pertaining to distribution of earnings. These covenants limit the flexibility of the company in determining its dividend policy.

10) Taxes: In India the tax laws levies a 15% tax on the amount of dividend distributed. This tax is a strong fiscal disincentive on dividend distribution.

11) Likely effect of the declaration and quantum of dividend on market prices.

12) Industry practice

13) Dividend Stability: The earnings of a firm may fluctuate wildly between various time periods. Most firms do not like to have an erratic dividend payout in line with their varying earnings. They try to maintain stability in their dividend policy.

14) Inflation: Inflation must be taken into account when a firm establishes its dividend policy.

Q. 2. What is Stable Dividend Policy? What are its Advantages and Disadvantages?

Ans. A firm's dividend policy has the effect of dividing its net earnings into two parts: retained earnings and dividends. The retained earnings provide funds to finance the firm's long-term growth. It is one of the most significant sources of financing for the firm in terms of raising funds to undertake investments. Dividends are generally paid in cash. Thus the distribution of earnings uses the available cash funds of the firm.

Dividend policy of the firm, thus, affects both the long-term financing and the wealth of shareholders. As a result, the firm's decision to pay dividends may be shaped as a long-term financing decision and as a wealth maximisation decision.

The view that dividends are irrelevant is not correct, once we modify the assumptions underlying this view to consider the realities of the world. In practice, every firm follows some kind of dividend policy.

The typical dividend policy of most of the firms is to retain a portion of the net earnings and distribute the remaining amount to share¬holder.

Stable Dividend Policies:

Stability or regularity of dividends is considered as a desirable policy by the management of most companies. Shareholders also generally favour this policy and value stable dividends more than the fluctuating ones. All other things being the same, stable dividends have a positive impact on the market price of the share.

Stability of dividends sometimes means regularity in paying some dividend annually, even though the amount of dividend may fluctuate from year to year and may not be related with earnings. There are a number of companies which have records of paying dividend for a long unbroken period. More precisely stability of dividends refers to the amounts out regularly.

Three distinct forms of such stability may be distinguished.

1. Constant dividend per share:
   A number of companies follow the policy of paying a fixed amount per share as dividend every year, irrespective of the fluctuations in the earnings. This policy does not imply that the dividend per share will never be increased. When the company reaches new levels of earnings and expects to maintain it, the annual dividend per share may be increased.
   The dividend policy of paying a constant amount of dividend per year treats common shareholders somewhat like preference shareholders without giving any consideration to investment opportunities within the firm and the opportunities available to shareholders.
   This policy is generally preferred by those persons and institutions that depend upon the dividend income to meet their living and operating expenses, increases and decreases in market values may even be of little concern to these investors, and this condition tends to produce a steady long-run demand that automatically stabilizes the market value of the share.
2. Constant percentage of net earnings:
   The ratio of dividend to earnings is known as payout ratio. Some companies follow a policy of constant payout ratio, i.e., paying a fixed percentage of net earnings every year. With this policy the amount of dividend will fluctuate in direct proportion to earnings. If a company adopts a 40 per cent payout ratio, then 40 percent of every rupee of net earnings will be paid out.
   This type of a policy may be supported by management because it is related to the company's ability to pay dividends. Internal financing with retained earnings is automatic when this policy is followed.
   At any given payout ratio, the amount of dividends and the additions to retained earnings increase with increasing earnings and decrease with decreasing earnings. One of the most appealing features of this policy is its conservatism and its guarantee against over or under payment, since it does not allow management to pay dividends if profits are not earned in the current year, and it does not allow management to forego a dividend if profits are earned.
3. Small constant dividend per share plus extra dividend:
   Under this policy a small amount of dividend is fixed to reduce the possibility of ever missing a dividend payment and extra dividend is paid in periods of prosperity.
   This type of a policy enables a company to pay constant amount of dividend regularly without a default and allows a great deal of flexibility for supplementing the income of shareholders only when the company's earnings are higher than the usual.

Though we have discussed three forms of stability of dividends, generally a stable dividend policy refers to the first form of paying constant dividend per share.

Advantages:

From the point of view of shareholders as well as company the stability of dividends has various advantages.

- It helps in creating confidence among the shareholders.
- It stabilizes the market value of shares.
- It helps in marinating the goodwill of the company.
- It helps in giving regular income to the shareholders.

Disadvantages of stability of dividends:

Stability of dividends has the following dangers, once the stable dividend policy is adopted, it cannot be changed without seriously affecting investors' attitude and the financial standing of the company. A cut in dividend is considered as a cut in 'Salary'. Because of the serious depressing effect on investors due to a dividend cut, the directors have to maintain stability of dividends during lean years even though financial prudence would indicate elimination of dividends or a cut in it.

Consequently, to be on the safe side, the dividend rate should be fixed at a conservative figure so that it may be possible to maintain it even in a lean period of several years. To give the benefit of the company's prosperity, extra dividend can be declared, when a company fails to pay extra dividend, it does not have a depressing effect on investors as the failure to pay a regular dividend.

Q. 3. Dividend policy is strictly a financing decision and payment of cash dividend is a passive residual. Comment.

Ans. According to Ezra Solomon's Residual Theory of Dividend Policy, dividend policy is strictly a financing decision; the payment of cash dividend is a passive residual. The amount of dividend payout will fluctuate from period to period in keeping with fluctuations in the amount of acceptable investment opportunities available to the firm. If the opportunities are in plenty, percentage of payout is likely to be zero; on the other hand, if the firm is unable to find out profitable investment opportunities, payout will be 100 per cent. The theory implies that investors prefer to have the firm retain and reinvest earnings rather than pay them out in dividends if the return on re-invested earnings exceeds the rate of return the investors could themselves obtain on other investments of comparable risks.

Q.4. Differentiate between 'Stable dividend policy' and 'residual dividend policy'.

Stable Dividend Policy

Ans. Profit of the firm fluctuates considerably with changes in the level of business activity. This dividend increases with a lag after earnings rise and this increase in earnings appear quite sustainable and relatively permanent. This stability could take three forms: (1) keep dividends at a stable rupee amount but allow its pay-out ratio to fluctuate, or (2) maintain stable pay-out ratio and let the rupee dividend fluctuate, or (3) set low regular dividend and then supplement it with year-end "extras" in years when earnings are high.

Residual Dividend Policy

The amount of dividend payout fluctuates from period to period in keeping with fluctuations in the amount of acceptable investment opportunities available to the firm. If the opportunities abound, percentage of payout is likely to be zero; on the other hand, if the firm is unable to find out profitable investment opportunities, payout will be 100 percent. The theory implies that investors prefer to have the firm retain and reinvest earnings rather than pay them out in dividends.

Q. 5. Write short note on Dividend and Market Value of Share

Ans. The investment worth of a share at any given time, in theory, is the present value of the stream of earnings expected to flow from the investment. Therefore, dividend income of shareholders is important as any reduction in it would reduce the investment worth of the shares. Expectations as to future dividends are normally based on the past dividend record of the company. If a company has a record of regularity in dividend payments and the dividend rate has been recently increased, investors will naturally expect that this increased rate will continue and may thus be prepared to pay a higher market price, at same time, extreme changes in dividend payout over short periods of time may raise questions as to future earnings and dividend paying capacity.

Q. 6. Write a short note on Walter and Gordon Approach to Dividend Policy.

Ans. (1) Walter's Approach:

James Walter has proposed a model of share valuation, which supports the view that the dividend policy of the firm has a bearing on share valuation. His model is based on the following assumptions.

- The firm is an all-equity financed entity. Further, it will rely only on retained earnings to finance its future investments. This means that the investment decision is dependent on the dividends decision.
- The rate of return on investment is constant.
- The firm has an infinite life.

According to Prof. Walter the theoretical market value of ordinary shares depends upon dividend per share and also the internal productivity of retained earnings as related to the market capitalization rate for the company.

$$P = \frac{D + \left(\frac{r}{K_e}\right)(E - D)}{K_e}$$

Where P = Prevailing Market Price
D = Dividend per Share
E = Earnings Per Share
Ke= Equity Capitalisation Rate or Expected rate of return
r = Firm's Return on Investment

For maximizing share price

If r > ke : D/P should be 0%
If r < ke : D/P should be 100%
If r = ke : Any D/P ratio.

(2) Gordon's Approach:

Gordon has proposed a model of share valuation, which supports the view that the dividend policy of the firm has a bearing on share valuation. His model is based on the following assumptions.

- The firm is an all-equity financed entity. Further, it will rely only on retained earnings to finance its future investments. This means that the investment decision is dependent on the dividends decision.
- The rate of return on investment is constant.
- The firm has an infinite life.

According to Prof. Gordon the theoretical market value of ordinary shares depends upon dividend per share and also the internal productivity of retained earnings as related to the market capitalization rate for the company.

$$P = \frac{E\,(1-b)}{k_{e-br}}$$

Where b = Retention Ratio
(1 – b) = Dividend payout
br = g = Growth Rate
Ke = Equity Capitalisation Rate
r = Firm's Return on Investment

For maximizing share price
If r > ke : D/P Should be 0%
If r < ke : D/P should be 100%
If r = ke : Any D/P ratio.

Q. 7. "In an uncertain world in which verbal statements can be ignored or misinterpreted, dividend action does provide a clear-cut means of 'making a statement' that speaks louder than thousand words." Explain.

Ans. In an uncertain environment, verbal statements about the performance of the company may not be significant but changes in dividends cannot be ignored as they contain information vital to the investors. The payment of dividend conveys to the shareholders information relating to the profitability of the firm. An increase in the amount of dividend signifies that the firm expects its profitability to improve in future or vice versa. The dividend policy is likely to cause changes in the market price of the shares.

Modigliani and Miller have also accepted the information content concept of dividend. But they still maintain that dividend policy is irrelevant as dividends do not determine the market price of shares. However, empirical studies have proved that changes in dividends convey more significant information than what earnings announcements do. Further, the market reacts to dividend changes – prices rises in response to a significant increase in dividends and fall when there is a significant decrease or omission in payment of dividend.

Q. 8. Write short note on Modigliani and Miller (M & M) Approach to dividend policy

Ans. They argue that the value of the firm is determined solely by the earning power of the firm's assets, or its investment policy and that the manner in which the earnings stream is split between dividends and retained earnings do not affect this value. M & M assume perfect capital markets where there are no transaction cost, no flotation costs to companies issuing securities and no taxes. Moreover the future profits of the firm are assumed to be known with certainty.

Assumptions of Modigliani & Miller approach of Irrelevance of Dividend are:

- Existence of perfect capital market, where all investors are rational.
- No tax differential between dividend income and capital gain.
- Transaction and floatation costs do not exist.
- Risk of uncertainty does not exist.
- The firm has a fixed investment policy.
- Free and uniform access to relevant information of capital market.
- No investor can sway the market forces.
- The cost of equity is equal to shareholders' expectations.
- Securities are infinitely divisible.

Q. 9. Write short note on effect of a Government imposed freeze on dividends on stock prices and

Ans. The volume of capital investment in the background of Miller-Modigliani (MM) theory on dividend policy.

According to MM theory, under a perfect market situation, the dividend decision of any firm is irrelevant as it does not affect the value of firm. Thus, under MM's theory, the government

imposed freeze on dividends should make no difference on stock prices. Firms not paying dividends will have higher retained earnings and will either reduce the volume of new stock issues, repurchase more stock from market or simply invest extra cash in marketable securities. In all of the above cases, the loss by investors of cash dividends will be made up in the form of capital gains.

Whether the Government imposed freeze on dividends has an effect on volume of capital investment in the background of MM theory on dividend policy fetches two arguments. First argument is that if the firms keep their investment decision separate from their dividend and financing decision, then the freeze on dividend by the Government will have no effect on volume of capital investment. If the freeze restricts dividends the firm can repurchase shares or invest excess cash in marketable securities e.g. in shares of other companies.

Other argument is that the firms do not separate their investment decision from dividend and financing decisions. Rather, they prefer to make investment from internal funds. In this case, the freeze of dividend by government could lead to increased real investment.

Q.10. Are tax considerations relevant in context of dividend decision of a company?

Ans. Dividend Decision and Tax Considerations

Traditional theories have stressed that distribution of dividend being from after-tax profits, tax considerations do not matter in the hands of the payer-company. However, with the arrival of Corporate Dividend Tax on the scene in India, the position has changed. Since there is a clear levy of such tax with related surcharges, companies have a consequential cash outflow due to their dividend decisions which has to be dealt with as and when the decision is taken.

In the hands of investors too, the position has changed with total exemption from tax being made available to the receiving-investors. In fact, it can be said that such exemption from tax has made the equity investment and the investment in Mutual Fund Schemes very attractive in the market.

Broadly speaking tax consideration has following impacts on the dividend decision of a company:

Before Introduction of Dividend Tax: Earlier, the dividend was taxable in the hands of investors. In this case, the shareholders of the company being corporate or individuals falling in higher tax slab; it is preferable to distribute lower dividend or no dividend. On the other hand, for shareholders falling in no tax zone prefer to have dividend in hand. It can be concluded that before distributing dividend, company should analyse its shareholding pattern.

After Introduction of Dividend Tax: Dividend tax is payable @ 15%. Now if the company were to distribute dividend, shareholders indirectly bear a tax burden of 14% on their income. On the other hand, if the company were to provide return to shareholder in the form of appreciation in market price – by way of bonus shares – then shareholder will have a reduced tax burden.

For securities on which STT is payable, short term capital gain is taxable @ 10% while long term capital gain is totally exempt from tax.

Therefore, it can be concluded that if the company pays higher dividend (while it still have reinvestment opportunities) then to get same after tax return, shareholders will expect a higher before tax return which will further lead to lower market price per share.

Q.11. "Bonus issue is a common method of distribution of dividend, however it has many limitations" comment.

Ans. 1. To Shareholders: Stock dividend does not affect the wealth of shareholders and therefore, has no value for them. This is because; the declaration of stock dividend is a method of capitalising the past earnings of the shareholders and is a formal way of recognising earnings which the shareholders already own. It merely divides the

company's ownership into a large number of share certificates. James Porterfield regards stock dividends as a division of corporate pie into a larger number of pieces. Stock dividend does not give any extra or special benefit to the shareholder. His proportionate ownership in the company does not change at all. Stock dividend creates a favourable psychological impact on the shareholders and is greeted by them on the ground that it gives an indication of the company's growth.

2. To Company: Stock dividends are costlier to administer than cash dividend. It is disadvantageous if periodic small stock dividends are declared by the company as earnings. This result in the measured growth in earnings per share being less than the growth based on per share for small issues of stock dividends are not adjusted at all and only significant stock dividends are adjusted.

Q.12..According to Modigliani and Miller, dividend decision does not influence value. Briefly state reasons, why companies should declare dividend and not ignore it.

Ans. The position taken by Modigliani Miller regarding dividend, does not take into account certain practical realities in the market place. Companies are compelled to declare annual cash dividends for reasons given below:-

1. Shareholders expect an annual reward for their investment as they require cash for meeting personal consumption needs.
2. Sometimes, tax considerations may be relevant. For example, dividend may be tax free receipt, whereas some part of capital gains may be taxable.
3. Other forms of investment such as bank deposits, bonds etc, fetch cash returns periodically, in such a case investors will not invest inv companies not paying appropriate dividend.
4. In certain situations, there could be penalties for non-declaration of dividend, e.g. tax on undistributed profits of certain companies, which force the companies to declare dividend.

Q.13. What are the forms of dividend explain.

Dividends can be divided into following forms:

1. Cash dividend: The Company should have sufficient cash in bank account when cash dividends are declared. If it does not have enough bank balance, it should borrow funds in advance. For stable dividend policy, a cash budget may be prepared for coming period to indicate necessary funds to meet regular dividend payments. The cash account and reserve account of the company is bound to reduce on payment of cash dividend. Both total assets as well as net worth of the company are reduced when cash dividend is distributed. According to Hastings, market price of share drops by the amount of cash dividend distributed.
2. Stock Dividend (Bonus shares): It is distribution of shares in lieu of cash dividend to existing shareholders. Such shares are distributed proportionately thereby retaining proportionate ownership of the company. If a shareholder owns 100 shares at a time, when 10% dividend is declared he will have 10 additional shares thereby increasing the equity share capital and reducing reserves and surplus (retained earnings). The total net worth is not affected by bonus issue.

Advantages: There are many advantages both to the shareholders and to the company. Some of the important advantages are listed as under:

(1) To Share Holders:
- Tax benefit –At present, there is no tax on dividend received.
- Policy of paying fixed dividend per share and its continuation even after declaration of stock dividend will increase total cash dividend of the share holders in future.

(2) To Company:
- Conservation of cash for meeting profitable investment opportunities.
- Cash deficiency and restrictions imposed by lenders to pay cash dividend.

Q.14. Explain concept of Dividend Discount Model for valuation of shares.

Ans. It is a financial model that values shares at the discounted value of the future dividend payments. The model provides a means of developing an explicit expected return for the market. Since shares are valued on the actual cash flows received by the investors, it is theoretically the correct valuation model. Under this model, the price a share will be traded is calculated by the net present value of all expected future divided payment discounted by an appropriate risk-adjusted rate. This dividend discount model price is the intrinsic value of the stock. If the stock pays no dividend, then the expected future cash flows is the sale price of the stock. The security with a greater risk must potentially pay a greater rate of return to induce investors to buy the security. The required rate of return (capitalization rate) is the rate of return required by investors to compensate them for the risk of owning the security. This capitalization rate can be used to price a stock as the sum of its present values of its future cash flows in the same way that interest rates are used to price bonds in terms of its cash discounted by the market rate. Similarly, the dividend discount model (DDM, dividend valuation model, DVM) prices a stock by the sum of its future cash flows discounted by the required rate of return that an investor demands for the risk of owning the stock. Future cash flows include dividends and the sale price of the stock when it is sold. This DDM price is the intrinsic value of the stock. If the stock pays no dividend, then the expected future cash flow is the sale price of the stock.

Intrinsic Value = Sum of Present Value of Future Cash Flows

Intrinsic Value = Sum of Present Value of Dividends + Present Value of Stock Sale Price

Q.15. "Large shareholders are not interested in dividend" - Comment

Ans. Shareholders can be classified as:-
- Large scale or institutional investors
- Small scale investors or retail investors

- Small investors are the ones who invest less amount of money and are interested in dividend.
- Large investors on the other hand are not much concerned or interested in dividends.
- The concern of large investors is in capital appreciation.
- They show keen interest In growth of the company.
- Growth of company leads to increase in wealth of such shareholders.

- Their interest is in capital appreciation and not dividend also because of the fact that cash dividend leads to increase in levy of taxes.

Q.16."Dividend Policy has to be adapted in the light of nature and environment of firm, industry and the economy" - Comment

Ans. Dividend policy is to be determined keeping into mind a number of factors:

- It has to be adapted in the light of nature and environment of firm, industry and the economy.
- Dividend is directly dependent on the earning of the firm as a company with stable income/ earning can have a high dividend payout ratio while an organisation with unstable earnings cannot do so.
- Also, dividend policy should consider the state in which the industry is as the overall scenario has a direct impact on the performance of the firm and consequently its earning capacity.
- If the economy is in a boom, the company can pay out a good rate of dividend, but while the economy is in depression the company's earning will be impacted and so its dividend payout.
- Further, companies operating in highly cyclical industry cannot pay stable dividend and is expected to link the payout with the business cycles.

Chapter 8	Working Capital

Q.1. Explain different concepts of Working Capital

Ans.1. Gross Working Capital. It refers to the total of all the current assets of the firm. Current assets are the assets which are meant to be converted into cash within short period of time. Stock of raw materials, stock of semi-finished goods, stock of finished goods, trade debtors, bills receivable, prepaid expenses, cash/bank balance are examples of current assets.

2. Net Working Capital. For financing current assets, long-term funds as well as short term funds are used. Short-term funds are provided by current liabilities i.e. claims of outsiders which are expected to mature for payment within a year. Trade creditors, bills payable and outstanding expenses are examples of current liabilities. Net working capital refers to the excess of current assets over current liabilities. Suppose the total current assets and total current liabilities of a firm amount to Rs. 90,000 and Rs. 40,000 respectively. Then, gross working capital of the firm is Rs. 90,000 while net working capital of the firm is Rs. 50,000.

3. Permanent Working Capital. It represents the minimum amount of investment in raw-materials, work-in-progress, finished gods, stores and spares, accounts receivable and cash balance which an industrial undertaking is required to carry on a certain level of activity. This part of the investment in current assets is permanent like the investment in fixed assets. It is the fixed working capital.

4. Temporary Working Capital. It refers to that part of total working capital which is required by a firm over and above its permanent working capital. As the level of business activities fluctuates, the volume of temporary working capital also may keep fluctuating. Temporary working capital is also known as fluctuating or variable or circulating working capital.

Q.2. Working Capital To Be Adequate But Not Excessive - Comment

Ans. The management is to ensure that the firm has adequate working capital to run its business operations smoothly. Inadequate working capital results in inefficiency and consequently decreased profitability. The following are the disadvantages of inadequate working capital:-

(a) It renders the firm unable to avail it of attractive discounts from suppliers.

(b) As the firm is found unable to honour its short-term obligations in time, it loses some of its creditworthiness. As a result it faces tight credit terms.

(c) The firm finds it difficult to grow; profitable projects are not undertaken due to paucity of working capital.

(d) Fixed assets are not fully and efficiently utilized because of inadequacy of working capital. It decreases firm's profitability.

(e) Operating inefficiencies creep in. There may be interruptions in production. The result is that the profit targets are not met.

But excessive working capital has also to be avoided. Excessive working capital means idle funds earning no profits for the firm. It also lowers profitability. The following are the disadvantages of excessive working capital:-

(a) It may mean unnecessary accumulation of inventories which increases the chances of inventory mishandling, waste, theft and accumulation of old items which are ultimately disposed of at low prices or just discarded.

(b) It may be an indication of excessively liberal credit policy and slack collection from customers resulting in higher incidence of bad debts.

(c) Excessive working capital makes management complacent ultimately resulting in managerial inefficiency.
(d) It may also lead to speculative transactions.

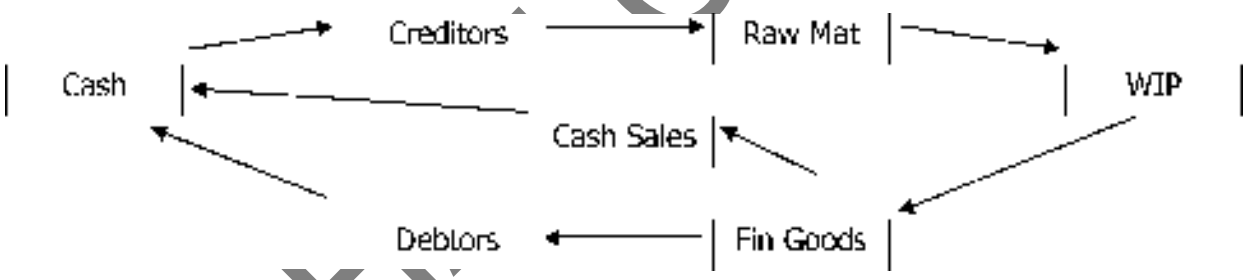
Q.3. What are the Factors Determining Working Capital?

Ans. There are a number of factors which determine the working capital requirements of a firm. These factors are of different importance. The influence of an individual factor may also change for a firm over time. Analysis of the relevant factors has to be made in order to determine total investment in working capital. The following is a brief description of important factors which determine the working capital requirements of a firm:-

(i)	Production Policies	(ii)	Nature of the business
(iii)	Credit policy	(iv)	Inventory policy
(v)	Abnormal factors	(vi)	Market conditions
(vii)	Conditions of supply	(viii)	Business cycle
(ix)	Growth and expansion	(x)	Level of taxes
(xi)	Dividend policy	(xii)	Price level changes
(xiii)	Operating efficiency.		

Q.4. Write short note on Working Capital Cycle Or Operating Cycle

Ans. In the production cycle, WIP is converted into finished goods. The finished goods when sold on credit, gets converted into sundry debtors. The debtors are realised after the credit period. This cash is then again used to pay for raw materials etc. Thus there is a complete cycle from cash to cash. This cycle is also known as "Operating Cycle" and can be depicted as follows:



STEPS TO REDUCE OPERATING CYCLE

1 Quick collection of accounts receivable
2 Reducing holding period of raw material & finished goods stock
3 Shorter production period
4 Longer credit period from suppliers

However, each of the above should be studied with further implications.

Q.5. Write short note Impact of inflation on working capital.

Ans. The impact of inflation on working capital is direct. For the same quantity of sales, the value of sundry debtors, closing stock etc. increases as a result of inflation. The valuation of closing stock progressively on higher amounts would result in the company not being able to maintain its operating capability unless it finds extra funds to maintain the same stock level. The higher valuation results in acute shortage of funds as it triggers profit related cash outflows in respect of income tax, dividends and bonus. Unless proper planning is done, the business is likely to face a condition known as "technical insolvency".

Q.6. What is Marketable Securities? State its importance.

Ans. Once the optimum level of cash balance of a firm has been determined, the residual of its liquid assets is invested in marketable securities. Marketable securities are the temporary or short term investments in shares, debentures, bonds and other securities.

Importance of marketable securities

1. Marketable securities are a popular investment option as they offer liquidity and can be easily convertible into cash whenever required by the investor.
2. Marketable Securities are also a popular source of finance, which can support working capital requirements, as they are easily convertible into cash.
3. Funds can be availed of within a short time period from a few days to months thereby making them highly flexible.
4. Inter-Corporate Deposits provide a high yield however they are a high risk investment, whereas T bills are virtually risk free but do not provide any yield (they are bought at a discount). Thus a company can invest accordingly depending on one's financial position and time availability.
5. They have an active secondary market which means that it can be resold easily. For example in the case of Mutual funds, principal is returned at once with the premium whenever the company chooses to end its investment.
6. Marketable securities do not require middlemen or brokers and can be thought from the Company directly.

Q.7. Describe different forms of Bank Credit for Working Capital.

Ans. Some of the forms of bank credit are:

(i) Short Term Loans: In a loan account, the entire advance is disbursed at one time either in cash or by transfer to the current account of the borrower. It is a single advance and given against securities like shares, government securities, life insurance policies and fixed deposit receipts, etc.

(ii) Overdraft: Under this facility, customers are allowed to withdraw in excess of credit balance standing in their Current Account. A fixed limit is therefore granted to the borrower within which the borrower is allowed to overdraw his account.

(iii) Clean Overdrafts: Request for clean advance are entertained only from parties which are financially sound and reputed for their integrity. The bank has to rely upon the personal security of the borrowers.

(iv) Cash Credits: Cash Credit is an arrangement under which a customer is allowed an advance up to certain limit against credit granted by bank. Interest is not charged on the full amount of the advance but on the amount actually availed of by him.

(v) Advances against goods: Goods are charged to the bank either by way of pledge or by way of hypothecation. Goods include all forms of movables which are offered to the bank as security.

(vi) Bills Purchased/Discounted: These advances are allowed against the security of bills which may be clean or documentary.

Usance bills maturing at a future date or sight are discounted by the banks for approved parties. The borrower is paid the present worth and bank collects the full amount on maturity.

(vii) Advance against documents of title to goods: A document becomes a document of title to goods when its possession is recognized by law or business custom as possession of the goods like bill of lading, dock warehouse keeper's certificate, railway receipt. etc.

An advance against the pledge of such documents is an advance against the pledge of goods themselves.

(viii) Advance against supply of bills: Advances against bills for supply of goods to government or semi-government departments against firm orders after acceptance to tender fall under this category. It is this debt that is assigned to the bank by endorsement of supply bills and executing irrevocable power of attorney in favour of the banks for receiving the amount of supply bills from the Government departments.

Q.8. What are Motives For Holding Cash?

Ans. The term cash with reference to cash management is used in two senses. In a narrow sense, tit is used broadly to cover currency and generally accepted equivalent of cash, such as cheques, drafts and demand deposits in banks. The broad view of cash also includes near-cash assets, such as marketable securities and time deposits in banks.

1. Transaction Motive
   This refers to the holding of cash to meet routine cash requirements to finance the transactions which a firm carries on in the ordinary course of business. A firm enters into a variety of transactions to accomplish its objectives which have to be paid for in the form of cash.
   The requirement of cash balances to meet routine cash needs is known as the transaction motive and such motive refers to the holding of cash to meet anticipated obligations whose timing is not perfectly synchronized with cash receipts.
2. Precautionary Motive
   The unexpected cash needs at short notice may be the result of:
   - Floods, strikes and failure of important customers
   - Bills may be presented for settlement earlier than expected.
   - Unexpected slow down in collection of accounts receivable.
   - Cancellation of some order for goods as the customer is not satisfied, and
   - Sharp increase in cost of raw materials.

   The cash balances held in reserve for such random and unforeseen fluctuations in cash flows are called as precautionary balances.
3. Speculative Motive
   It refers to the desire of a firm to take advantage of opportunities which present themselves at unexpected, moments and which are typically outside the normal course of business. The speculative motive helps to take advantage of:
   - An opportunity to purchase raw materials at a reduced price on payment of immediate cash.
   - A chance to speculate on interest rate movements by buying securities when interest rates are expected to decline.
   - Delay purchases of raw materials on the anticipation of decline in prices, and
   - Make purchase at favorable prices.
4. Compensating Motive
   Yet another motive to hold cash balances is to compensate banks for providing certain services and loans. Banks provide a variety of services to business firms, such as clearance of cheque, supply of credit information, transfer of funds, and so on. While for some of these services banks charge a commission or fee, for they seek indirect compensation. Usually clients are required to maintain a minimum balance of cash at bank. Since this balance cannot be utilized by the firms for transaction purposes, the banks themselves can use the amount to earn a return. Such balances are compensating balances.

Q.9. Most businesses need cash funds to meet contingencies. Comment.

Ans. This motive of holding cash takes into account the element of uncertainty associated with any form of business. The uncertainty can result in prolongation of the working capital operating cycle or even its disruption. It is possible that cost of raw materials or components might go up or the time taken for conversion of raw materials into finished goods might increase. For such contingencies, some amount of cash is kept by every firm. The motive of holding cash for contingencies is based on the need to maintain sufficient cash to act as a cushion to buffer against unexpected events. One never knows about the happening of natural calamities or sudden increase in cost of raw materials or any other factor such as strike, lock-out etc. Such events may seriously interrupt even the best planned financial plans and thus temporarily make the cash budget ineffective and non¬existent. Therefore, the business should maintain larger cash balance than required for day to day transactions in order to avoid unforeseen situation arising because of insufficient cash.

Q.10. Write short notes on Different kinds of float with reference to management of cash.

Ans. The term float is used to refer to the periods that affect cash as it moves through the different stages of the collection process. Four kinds of float can be identified:

(i) Billing Float: An invoice is the formal document that a seller prepares and sends to the purchaser as the payment request for goods sold or services provided. The time between the sale and the mailing of the invoice is the billing float.

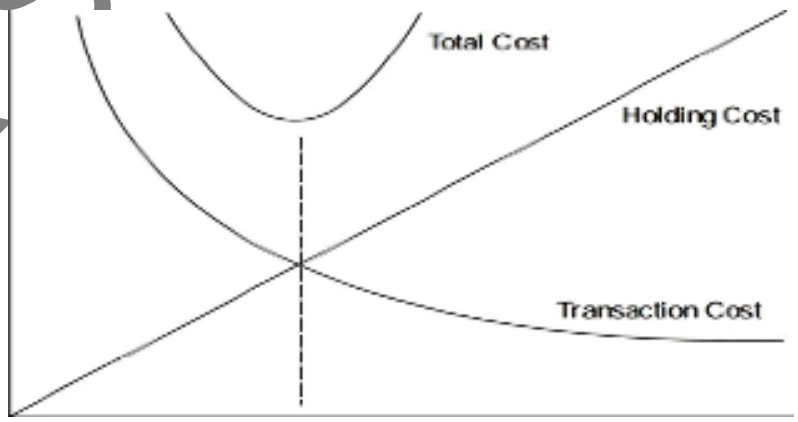
(ii) Mail Float: This is the time when a cheque is being processed by post office, messenger service or other means of delivery.

(iii) Cheque processing float: This is the time required for the seller to sort, record and deposit the cheque after it has been received by the company.

(iv) Bank processing float: This is the time from the deposit of the cheque to the crediting of funds in the seller's account.

Q.11. Explain Baumol's Model of Cash Management.

Ans. William J. Baumol developed a model for optimum cash balance which is normally used in inventory management. The optimum cash balance is the trade-off between cost of holding cash (opportunity cost of cash held) and the transaction cost (i.e. cost of converting marketable securities in to cash). Optimum cash balance is reached at a point where the two opposing costs are equal and where the total cost is minimum. This can be explained with the following diagram:



Optimum Cash Balance

The optimum cash balance can also be computed algebraically

Optimum Cash Balance= $\sqrt{\frac{2AT}{H}}$

A = Annual Cash disbursements
A= Annual Cash disbursements
T=Transaction cost (fixed cost) per transaction
H=Opportunity cost one rupee per annum (Holding cost)
The model is based on the following assumptions:

(i) Cash needs of the firm are known with certainty.
(ii) The cash is used uniformly over a period of time and it is also known with certainty.
(iii) The holding cost is known and it is constant.
(iv) The transaction cost also remains constant.

Q.12. What are the Principles of Inventory Control?

Ans. The following purposes should be kept in mind in developing and maintaining a system of inventory control:

1. Effective use of financial resources available to business, i.e., to maintain the investment in inventory at the lowest level consistent with operating requirements.
2. Avoidance of the "out-of-stock" danger, i.e., to provide a supply of required materials without any delay for efficient and uninterrupted customer service.
3. Reduction to a minimum of the risk through obsolescence.
4. Economy in purchasing as achieved by quantity buying taking advantage of favourable raw material market.
5. Storage of inventory with a minimum of handling time and cost and to protect them from losses by theft, and in damage.
6. Service to customers, i.e., maintaining sufficient stocks of finished products to meet reasonable expectations of customers for prompt delivery of their orders.

Essentials of good inventory control system

1. There should be proper coordination and co-operation between various departments concerned, viz., Purchasing, Receiving, Inspection, Storage, Issues and Cost Departments.
2. Purchasing should be centralized under the control of a competent manager.
3. There should be proper planning of material requirements.
4. There should be proper classification of materials with codes, material standardization and simplification.
5. There should be planned physical as well as efficient book control through satisfactory storage control procedures.
6. There should be planned storage control and issues so that there will be delivery of materials upon requisition to departments in the right quantity at the time they are needed.
7. Appropriate records should be maintained to control issues and utilisation of stores in production.
8. The system of perpetual inventory should be operated so that it is possible to determine at any time the amount and value of each item of material in stock.
9. Maximum, minimum and re-ordering levels of stock should be fixed.
10. There should be an efficient system of internal audit and internal checks.
11. There should be a system of regular reporting to management regarding materials purchase, storage and utilization.

Q.13. What are the functions of Inventory?

Ans. 1. Protect against irregular demand: Inventories are kept to meet fluctuating demand.
2. Protect against irregular supply: a strike by the suppliers employees is one reason why deliveries may not reach on time. Unavailability of materials with supplier, strikes in transportation network is other possible reasons for delays in supply. Inventory is used as buffer that can be used until late deliveries arrive.
3. Protection against inflation: Inventories are often taken as a hedge against inflation. In this case inventories are building up in anticipation of price increase. This speculative practice is common in commodity markets.
4. Benefits of large quantities: purchasing large quantities of an item often entitles the buyer to a discount. Similarly in case of manufacturing large production lots can be justified by reducing the per unit manufacturing cost.
5. Savings in the ordering cost: ordering in large quantities reduces the number of orders. Since the fixed cost is associated with placing each order, lesser number of orders will reduce the ordering cost.
6. Other reasons: Inventories are kept for several other reasons; an Inventory may improve the bargaining power of firm with a supplier (or with its own employees) by making the company less dependent on them. Inventories are also kept so that machine can be shut down for maintenance or during power shading. An Inventory of labor is maintained to meet fluctuating production demands in order to reduce hiring, firing and training costs.

Q.14. What are symptoms of poor inventory management?

Ans. The symptoms of poor inventory management include:
1. An increase in the number of backorders, indicating too many stockouts.
2. A constant number of backorders, but rising inventory investment.
3. A higher than normal customer turnover.
4. An increasing number of cancelled orders from customers or intermediaries.
5. Insufficient storage space from too much inventory on hand.
6. An increase in the number and rupee value of obsolete products.
7. Wide variance in turnover of major inventory items between distribution centers.
8. Deteriorating relationships with intermediaries, as typified by dealer cancellations and declining orders.

Any or all of these symptoms can have a large financial impact on the firm.

Q.15. Discuss the impact of inventory on profitability of the company.

Ans. Inventory has big impact on the profitability of the company. There are number of cases where inefficient inventory management has resulted in to bankruptcy. In 1980's Mumbai Textile mills had closed down & they were taken over by the government on account of continuous loss making by the mills. It was primarily due to excess & non moving inventories. Thus efficient inventory management can take the company to new heights & inefficient inventory management can ruin the company.

Impact of excess inventory:
1. Large amount of funds gets blocked in inventory
2. Heavy cost of carrying inventory i.e. high storage cost, high cost of capital, high storage cost, high insurance
3. High risk of obsolescence
4. Poor liquidity & cash crunch

Impact of inventory shortage
1. Production may stop due to non availability of raw materials

2. Customer's order execution may get delayed
3. Machinery & workers may remain idle
4. Excess purchase cost might be incurred for emergency purchase
5. Loss of customers & goodwill

Impact of appropriate inventory

1. Low inventory management cost
2. Smooth overall functioning
3. Good liquidity
4. High efficiency & profitability

Q. 16. What is the Economic Order Quantity in Inventory Problem? Discuss its Basic Square Root formula along with assumptions and limitations

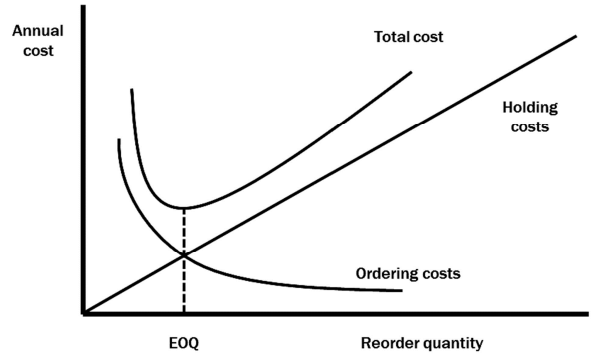
Ans. Economic order quantity is the size of the order which gives maximum economy in purchasing any material and ultimately contributes towards maintaining the material at the optimum level and at the minimum costs.

At EOQ ordering cost + carrying cost reaches its minimum.

The following formula has been evolved for fixing economic quantity:

Basic (Wilson) EOQ model with infinite replenishment rate:

$$\text{ECQ} = \sqrt{\frac{2(\textit{Annual usage in units})(\textit{Order Cost})}{(\textit{Annual carrying cost per unit})}}$$



Re-order quantity represents the quantity of material which is normally ordered when the materials reach their re-order level. By setting this quantity, the buyer is saved from the task of recalculating how much he should purchase each time he orders.

The formula for determining the Economic Order Quantity takes into account all relevant costs which should be considered while fixing the optimum quantity that should be ordered. All costs associated with inventory have been categorized under three heads. The first category consists of purchase cost and costs associated therewith. If we purchase in larger quantity at a time, we will get quantity discount and some saving in freight costs. Also if larger quantities are purchased at one time, the total cost associated with buying will be low. On the other hand, if larger quantities are purchased, the cost of carrying stock will go up. Actually there is an inverse relationship between ordering cost and cost of carrying stock. This is clear from the diagram given above where line of ordering cost has been shown sloping downward indicating lower cost when large quantity is purchased and line representing cost of carrying stock going upward indicating higher cost for larger quantity. The problem is therefore to balance the cost of carrying inventory against the diminishing cost of ordering.

Assumptions underlying the EOQ model

1. The demand of the item occurs uniformly over the period at the known rate.

2. The replenishment of the stock is instant.
3. The time that elapses between the placing an order and receiving the item into stock, called lead-time is zero.
4. The price per unit is fixed and is independent of the order size.
5. The cost of placing an order and process the delivery is fixed and does not vary with the size.
6. The inventory carrying charges vary directly and linearly with the size of the inventory as is expressed as a percentage of average inventory investment.
7. The item can be produced in quantities desired. There being no restriction of any kind.
8. The item is fairly long shelf life, there being no fear of deterioration or spoilage.

Limitations of EOQ

1. Price of material may not remain same throughout the year.
2. There can be delay in real situation in placing orders since many times the calculated EOQ is an inconvenient number and some time is wasted in taking decision for rounding off this number.
3. If suppliers are allowing discounts & if quantities are purchased above a particular level, the discount will also have to be taken into consideration for fixing the ordering quantity.
4. Also purchasing costs are nowadays reduced to a great extent because of computer links between buyer & seller. So in practice purchasing cost & inventory carrying cost are not exactly opposite to each other.
5. Often the inventory carrying cost & purchasing cost cannot be identified accurately & sometimes cannot be even identified properly.
6. Nowadays an EOQ technique is not much in use because an open order with delivery schedule can be placed with a supplier for all future periods.

This keeps down the purchasing cost. With the availability of computer links (networking techniques/email etc) between the buyer and the supplier there is no need to physically raise a purchase order, avoiding major purchasing cost. At the same time computer helps in ensuring Just in Time Inventory.

Q.17. What is ABC analysis of Inventory Control?

Ans. ABC analysis underlines a very important principle 'vital few trivial many'. Statistics reveal that just a handful of items account for bulk of annual expenditure on materials. These few items are called 'A' items, therefore hold the key to business. Remaining items are numerous in numbers but their contribution is less significant. ABC analysis thus tends to segregate all items into three categories: A, B and C on the basis of their annual usage. The categorizations made enable us to pay the right amount of attention as merited by the items.

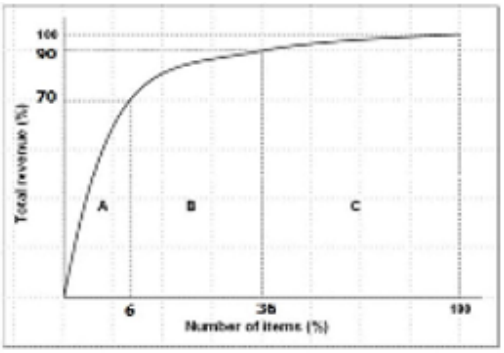
A-items: It is usually found that hardly 5 to 10 of the total items account for 70 to 75% of total money spent on the materials. This items required detailed and rigid control and need to be stock in smaller quantities. These items should be procured frequently, the quantity ordered being small. A healthy approach, however, would be to enter into contract with the manufacturer of this items and have their supply in stagger lots according to predetermined program of the buyer. This however will be possible when the demand is steady. Alternatively, the inventory can be kept at minimum by frequent ordering.

B-items: These items are generally 20 to 30% of the total items and represent 10 to 20% of the total expenditure on the materials. These are intermediate items. The control on this item need not be as detail and as rigid as apply to 'A' category items.

C-Items: These are numerous as many as 70 to 80% of the total items, inexpensive (represent hardly 5 to 10% of total annual expenditure on materials), and hence insignificant (do not require control) items. The procurement policy of these items is exactly the reverse

of 'A' items. Items should be procured infrequently and in sufficient quantities. This enables the buyer to avail price discount and reduce workload of the concern department.

Category	No. of items	% of total No. of items	Value Rs	% of total value
A	75	6	70,000	70
B	375	30	20,000	20
C	800	64	10,000	10
	1250	100	1,00,000	100



Conducting ABC Analysis

To conduct ABC Analysis, following 6 steps are necessary:

1) Prepare the list of the items and estimate their annual consumption (units)
2) Determine unit price (or cost) of each item
3) Multiply each annual consumption by its unit price (or cost) to obtain its annual consumption in rupees (annual usage)
4) Arrange items in ascending order of their annual usage starting with the highest annual usage down to the smallest usage
5) Calculate cumulative annual usages and express the same as cumulative usage % to express the number of items into cumulative item %.
6) Plot cumulative usage % against cumulative item % and segregate the item to A, B, C categories.

ABC Analysis can be applied to almost all aspects of material management such as: (a) Purchasing, (b) receiving, (c) inspecting, (d) store keeping and (e) issue of store (f) verification of bills, (g) inventory control and, (h) value analysis etc.

Purpose of A-B-C Analysis:

- To separate the few dominant from vast majority of items with very low annual consumption.
- To exercise selective control
- To give maximum attention to A items
- Better follow up.

Q.18. Explain recent changes in Maximum Permissible Bank Finance (MPBF)

Ans. The maximum permissible limit for bank finance as recommended and suggested by study groups of RBI was 75% of working capital gap shown as below:

Current assets	100
Less : Non-interest bearing current liabilities	40
Working capital gap	60

Financing from long term-sources 25% of either

CA or working capital gap	15
MPBF	45

The RBI vide its credit policy (beginning of 1997) scrapped the concept of MPBF. The salient features of new credit system were:

- For borrowers with requirements of upto Rs.25 lakhs credit limit will be computed after detailed discussions with the borrower, without going into detailed evaluation.
- For borrowers with requirements above Rs.25 lakhs, but upto Rs.5 crore, credit limit can be offered upto 20% of the projected gross sales of the borrower.
- For large borrowers not falling in the above categories, the cash budget systems may be used to identify the working capital needs.

Q.19. Write short notes on Effect on Inflation on Inventory Management.

Ans. The main objective of inventory management is to determine and maintain the optimum level of investment in inventories. For inventory management a moderate inflation rate say 3% can be ignored but if inflation rate is higher it becomes important to take into consideration the effect of inflation on inventory management. The effect of inflation on goods which the firm stock is relatively constant can be dealt easily, one simply deducts the expected annual rate of inflation from the carrying cost percentage and uses this modified version in the EOQ model to compute the optimum stock. The reason for making this deduction is that inflation causes the value of the inventory to raise, thus offsetting somewhat the effects of depreciation and other carrying cost factors. Since carrying cost will now be smaller, the calculated EOQ and hence the average inventory will increase. However, if rate of inflation is higher the interest rates will also be higher, and this will cause carrying cost to increase and thus lower the EOQ and average inventories.

Thus, there is no evidence as to whether inflation raises or lowers the optimal level of inventories of firms in the aggregate. It should still be thoroughly considered, however, for it will raise the individual firm's optimal holdings if the rate of inflation for its own inventories is above average and is greater than the effects of inflation on interest rates and vice-versa.

Q.20. Write short note on Policy For Managing Receivables

Ans. The credit policy of a company can be regarded as a kind of a tradeoff between increased credit sales leading to increase in profits and the cost of having larger amount of cash locked up in the form of receivables and the loss due to the incidence of bad debts.

1) The first step in managing receivables is setting up standards to be applied before Deciding whether to extend credit or not. One has to mainly focus on three aspects
   - Whom to sell to on credit (customer category)
   - How much to sell on credit (amount)
   - For how much time to extend credit (credit period)
2) The proper mix of offering discounts (trade and cash) to induce customers to pay at the Earliest.
3) Setting up the payment system based on requirements. i.e. initial part payment and Balance on credit, etc.
4) Setting up the collection mechanism post dated cheques, collection staff, and bills of Exchange, etc.
5) Setting up a system to provide reminders to clients before the due dates (usually performed by collections staff)
6) Managing of accounts after the due date is expired and providing warnings like penalties, interest in case of delayed payments.

Q.21. How Credit Policy of Receivables is evaluated?

Ans. The credit policy needs to be regularly evaluated to see whether the present policy is good enough or there needs to be any change made. This can be done in various ways.

1) Actual collections- the firm may review the actual collections made to know what is their volume and level of payment of credit sales.
2) Payment on time- the firm can review whether the clients are making their payments within the stipulated timeframe.
3) Less default-the firm can assess the level of bad debts and properly understand if the credit policy is increasing or reducing the level of bad debts.
4) Less/no delinquency cost-this is a sign that payments are being made and there is no extra costs incurred.
5) Debt collection period-if the debt collection period is less that the stipulated then it is a good sign showing that customers are making prompt payments.

Q.22. What are different methods to monitor Receivables?

Ans. An import aspect of receivables management is to monitor the payment of receivables several measures can be employed by the credit manager for this purpose (i) Days sales outstanding: (ii) ageing schedule and (iii) Collection matrix are some of the measures employed.

(i) **Days Sales Outstanding**

$$\text{Days sales outstanding (DSO)} = \frac{\text{Accounts Receivable at time}}{\text{Average daily sales}}$$

According to this method accounts receivable are deemed to be in control if the DSO is equal to or less than certain norm. If the value of DSO exceeds the specified norms, the collections are deemed to be slow.

(ii) **Ageing Schedule (AS)**

Age Group (in days)	% of Receivables
0-30	40
31-60	30
61-90	25
Above 90	5

The actual AS of the firm is compared with some standard AS to determine whether accounts receivable are in control. A problem is indicated if the actual AS shows a greater proportion of receivables, as compared with standard AS, in the higher age group.

(iii) **Collection Matrix**

In order to study correctly the changes in the payment behaviour of customers, it is helpful to look at the pattern of collections associated with credit sales. Illustrative collection matrix is given below:

	January Sales	February Sales	March Sales
Collection:			
In same month	13%	14%	15%
In next month	42%	35%	40%
In 2nd month	33%	40%	21%
In 3rd month	12%	11%	24%

From the collection pattern on can judge whether the collection is improving, stable, or deteriorating. A secondary benefit of such an analysis is that it provides a historical record of collection % that can be useful in projecting monthly receipts for each budgeting period.

Q23 What is Forfaiting? What its advantages?

Ans. Forfaiting is a means of financing used by exporters that enables them to receive cash immediately by selling their medium-term receivables (the amount an importer owes the exporter) at a discount, and eliminate risk by making the sale without recourse, meaning the exporter has no liability regarding possible default by the importer on paying the receivables. The forfaiter is the individual or entity that purchases the receivables, so the importer is then obligated to pay the receivables amount to the forfaiter. A forfaiter is typically a bank or a financial firm that specializes in export financing. It is a flexible product and can be modified to suit the exporters' particular requirements, enabling them to receive a lump sum payment shortly after delivery. Forfaiting can be an alternative to export credit or insurance cover, especially for those transactions in which the export credit agency is not open to a particular country and/or bank. Where export credit is available, forfaiting can be used to finance the uncovered portion.

Main Characteristics

- Debt is normally evidenced by bills of exchange, promissory notes or a letter of credit
- The buyer's obligation is usually supported by a local bank guarantee
- Documentation is very simple, requiring evidence of underlying transaction (copies of shipping documents) and certain confirmations from obligor/guaranteeing bank
- Transactions can be concluded on a fixed or floating interest rate basis
- Exporter receives funds upon presentation of necessary documents, shortly after shipment

Advantages

1. Eliminating Risk
   - Removed from political, transfer and commercial risk
   - Protected from the risk of interest rate increases and exchange rate fluctuations
   - No deductible as required in an insurance policy
2. Enhancing Competitive Advantage
   - Ability to provide vendor financing, making products more attractive
   - Ability to do business in riskier countries
3. Increasing Cash Flow
   - Forfaiting converts a credit- based transaction into a cash transaction
   - Balance sheet is not burdened by accounts receivables, bank loans or contingent liabilities
4. Transaction Speed
   - Commitments can be issued within hours/days depending on country
5. Transaction Simplicity
   - Documentation is usually concise and straightforward
   - Relieves the exporter from administration and collection problems
   - No restrictions on origin of export

Q.24. What is factoring? What are advantages & limitations of factoring?

Ans. Factoring is an agreement in which receivable arising out of sale are sold by a firm (client) to the factor (a financial intermediary). Factoring is a new financial service that is presently being developed in India. Factoring involves provision of specialized services relating to credit investigation, sales ledger management, purchase and collection of debts, credit protection as well as provision of finance against receivables and risk bearing. In factoring, accounts receivables are generally sold to a financial Institution or subsidiary of commercial bank-called "Factor", who charges commission and bears the credit risks associated with the accounts receivables purchased by it.

Factoring offers the following advantages which makes it quite attractive to many firms:

(1) The firm can convert accounts receivable into cash without bothering about repayment.
(2) Factoring ensures a definite pattern of cash inflows.
(3) Continuous factoring virtually eliminates the need for the credit department. That is why receivables financing through factoring is gaining popularity as useful source of financing short term funds requirements of business enterprises because of the inherent advantage of flexibility it affords to the borrowing firm. The seller firm may continue to finance its receivables on a more or less automatic basis. If sales expand or contract, it can vary the financing proportionately.
(4) Unlike an unsecured loan, compensating balances are not required in this case. Another advantage consists of relieving the borrowing firm of substantially credit and collection costs and to a degree from a considerable part of cash management.
(5) Factoring eliminates the need for cash discounts.
(6) Suppliers of goods and services can concentrate on their marketing activities without worry for collection of receivables.
(7) Due to specialization, a factor can effect prompt and timely payments.
(8) The dealer is saved of the cost of carrying debtors and maintaining collection department. It increases this return.
(9) Factoring improves the liquidity of a firm.

Limitations Of Factoring

(1) Many-a-times, for a large firm who have established credit collection system, confident debtors and good links with financing sources, factoring may prove to be very costly.
(2) A firm resorting to factoring may create an expression in the eyes of banks and other lending agency that it is experiencing financial strains. Thus, its credit-worthiness may be at stake in future. Customers may also lose faith in the firm.

Q.25. Distinguish between factoring & Bill Discounting

Ans.1. While factoring is management of book-debts, bill discounting is a sort of borrowing from commercial banks.
2. In factoring no grace period is given, whereas in bill discounting grace period is 3 days.
3. For factoring there is no Specific Act, whereas in case of bill discounting Negotiable Instruments Act applies.
4. Factoring is a portfolio of complementary financial services whereas bill discounting is usually on case to case basis.

In factoring the risk of bad debts is passed on to the factor, whereas in bill discounting it is still retained by the business.

Q.26. Distinguish between factoring & Forfaiting

Factoring	Forfeiting
This may be with recourse or without recourse to the supplier	This is without recourse to the exporter. The risks are borne by the forfeiter.
It usually involves trade receivables of Short maturities.	It usually deals in trade receivables of medium and long term maturities.
It does not involve dealing in negotiable instruments	It involves dealing in negotiable instrument like bill of exchange and promissory note.
The seller (client) bears the cost of factoring	The overseas buyer bears the cost of forfeiting.
Usually it involves purchase of all book debts or all classes of book debts.	Forfeiting is generally transaction or project based. Its structuring and costing is case to

	case basis.
Factoring tends to be a case of sell of debts obligation to the factor, with no secondary market.	There exists a secondary market in forfeiting This adds depth and liquidity to forfeiting.

Q.27 Write short note on Working Capital & Dividend Policy

Ans. - Working capital policy is, the policy which governs the quantum, financing and other aspects of working capital.
- Dividend policy is the one which determines the quantum of dividend to be declared and that which has to be kept as reserves out of the surplus so generated.
- There is a relationship between working capital policy and dividend policy.
- Quantum of working capital required may have an impact on the amount of dividend to be declared and that which has to be kept as reserves for future use.

Q.28. Distinguish between Financing of Current Assets & Fixed Assets

Factoring	Forfeiting
This may be with recourse or without recourse to the supplier	This is without recourse to the exporter. The risks are borne by the forfeiter.
It usually involves trade receivables of Short maturities.	It usually deals in trade receivables of medium and long term maturities.
It does not involve dealing in negotiable instruments	It involves dealing in negotiable instrument like bill of exchange and promissory note.
The seller (client) bears the cost of factoring	The overseas buyer bears the cost of forfeiting.
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Factoring tends to be a case of sell of debts obligation to the factor, with no secondary market.	There exists a secondary market in forfeiting This adds depth and liquidity to forfeiting.

Q.29. Risk is always associated with receivables – Comment

Ans. - It is true to say that risk is always associated with receivables.
- In business, there always remain a risk of counter party default.
- There always exist a corresponding risk of non honouring of the commitment by the party with which the business is dealing.
- Risk of non payment due to insolvency, bankruptcy or intention of cheating and fraud are the ones always associated with receivables.
- It is thus risk itself that calls for the need to give financial guarantee, letter of credit, credit rating of receivables etc.
- Thus, risk of receivables turning into bad debts is an integral part of business.

Q.30. The Strategy for effective cash management in any firm is a core component of operating cycle - Comment

Ans.- Efficient cash management is one of the key indicator of good working capital management.
- Cash budget proves out to be an effective method for better cash management.
- Control aspects of cash management includes:

- Speeding up of cash collection
- Prolongating / lingering upon cash payments

- For speeding up cash collection the enterprise should adopt lock-box system or go in for decentralisation of the banking system by .opening up collection centres in areas where debtors mostly reside resulting in lesser time frame and consequently prompt cash collection. -

Apart from this, exercising control over cash payment can also act as a means of cash management.

- The same can be ensured via billing float alongwith banking processing float.

Q.31. The risk of becoming technically insolvent is measured by using the tool of net working capital by the Finance Managers. – Comment

Ans.
- Net working capital is the difference between current asset and current liabilities.
- It is a tool of measurement of financial position of the company.
- Higher the net working capital, less riskier is the company.
- Since net working capital helps in ascertaining the liquidity position of the company, it helps to place reliance that the company will be able to meet its obligations.

Thus, the risk of becoming technically insolvent is being measured by using net working capital as a tool by most of the finance managers.

Q.32. Deferred payment of taxes is the source of working capital – Comment

Ans
- Deferred payment of taxes is one of the source of working capital requirement of a company.
- Taxes are not paid from day to day, but estimated liability for taxes is indicated in Balance Sheet.
- Company collect taxes by way of tax payable on salaries of staff deducted at source, excise taxes, sales taxes, etc. & retain them for some period which the company uses it as a source of its working capital requirements.
- Thus, deferred payment of taxes is also a source of working capital.

Q.33. Describe different approaches to working capital financing policies.

Ans. Hedging Approach

It is also known as matching approach. It is based on the concept of bifurcation of total working capital needs into permanent and temporary working capital. Under this approach permanent working capital is financed by long term sources and temporary working capital needs are financed by short term sources.

Conservative Approach

As the name suggests, under this approach finance manager doesn't undertake risk. As a result, all working capital needs are financed by long term sources and use of short term sources may be restricted to unexpected and emergency situations only.

Aggressive Approach

A working capital policy is said to be aggressive policy if firm decides to finance part of the permanent working capital by short term sources. So short term financing under this policy is more than the hedging approach.

Q.34. How do we manage required level of receivables?

Ans. (i) Timely realisation of receivables is an important aspect of working capital management.

(ii) Most of the firms do not give credit to the first time customers and gradually allow credit after development of relationship.
(iii) In some cases, firms obtain post dated cheques from their clients.
(iv) In other cases, firms have staff earmarked for recovery efforts.
(v) Firms should match the opportunity cost of funds blocked in the receivables vis-^-vis the net expenses of maintaining the recovery infrastructure.

Q.35. The Balance Sheet fails to depict exact position of current assets - Comment

Ans. - Balance sheet of a company does not provide a true picture of the current assets of the company.
- Balance sheet of a company provides the information of a company of a particular date. The position at the end of a day is a static position which is not representative of the entire year.
- Another point is that an industry might have seasonal peaks or troughs of working capital requirement. For example, agro based industry like fruit processing unit would need to stock more raw material during the peak season when the crop has been harvested than during the lean season. In such cases, different norms have to be applied for peak season and non peak season for holding of current assets for judging the reasonability of their holding.
- There may be a case where high level of current assets is nothing but a fiction when company seek to realize the current assets. It may happen that the inventory carried by the firm may consist of obsolete items, packing materials, finished goods which have been rejected by buyers.
- On the other hand, the current liabilities are more ascertainable and less fictions. The payment of these liabilities, if not possible from the operating cycle, has to be arranged from long term sources of funds which results in a mismatch that is not conducive to financial health of the firm.

Q.36. A firm having high current ratio may not necessarily be treated as being favourably placed as regards payment of its current liabilities - Comment

Ans. There is a myth that a firm having a high current ratio is treated as favourably placed as regards payment of its current liabilities. Holding of current assets is always in proportion to the turnover of the company. If the company has high current assets, then there might be a case where company's current assets age is increasing. As the current assets, particularly inventory and
receivables, get older the chances of their easy and complete conversion into cash reduces. Moreover the firm is paying a huge cost for the higher build up of current assets. Thus, a firm having a high current ratio may not necessary be treated as being favourably placed as regards payment of its current liabilities.

Q.37. What are the sources of permanent working capital?

Ans.1. **Equity shares**
Equity share capital is raised by the company to primarily meet the needs of permanent capital. In fact, it is called as the base capital of the company as equity share capital enables to raise finance from other sources of finance.

2. **Preference Shares**
Preference shares represent that part of share capital of a company which carries preferential rights with respect to income and assets over equity shares.

3. **Debentures**
   A debenture is a written instrument signed by the company under its common seal acknowledging the debt due by it to its holders. Through this document the company promises to pay a specific amount of money as stated therein at a fixed date in future together with periodic payment of interest to compensate the holders for the use of funds.
4. **Term Loans**
   The term "Term loan" is employed to include both medium-term or long-term loans. Term loans are generally employed to finance acquisition of fixed assets and permanent portion of working capital.
5. **Financing through Retained Earnings**
   It is also called as "internal financing" or "plough back of profits". Raising finance through retained earnings is the best source since it is easily available. Therefore management finds it an easy and cheap source of funds.

Q.38. Working Capital of the firm depends upon length of its operating cycle- Comment

Ans. Operating cycle is extremely important because business is all about the running the operating cycle smoothly. If it is running smoothly, almost everything will be smooth. If any part of the operating cycle is stuck, the whole business gets disturbed. For a manager to effectively manage the business, he should have a deep understanding of his business cycle and potential threats and risks to it. Proactively, he should have ways and means to mitigate those threats and risks.

The entrepreneur should always focus to reduce it as more as possible and that will ensure better utilization of their fixed assets. In turn, they will gain the higher return on their investment.

Length of operating cycle is long then working capital required will be also more and vice a versa. Firm should always try to reduce operating cycle duration so that amount of working capital required can be reduced and profitability can be increased.

Reducing this cycle means reducing the inventory holding period and increasing the supplier's payment period. Other than normal strategies, Japanese techniques 'Just-in-Time (JIT)' can reduce the inventory holding time practically zero. Bigger companies are trying to adopt JIT with the help of tools like supplier system integration etc.

Chapter 9	Security Analysis & Portfolio Management

Q.1. What is Risk in securities analysis? Discuss different types of risks in securities analysis?

Ans. Risk in security analysis is generally associated with the possibility that the realized returns will be less than the returns that were expected.

Systematic Risk: It refers to the variability of return on stocks or portfolio associated with changes in return on the market as a whole. It arises due to risk factors that affect the overall market such as changes in the nations' economy, tax reform by the Government or a change in the world energy situation. These are risks that affect securities overall and, consequently, cannot be diversified away. This is the risk which is common to an entire class of assets or liabilities. The value of investments may decline over a given time period simply because of economic changes or other events that impact large portions of the market.

Unsystematic Risk: It refers to risk unique to a particular company or industry. It can be avoided through diversification. This is the risk of price change due to the unique circumstances of a specific security as opposed to the overall market. This risk can be virtually eliminated from a portfolio through diversification.

Systematic and unsystematic risk can be subdivided. Systematic risk for bonds is normally identified with interest rate risk; for stocks with market risk. Unsystematic risk includes business and financial risk.

Q.2. What is Portfolio Management? State its objectives.

Ans. Portfolio management refers to managing efficiently the investment in the securities by diversifying the investments across industry lines or market types.

Following are key objectives of portfolio management:

1. Security/Safety of Principal
2. Stability of Income
3. Capital Growth
4. Marketability
5. Liquidity
6. Reducing risk through diversification
7. Favorable Tax Status
8. Return of amount investment at pre-decided time
9. Preserving purchasing power of investment

Q.3. What is Fundamental Analysis? What are the key variables that an investor must monitor in order to carry out his fundamental analysis?

Ans. Fundamental analysis is the analysis of past financial statements of any company or firm, its financial health, management, business concept as well as competition with a view to make its future financial forecasts. Actually, it is a logical and systematic approach to estimate future dividends and share price of any company.

Fundamental Analysis is based on the premise that the price of a share is derived from the benefits the holders of the share are expected to receive in the future in the form of dividends. The present value of future dividends, computed at an appropriate discount rate to reflect the riskiness of the share, is called the intrinsic or fundamental value of the share.

The fundamental analysts uses the above models or some of their variations for estimating the fundamental or intrinsic price or the fundamental price-earnings multiple of a security.

Decision to be Taken by Fundamental Analysts: If the prevailing price or the P/E multiple of a security is higher than its estimated fundamental value, the security is overpriced, the decision in turn in such case will be to sell such security.

If the prevailing price or the P/E multiple of a security is lesser than the estimated fundamental value, the security is underpriced, the decision in such case will be to buy such security.

Key Variables of Fundamental Analysis: The key variables that an investor must monitor in order to carry out his fundamental analysis are:

1. Economic Analysis
2. Industry Analysis
3. Firm/Company Analysis

Q.4. Briefly Explain 'Technical Analysis' to Portfolio Management?

Ans. Technical Analysis is a method of share price movements based on a study of price graphs or charts on the assumption that share price trends are repetitive, that what is seen to have happened before is likely to be repeated. In other words, technical analysis is based on the proposition that the security prices and volume in past suggest their future price behavior.

Technical analysts use three types of charts for analyzing data. They are:

1. Bar Chart
2. Line Chart
3. Point and Figure Chart

Q.5. Write a short note on DOW JONES THEORY?

Ans. Formulated by Charles H. Dow, the Dow theory on stock price movement is a type of technical analysis that consists of some aspects of sector rotation. The Dow Jones Theory is probably the most popular, oldest and most famous theory regarding the behaviour of stock market prices The Dow Theory's purpose is to determine where the market is and where is it going. It classifies the movements of the prices on the share market into three major categories:

1. Primary Movements,
2. Secondary Movements, and
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 primary trend is that of rise in prices. During a Bear Phase, the primary trend is that of fall in prices.
2) Secondary Movements: These movements are opposite in direction to the primary movements and are shorter in duration. These movements normally last from three weeks to three months.
3) Daily Movements: There are irregular fluctuations which occur every day in the market. These fluctuations are without any definite trend.

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 investor's preference, decisions can be taken.

Q.6. Write a short note on support and resistance?

Ans. As per this concept, when the index/price goes down from a peak, the peak becomes the resistance level. Resistance levels act like a ceiling for the price of a stock. As the price rises up to a resistance level, it tends to stop, turn around and move lower.

When the index/price starts falling, the lowest value reached becomes the support level. Support levels act like a floor for the price of stock. As the price of a stock drops down to a support level it tends to stop at that point, turn around and move higher.

The price is then expected to move between these two levels. Whenever the price approaches the resistance level, there is a selling pressure because all investors who failed to sell at the high would be keen to liquidate, while whenever the price approaches the support level, there is a buying pressure as all those investors who failed to buy at the lowest price would like to purchase the share.

Q.7. Write a short note on Efficiency Market Theory?

Ans. Market efficiency theory is "the degree to which stock prices reflect all available, relevant information."Further more, the Efficient Market Hypothesis claims "that a market cannot be outperformed because all available information is already built into all stock prices". Misconception about Efficient Market Theory:

1. Though the Efficient Market Theory implies that market has perfect forecasting abilities, in fact, it merely signifies that prices impound all available information and as such does not mean that market possesses perfect forecasting abilities.
2. Although price tends to fluctuate, they cannot reflect fair value.
3. Inability of institutional portfolio managers to achieve superior investment performance implies that they lack competence in an efficient market.
4. The random movement of stock prices suggests that stock market is irrational.

Level of Market Efficiency: There exist three levels of market efficiency:-

(i) Weak Form Efficiency – Price reflect all information found in the record of past prices and volumes.

(ii) Semi – Strong Efficiency – Price reflect not only all information found in the record of past prices and volumes but also all other publicly available information.

(iii) Strong Form Efficiency – Price reflect all available information public as well as private.

Empirical Evidence on Weak Form Efficient Market Theory:

a) Serial Correlation Test
b) Run Test
c) Filter Rules Test

Empirical Evidence on Semi-strong Efficient Market Theory:

Several studies support the Semi-Strong Form Efficient Market Theory. Fama, Fisher, Jensen and Roll in their adjustment of stock prices to new information examined the effect of stock split on return of 940 stock splits in New York Stock Exchange during the period 1957-1959.They found that prior to the split, stock earns higher returns than predicted by any market model. Boll and Bound in an empirical evaluation of accounting income numbers, studied the effect of annual earnings announcements.

Empirical Evidence on Strong Form Efficient Market Theory:

According to the Efficient Market Theory, all available information, public or private, is reflected in the stock prices. This represents an extreme hypothesis. To test this theory, the researcher analysed returns earned by certain groups viz. corporate insiders, specialists on stock exchanges, mutual fund managers who have access to internal information (not publicly available), or posses greater resource or ability to intensively analyse information in the public domain. They suggested that corporate insiders (having access to internal information) and stock exchange specialists (having monopolistic exposure) earn superior rate of return after adjustment of risk.

Challenges to the Efficient Market Theory:

(a) Information Inadequacy
(b) Limited information processing capabilities
(c) Irrational Behaviour
(d) Monopolistic Influence

Q.8. What are the assumptions of Markowitz Model of Risk-Return Optimization or the Modern Approach to Portfolio Management?

Ans. Markowitz model provides a theoretical framework for analysis of risk-return choices. The concept of efficient portfolios has been expressed in this model. A portfolio is efficient when it yields highest return for a particular level of risk or minimizes risk for a specified level of expected return.

The Markowitz model makes the following assumptions regarding investor behaviour:

- Investors consider each investment alternative as being represented by a probability distribution of expected returns over some holding period.
- Investors maximize one period expected utility and possess utility curve, which demonstrates diminishing marginal utility of wealth.
- Individuals estimate risk on the basis of variability of expected returns.
- Investors base decisions solely on expected return and variance of returns only.
- At a given risk level, higher returns are preferred to lower returns. Similarly for a given level of expected returns, investors prefer less risk to more risk.

Q.9. Write a short note on Random Walk Theory to Portfolio Management

Ans. Random walk theory gained popularity in 1973 when Burton Malkiel wrote a book "A Random Walk Down Wall Street", which is now regarded as an investment classic. It's a stock market theory that states that the past movement or direction of the price of a stock or overall market cannot be used to predict its future movement. It propounds that stocks take a random and unpredictable path and no connection can be established between two successive peaks (high price of stocks) and deeps (low price of stocks). The chance of a stock's future price going up is the similar as chance of its going down. A follower of random walk believes it is impossible to outperform the market without assuming additional risk. This is because; the price trends are not the result of any underlying factors, but represent a statistical expression of past data.

Q.10 Write a short note on CAPM. What are its Assumptions?

Ans. The Capital Asset Pricing Model was developed by Sharpe, Mossin and Linter in 1960. The model explains the relationship between the expected return, non diversifiable risk and the valuation of securities. It is based on the premises that the diversifiable risk of a security is eliminated when more and more securities are added to the portfolio. The systematic risk can be measured by beta, ß under CAPM, the expected return from a security can be expressed as:

Expected return on security = Rf + Beta (Rm – Rf)

The model shows that the expected return of a security consists of the risk-free rate of interest and the risk premium. The CAPM, when plotted on the graph paper is known as the Security Market Line (SML).

CAPM model is based on certain assumptions:

1. **Market efficiency:** the capital market efficiency means that share prices reflect all available information.
2. **Risk aversion and mean variance optimization:** investors are risk averse. They evaluate a security's return and risk in terms of expected return and variance or standard deviation respectively. They prefer the highest expected return for a given

level of risk. This implies that the investors are mean variance optimizers and they form efficient portfolios.

3. **Homogenous expectations:** all investors have the same expectations about expected returns and risks of securities.
4. **Single time period:** all investors' decisions are based on a single time period.
5. **Risk-free rate:** all investors can lend and borrow at a risk-free rate of interest.
6. **No Taxes:** whether personal or corporate.
7. **No Transaction cost:** Transaction in securities is without any transaction cost.

Limitations

(i) Reliability of Beta: Statistically reliable Beta might not exist for shares of many firms. It may not be possible to determine the cost of equity of all firms using CAPM. All shortcomings that apply to Beta value apply to CAPM too.

(ii) Other Risks: It emphasis only on systematic risk while unsystematic risks are also important to share holders who do not possess a diversified portfolio.

(iii) Information Available: It is extremely difficult to obtain important information on risk-free interest rate and expected return on market portfolio as there are multiple risk-free rates for one while for another, markets being volatile it varies over time period.

Q.11. Differentiate between 'Capital market line' and 'security market line'

Ans. Capital Market Line (CML) shows the linear relationship between expected rate of return and total risk (□) for efficient portfolios. Whereas Security Market Line (SML) describes the linear risk-return relationship between systematic risk (ß) and return for both efficient and inefficient portfolios. Some of the major points of distinction between the two are as under:

- In CML, the risk is defined by total risk (S.D.), while in SML the risk is defined by non-diversifiable market related risk (ß).
- CML is valid only for fully diversified (efficient) portfolios while SML is valid for all portfolios and for individual securities as well.

	CML	SML
1	It is a line that is used to show the rates of return, which depends on risk free rates of return and levels of risk for a specific portfolio.	It is a graphical representation of the market's risk and return at a given time.
2	Standard deviation is the measure of risk	Beta coefficient determines the risk factors
3	Define efficient portfolios	Define both efficient and non-efficient portfolios
4	The market portfolio and risk free assets are determined.	All security factors are determined by the SML.
5	Superior	Inferior

Q.12. Write short note on Efficient Portfolio or Optimum Portfolio

Ans. 1. The efficient frontier is the set of optimal portfolios that offers the highest expected return for a defined level of risk or the lowest risk for a given level of expected return.

2. Portfolios that lie below the efficient frontier are sub-optimal, because they do not provide enough return for the level of risk. Portfolios that cluster to the right of the efficient frontier are also sub-optimal, because they have a higher level of risk for the defined rate of return.

3. One assumption in investing is that a higher degree of risk means a higher potential return. Conversely, investors who take on a low degree of risk have a low potential return.
4. According to Markowitz's theory, there is an optimal portfolio that could be designed with a perfect balance between risk and return. The optimal portfolio does not simply include securities with the highest potential returns or low-risk securities.
5. The optimal portfolio aims to balance securities with the greatest potential returns with an acceptable degree of risk or securities with the lowest degree of risk for a given level of potential return.
6. The points on the plot of risk versus expected returns where optimal portfolios lie is known as the efficient frontier.

Q.13. Distinguish between Investment & Speculation

Ans.

Basis For Comparison	Investment	Speculation
Meaning	The purchase of an asset with the hope of getting returns is called investment.	Speculation is an act of conducting a risky financial transaction, in the hope of substantial profit.
Basis for decision	Fundamental factors, i.e. performance of the company.	Hearsay, technical charts and market psychology.
Time horizon	Longer term	Short term
Risk involved	Moderate risk	High risk
Expected rate of return	Modest rate of return	High rate of return
Funds	An investor uses his own funds.	A speculator uses borrowed funds.
Income	Stable	Uncertain and Erratic
Behavior of participants	Conservative and Cautious	Daring and Careless

Q.14. Write short note on "Gilt edged Primary Market"

Ans. - Gilt-edged primary market refers to that primary market in which securities are issued by Reserve Bank (on behalf of Government)
- The securities are issued in accordance with the funds required by the Government.
- The price, quantum and other terms and conditions of issue are determined by RBI.
- RBI plays a crucial role in this segment of primary market.
- Reserve Bank also, plays the role of an underwriter and subscribes for that portion of the issue which is not subscribed by the public.

Q.15. Distinguish between Efficient Portfolio & Optimum Portfolio

Ans. The main objective of modern portfolio theory is to have an efficient portfolio, which is a portfolio that yields the highest return for a specific risk, or, stated in another way, the lowest risk for a given return. Profits can be maximized by selecting an efficient portfolio that is also an optimal portfolio, which is one that provides the most satisfaction — the greatest return — for an investor based on his tolerance for risk.

Efficient Portfolio	Optimal Portfolio
1. Efficient portfolio is the one which provides us maximum return at minimum risk level.	Optimal portfolio is that efficient portfolio which suits the requirement of an individual investor
2. It reflects all sets of possible combination as represented by Capital Market Line (CML)	It is a subset selected from those combination by an individual according to his risk - return expectations.

Q.16. The risk of the portfolio which combines both a risky and a risk free asset will be reduced to the standard deviation of the risky security, weighted for its proportionate value in portfolio- Comment

Ans. - Since standard deviation of risk free security is zero, the risk of portfolio having combined securities will be comparatively lesser.

- $\sigma_{xy} = \sqrt{(\sigma_x w_x)^2 + (\sigma_y w_y)^2 + 2r\sigma_x\sigma_y w_x w_y}$
- Now if standard deviation of security x or y $((\sigma x/\sigma y))$ is zero, then risk of portfolio will be just calculated by multiplying the standard deviation of risky security with its weight.

Q.17. The portfolio managers tries to diversify risk by investing in debts and equity instruments - comment

Ans. - Many-a- times it is observed that portfolio managers diversify their risks by investing in debt and equity instruments.
- Since equity instruments provide high return but also carry high risk burden [concept of higher the risk, higher the return], portfolio managers go in for equity instrument.
- Debt instrument, though carry lesser return, however face lesser risk since interest paid is a charge and not an appropriation.
- Thus, a portfolio consisting of both equity and debt instrument can help to minimise overall risk and fetch higher returns.

Q.18. Can Portfolio Diversification reduce risk?

Ans. 1. Diversification is a method of portfolio management whereby an investor reduces the volatility (and thus risk) of his or her portfolio by holding a variety of different investments that have low correlations with each other.
2. The basic idea behind diversification is that the good performance of some investments balances or outweighs the negative performance of other investments.
3. The big catch with diversification is that to do it well, the securities in the portfolio need to not "move together." That is, the less correlated they are, the better. This is why many investors go one step further and diversify across different asset classes.
4. Stocks, bonds, and real estate are common asset classes. One common move is to invest in both stocks and bonds, because the stock and bond markets are historically negatively correlated, meaning that when the stock market is up the bond market is usually down and vice versa. Real estate and foreign stocks are also used to diversify portfolios.
5. Determining the appropriate classes' weightings for a particular investor is the essence of asset allocation as a method to optimize diversification.
6. Diversification does not guarantee huge returns, but it does reduce risk. It's one of the most fundamental, important investment concepts--one of the first pieces of investment advice most people get.

Q.19. Alpha is an indicator of the extent to which the actual return of the stock deviates from those predicted by beta value - Discuss

Ans. The Jensen's measure is a risk-adjusted performance measure that represents the average return on a portfolio or investment above or below that predicted by the capital asset pricing model (CAPM) given the portfolio's or investment's beta and the average market return.

Jensen's alpha is calculated using the following four variables:

R(i) = the realized return of the portfolio or investment

R(m) = the realized return of the appropriate market index

R(f) = the risk-free rate of return for the time period

B = the beta of the portfolio of investment with respect to the chosen market index

Using these variables, the formula for Jensen's alpha is:

Alpha = R(i) – [R(f) + B x (R(m) - R(f))]

For example, assume a mutual fund realized a return of 15% last year. The appropriate market index for this fund returned 12%. The beta of the fund versus that same index is 1.2 and the risk-free 3%. The fund's alpha is calculated as:

Alpha = 15% - (3% + 1.2 x (12% - 3%)) = 15% - 13.8% = 1.2%.

Q.20. Intrinsic value of the security is valid for a given set of conditions - comment

Ans.
- Intrinsic value is the actual value of a security as opposed to its market, price or book value or book value
- The intrinsic value includes other variables such as brand name, trademarks and copyrights.
- Different investors use different techniques to calculate the intrinsic value of a security with a given set of conditions like dividend per share, growth factor, required rate of return, etc.
- Analysts employ these methods to see whether the intrinsic value of a security is higher or lower than its current market price allowing them to categories it as 'overvalued* or 'under valued.'
- Thus, it can be said that the intrinsic value of a security is valid for a given set of conditions.

Q.21. Sharpe's single index model

Ans. William Sharpe has developed a simplified variant of Markowitz model that reduces substantially its data and computational requirements. It is known as Single index model or One- factor analysis.

This model assumes that co-movement between stocks is due to change or movement in the market index. Casual observation of the stock prices over a period of time reveals that most of the stock prices move with the market index. When the Sensex increases, stock prices also tend to increase and vice-versa. This indicates that some underlying factors affect the market index as well as the stock prices. Stock prices are related to the market index and this relationship could be used to estimate the return on stock.

The **single-index model (SIM)** is a simple asset pricing model to measure both the risk and the return of a stock, commonly used in the finance industry. Mathematically the SIM is expressed as:

$$r_{it} - r_f = \alpha_i + \beta_i \times (r_{mt} - r_f) + \in_{it}$$

where :

r_{it} is return to stock / in period t

r_f is the risk free rate (i.e. the interest rate on treasury bills)

r_{mt} is the return to the market portfolios in period *t*

α_i is the stock's alpha, or abnormal return

β_i is the stock's beta, or responsiveness to the market return

Note that $r_{it} - r_f$ is called the excess return on the stock, $r_{mt} - r_f$ the excess return on the market

$\in_{it}$ are the residual (random) returns, which are assumed independent normally distributed with mean zero and standard deviation α_i.

The single index model is based on the assumption that stocks vary together because of the common movement in the stock market and there are no effects beyond the market that account the stocks co-movement. These equations show that the stock return is influenced by the market (beta), has a firm specific expected value (alpha) and firm-specific unexpected component (residual). Each stock's performance is in relation to the performance of a market index. Security analysts often use the SIM for such functions as computing stock betas, evaluating stock selection skills, and conducting event studies.

Q.22. Describe the tool to judge whether company is creating or destroying wealth.

Ans. There are various tools that helps to evaluate the performance of companies. Economic value added is one of such tool. It means cash flow after tax of a business less the cost of capital. Now a days EVA is used in determining the value of a firm since it is a true indicator as against earnings. EVA = Net operating profit after tax (NOPAT) (-) Capital Employed x Cost of Capital. Thus, there are two components of EVA, being NOPAT and capital charge where capital charge refers to the product of capital employed and cost of capital.
If EVA is +ve, wealth is created & -ve EVA implies wealth is destroyed.

Chapter 10	Derivatives & Commodity Exchange

Q.1. What are Derivatives? What are its features? Who are the participants in derivatives market?

Ans. Meaning:

Derivatives are financial instruments which derive their value from their underlying assets or securities.

The Underlying Securities for Derivatives are:

- Commodities (Castor seed, Grain, Coffee beans, Gur, Pepper, Potatoes etc.)
- Precious Metals (Gold, Silver)
- Short-Term Debt Securities (Treasury Bills)
- Interest Rates
- Common Shares/Stock
- Stock Index Value (NSE Nifty)

Four most common examples of derivative instruments are Forwards, Futures, Options and Swaps.

The important characteristics of derivatives are as follows:

a) Derivatives traded on exchanges are liquid and involves the lowest possible transaction costs.
b) Derivatives can be closely matched with specific portfolio requirements.
c) The margin requirements for exchange-traded derivatives are relatively low, reflecting the relatively low
d) Level of credit-risk associated with the derivatives.
e) Derivatives are traded globally having strong popularity in financial markets.
f) Derivatives maintain a close relationship between their values and the values of underlying assets.
g) The change in values of underlying assets will have effect on values of derivatives.

Participants In A Derivative Market

1. **Hedgers** use futures or options markets to reduce or eliminate the risk associated with price of an asset.
2. **Speculators** use futures and options contracts to get extra leverage in betting on future movements in the price of an asset. They can increase both the potential gains and potential losses by usage of derivatives in a speculative venture.
3. **Arbitrageurs** are in business to take advantage of a discrepancy between prices in two different markets. If, for example, they see the futures price of an asset getting out of line with the cash price, they will take offsetting positions in the two markets to lock in a profit.

Q.2 What are different types of Derivative markets and Derivative Risks?

Ans. Types of Derivative Market

(a) Exchange Traded Derivatives (b) OTC (Over the Counter) Derivatives

(a) Exchange-traded derivatives : Derivatives which trade on an exchange are called

'Exchange-traded derivatives'. Trades on an exchange generally take place with anonymity. Trades at an exchange generally go through the clearing corporation. Example: Interest rate futures, Interest rate options, Currency futures, Currency options. (b) Over The Counter (OTC) derivatives: A derivative contract which is privately negotiated is called an OTC derivative. OTC trades have no anonymity, and they generally do not go through a clearing corporation.

Example: Interest rate swaps, Currency swaps, Caps, collars, floors, forward.

Types of Derivative Risks: The different types of derivatives risks are:

(a) Credit risk: Credit risk is the risk of loss due to counterparty's failure to perform on an obligation to the institution.

(b) Market risk: Market risk is the risk of loss due to adverse changes in the market value (the price) of an instrument or portfolio of instruments.

(c) Liquidity risk: Liquidity risk is the risk of loss due to failure of an institution to meet its funding requirements or to execute a transaction at a reasonable price.

(d) Operational risk: Operational risk is the risk of loss occurring as a result of inadequate systems and control, deficiencies in information systems, human error, or management failure.

(e) Legal risk: Legal risk is the risk of loss arising from contracts which are not legally enforceable (e.g. the counterparty does not have the power or authority to enter into a particular type of derivatives transaction) or documented correctly.

(f) Regulatory risk: Regulatory risk is the risk of loss arising from failure to comply with regulatory or legal requirements.

(g) Reputation risk: Reputation risk is the risk of loss arising from adverse public opinion and damage to reputation.

Q.3 Enumerate the basic differences between cash and derivatives market.

Ans. The basic differences between Cash and the Derivative market are as follows :

(a) In cash market tangible assets are traded whereas in derivative markets contracts based on tangible or intangibles assets likes index or rates are traded.

(b) In cash market, we can purchase even one share whereas in Futures and Options minimum lots are fixed.

(c) Cash market is more risky than Futures and Options segment because in "Futures and Options" risk is often limited.

(d) Cash assets may be meant for consumption or investment. Derivative contracts are for hedging, arbitrage or speculation.

(e) The value of derivative contract is always based on and linked to the underlying security. Though this linkage may not be on point-to-point basis.

(f) In the cash market, a customer must open securities trading account with a securities depository whereas to trade futures a customer must open a future trading account with a derivative broker.

(g) Buying securities in cash market involves putting up all the money upfront whereas buying futures simply involves putting up the margin money.

(h) With the purchase of shares of the company in cash market, the holder becomes part owner of the company. While in future it does not happen.

Q.4 Differentiate between spot contract and forward contract.

Ans. 1. In a spot contract, at least one component, i.e. the price or the goods/ services is tendered at the time of the contract. In a forward contract, both the components are exchanged at a specified future date.

2. In a spot contract, both the parties transact on the basis of their present capability. The buyer purchases according to his ability to pay for the goods or services and the seller sells according to his present ability to deliver the goods or services. In a forward contract, a leveraging of capabilities is involved. Since no down payment is involved, the buyer might contract to buy a larger number of goods or services, expecting to derive some benefits from the perceived price differential between the spot price and the likely price at the time of maturity of the forward contract. Also the seller, feeling that a larger number of goods shall be available at the contracted price at the time of maturity, agrees to sell a far larger number of goods.

3. In a spot contract, execution of the contract is more or less certain because both the components, i.e. money and goods are available. Even through the transaction does not pass through a regulated delivery and payment mechanism yet the chances of default are very less. The problems of payment and delivery get magnified in the case of a forward contract.

Q.5 What is Forward Contract? What are its advantages & Disadvantages?

Ans. A forward contract is an agreement between a buyer and a seller obligating the seller to deliver a specified asset of specified quality and quantity to the buyer on a specified date at a specified place and the buyer, in turn, is obligated to pay to the seller a pre¬negotiated price in exchange of the delivery.

Consider a Punjab farmer who grows wheat and has to sell it at a profit. The simplest and the traditional way for him is to harvest the crop in March or April and sell in the spot market then. However, in this way the farmer is exposing himself to risk of a downward movement in the price of wheat which may occur by the time the crop is ready for sale .In order to avoid this risk, one way could be that the farmer may sell his crop at an agreed upon rate now with a promise to deliver the asset, i.e., crop at a pre¬determined date in future. This will at least ensure to the farmer the input cost and a reasonable profit. The transaction which the farmer has entered into is called a forward transaction and the contract which covers such a transaction is called a forward contract.

Advantages

1) They can be matched against the time period of exposure as well as for the cash size of the exposure.
2) Forwards are tailor made and can be written for any amount and term.
3) It offers a complete hedge.
4) Forwards are over-the-counter products.
5) The use of forwards provides price protection and price discovery.
6) They are easy to understand.

Disadvantages

1) It requires tying up capital. There are no intermediate cash flows before settlement.
2) It is subject to default risk.
3) Contracts may be difficult to cancel.
4) There may be difficult to find a counter-party.

Q.6 What are Stock futures? What are the opportunities offered by Stock futures? How are Stock futures settled?

Ans.(i) Stock future is a financial derivative product where the underlying asset is an individual stock. It is also called equity future. This derivative product enables one to buy or sell the underlying Stock on a future date at a price decided by the market forces t o d a y .

Future contracts can be characterized by:-

(a) These are traded on organized exchanges.
(b) Standardized contract terms like the underlying assets, the time of maturity and the manner of maturity etc.
(c) Associated with clearing house to ensure smooth functioning of the market.
(d) Margin requirements and daily settlement to act as further safeguard i.e., marked to market.
(e) Existence of regulatory authority.
(f) Every day the transactions are marked to market till they are re-wound or matured.

Future contracts being traded on organisatised exchanges, impart liquidity to a transaction. The clearing house being the counter party to both sides and a transaction, provides a chanism that guarantees the honouring of the contract and ensuring very low level of default.

(ii) Stock futures offer a variety of usage to the investors Some of the key usages are mentioned below:
Investors can take long-term view on the underlying stock using stock futures.
(a) Stock futures offer high leverage. This means that one can take large position with less capital. For example, paying 20% initial margin one can take position for 100%, i.e., 5 times the cash outflow.
(b) Futures may look over-priced or under-priced compared to the spot price and can offer opportunities to arbitrage and earn riskless profit.
(c) When used efficiently, single-stock futures can be effective risk management tool. For instance, an investor with position in cash segment can minimize either market risk or price risk of the underlying stock by taking reverse position in an appropriate futures contract.

(iii) Up to March 31, 2002, stock futures were settled in cash. The final settlement price is the closing price of the underlying stock. From April 2002, stock futures are settled by delivery, i.e., by merging derivatives position into cash segment.

Q.7 What are the major advantages & disadvantages of Futures Trading as compared to Stock Trading?

Ans. Advantages

(i) Leverage: Compared to buying stock on margin, investing in futures is less costly. An investor can use leverage to control more stock with a smaller cash outlay.
(ii) Ease of Shorting: Taking a short position in futures is simpler, less costly and may be executed at any time - there is no requirement for an uptick.
(iii) Flexibility: Future investors can use the instruments to speculate, hedge, spread or for use in a large array of sophisticated strategies.

Disadvantages

(i) Risk: In a stock future contract, there is the risk of losing significantly more than the initial investment (margin deposit).
(ii) No Stockholder Privileges: The future owner has no voting rights and no rights to dividends.
(iii) Required Vigilance: Stock Futures are investments that require investors to monitor their positions more closely than many would like to do. Because future accounts are marked to the market every business day, there is the possibility that the brokerage firm might issue a margin call, requiring the investor to decide whether to quickly deposit additional funds or liquidate the position.

Q.8 What are the reasons for stock index futures becoming more popular financial derivatives over stock futures segment in India?

Ans.Stock index futures is most popular financial derivatives over stock futures due to following reasons:

1. It adds flexibility to one's investment portfolio. Institutional investors and other large equity holders prefer the most this instrument in terms of portfolio hedging purpose. The stock systems do not provide this flexibility and hedging.
2. It creates the possibility of speculative gains using leverage. Because a relatively small amount of margin money controls a large amount of capital represented in a stock index contract, a small change in the index level might produce a profitable return on one's investment if one is right about the direction of the market. Speculative gains in stock futures are limited but liabilities are greater.
3. Stock index futures are the most cost efficient hedging device whereas hedging through individual stock futures is costlier.

4. Stock index futures cannot be easily manipulated whereas individual stock price can be exploited more easily.
5. Since, stock index futures consists of many securities, so being an average stock, is much less volatile than individual stock price. Further, it implies much lower capital adequacy and margin requirements in comparison of individual stock futures. Risk diversification is possible under stock index future than in stock futures.
6. One can sell contracts as readily as one buys them and the amount of margin required is the same.
7. In case of individual stocks the outstanding positions are settled normally against physical delivery of shares. In case of stock index futures they are settled in cash all over the world on the premise that index value is safely accepted as the settlement price.
8. It is also seen that regulatory complexity is much less in the case of stock index futures in comparison to stock futures.
9. It provides hedging or insurance protection for a stock portfolio in a falling mark.

Q.9 Distinguish between forward and future contract

		Forward Contract	**Futures Contract**
1	Contract Size	Negotiated between customer and bank. It's tailor made.	Standardized.
2	Maturity Date	Negotiated between customer and bank. It's tailor made.	Standardized
3	Risk of default [Settlement Risk]	Risk exists. Contract settlement is vulnerable to the willingness and ability of both the parties to honor the contract.	Exchange is party to futures contract. Buying and selling parties do not know each other. Exchange buffers the risk of settlement.
4	Liquidity	Generally non-cancelable and tradable.	Highly liquid. Easy to trade.
5	Hedging perfection	Perfect hedging	Mostly under-hedging or overhedging
6	Settlement	By actual exchange of currencies.	Cash settlement on price value difference
7	Speculative potential	Less, as speculators find it difficult to play with forward contract.	Highly speculative.
8	Contracting Procedure	By negotiation between two parties.	Through organized exchanges, its brokers.
9	Margin Money	Not required	Required
10	Market to Market	No	yes
11	Suitability	For genuine export import and other cross border transactions with reasonable confidence in successful fulfillment of contract.	For genuine export import with potential for cancellation of such contract. Suitable for speculators as well.

Q.10 Write short note on options.

Ans. Options: An option is a claim without any liability. It is a claim contingent upon the occurrence of certain conditions and, therefore, option is a contingent claim. More specifically, an option is contract that gives the holder a right, without any obligation, to buy or sell an asset at an agreed price on or before a specified period of time. The option to buy an asset is known as a call option and the option to sell an asset is called put option. The price at which option can be exercised is called as exercise price or strike price. Based on exercising the option it can be classified into two categories:

(i) European Option: When an option is allowed to be exercised only on the maturity date.

(ii) American Option: When an option is exercised any time before its maturity date. When an option holder exercises his right to buy or sell it may have three possibilities.
   (a) An option is said to be in the money when it is advantageous to exercise it.
   (b) When exercise is not advantageous it is called out of the money.
   (c) When option holder does not gain or lose it is called at the money.

The holder of an option has to pay a price for obtaining call/put option. This price is known as option premium. This price has to be paid whether the option is exercised or not.

Q.11 Distinguish between Intrinsic value and Time value of an option.

Ans. Intrinsic value and the time value of An Option:

Intrinsic value of an option and the time value of an option are primary determinants of an option's price. By being familiar with these terms and knowing how to use them, one will find himself in a much better position to choose the option contract that best suits the particular investment requirements.

Intrinsic value :

Intrinsic value is the value that any given option would have if it were exercised today. This is defined as the difference between the option's strike price (x) and the stock actual current price (CP). In the case of a call option, one can calculate the intrinsic value by taking CP-X. If the result is greater than Zero, then the amount left over after subtracting CP-X is the option's intrinsic value. If the strike price is greater than the current stock price, then the intrinsic value of the option is zero - it would not be worth anything if it were to be exercised today. An option's intrinsic value can never be below zero. To determine the intrinsic value of a put option, simply reverse the calculation to X - CP

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 the 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. The more time an option has until expiration, greater the chances of option ending up in the money. Options that have zero intrinsic value are comprised entirely of time value. Time value reflects the fact that the longer the option has to run until expiration, the greater the premium should be. This is perfectly logical. The right to buy or sell a stock for two months should be worth more than the same privilege for only one month.

Q.12 What are the options Greeks?

Ans:
1. Delta: It is the degree to which an option price will move given a small change in the underlying stock price. A deeply out-of-the-money call will have a delta very close to zero; a deeply in-the-money call will have a delta very close to 1.
2. Gamma: It measures how fast the delta changes for small changes in the underlying stock price. It is the delta of the delta.

3. Theta: The change in option price given a one day decrease in time to expiration. It is a measure of time decay.
4. Rho: The change in option price given a one percentage point change in the risk-free interest rate.
5. Vega: Sensitivity of option value to change in volatility.

Q.13 Differentiate between Futures and Options.

Ans.

Futures	Options
Both the parties are obliged to perform the contract.	Only the seller (writer) is obligated to perform the contract.
No premium is paid by either party.	The buyer pays the seller (writer) a premium.
The holder of the contract is exposed to the entire spectrum of downside risk and has potential for all the upside return,	The buyer's loss is restricted to downside risk to the premium paid, but retains upward indefinite potentials.
The parties of the contract must perform at the settlement date. They are not obligated to perform before the date.	The buyer can exercise his option any time prior to the expiry date.

Q.14 Write a short note on different kinds of Swaps.

Ans.A swap can be defined as the exchange of one stream of future cash flows with another stream of cash flows with different characteristics. A swap is an agreement between two or more people/parties to exchange sets of cash flows over a period in future. Swaps can be divided into two types:

(1) Interest Rate Swaps,
(2) Currency Swaps Interest Rate Swaps

Meaning:

An Interest Rate Swap is a transaction involving an exchange of one stream of interest obligations for another. In an interest rate swap, no exchange of principal takes place but interest payments are made on the notional principal amount.

Interest payments can be exchanged between two parties to achieve changes in the calculation of interest on the principal, for example:

(a) Floating to fixed; (b) Fixed to floating; (c) LIBOR to prime - based; (d) Prime to LIBOR.

Major Players: The major players in the swap markets are banks (or other intermediaries on the one side) and medium and large size corporate on the other. Individual borrowers generally do not perform swap.

Features of Interest Rate Swap

(a) It is treated as an off - the balance sheet transaction.
(b) It is structured as a separate contract distinct from the underlying loan agreement.
(c) There is no exchange of principal repayment obligations.
(d) It effectively translates a floating rate borrowing into a fixed rate borrowing and vice versa.
(e) The motivation of interest rate swap is to save interest cost.

Types of Interest Rate Swaps

(a) Liability Swap: Where there is an exchange of interest obligation i.e., interest is to be paid, the swap is liability swap.
(b) Asset Swap: Where there is an exchange of interest receipts i.e., interest is to be received, the swap is asset swap.

Purpose:

Interest Rate Swap is intended to hedge against the interest rate fluctuations to some extent through careful planning with the help of swap dealer.

Provision of Interest Rate Swaps

Some of the provisions of IRS are as follows :

1. The notional principal value upon which the interest rate is to be applied.
2. The fixed interest rate to be exchanged for another rate.
3. Formula type of index used to determine the floating rate.
4. Frequency of payments, such as quarterly or every six months is also agreed.
5. Life time of the swap.

Currency Swaps

These involve an exchange of liabilities between currencies.

Stages : A currency swap can consist of three stages:

(a) A spot exchange of principal.
(b) Continuing exchange of interest payments during the term of the swap.
(c) Re-exchange of principal on maturity.

Benefits : A currency swap has the following benefits:

(a) Treasurers can hedge currency risk.
(b) It can provide considerable cost savings. So a strong borrower in the Deutschmark market may get a better US dollar rate by raising funds in the Deutschmark market and swapping them for US dollars.
(c) The swap market permits funds to be accessed in currencies, which may otherwise command a high premium.
(d) It offers diversification of borrowings.
(e) Cost cutting is the major motivation behind currency swap.
(f) It enables access to a sector of international capital market otherwise not available.

In a currency swap the principal sum is usually exchanged:

- At the start;
- At the end;
- At a combination of both; or neither.

Q.15 Explain the various types of risks to which the Swap Dealer is exposed to.

Ans. In the process of swap, the role of swap dealer is significant in so far as it brings together two counter-parties whose interests are complementary to each other. For this role, it takes a small part of the interest payment flow. Since the principal amount is large, even a small percentage of the interest payment adds considerably to its profit. But, on the other hand, the swap dealer has to face a variety of risks. These different forms of risks are as follows:

(a) Interest-rate Risk
(b) Exchange-rate Risk
(c) Credit Risk
(d) Mismatch Risk
(e) Sovereign Risk
(f) Delivery Risk

Q.16 Write a short note on Arbitrage.

Ans. Meaning:

Arbitrage by definition is a financial transaction that makes an immediate profit without involving any risk.

Arbitrage is a strategy to take advantage of price differential of a product in different markets. An arbitrageur makes money by buying an asset at low price in a market and selling it in any other market at a relatively higher price.

Arbitrage profits are the result of:

(i) The difference in exchange rates at two different exchange centers,

(ii) The difference due to interest yield which can be earned at different exchanges.

Types of Arbitrage

(i) Geographical/Space Arbitrage

(ii) Cross - Rate Arbitrage

(iii) Time Arbitrage

Q.17 Write a short note on Forward Rate Agreements.

Ans.A Forward Rate Agreement (FRA) is an agreement between two parties through which a borrower/ lender protects itself from the unfavourable changes to the interest rate. Unlike futures FRAs are not traded on an exchange thus are called OTC product.

Following are main features of FRA.

- Normally it is used by banks to fix interest costs on anticipated future deposits or interest revenues on variable-rate loans indexed to LIBOR.
- It is an off Balance Sheet instrument.
- It does not involve any transfer of principal. The principal amount of the agreement is termed "notional" because, while it determines the amount of the payment, actual exchange of the principal never takes place.
- It is settled at maturity in cash representing the profit or loss. A bank that sells an FRA agrees to pay the buyer the increased interest cost on some "notional" principal amount if some specified maturity of LIBOR is above a stipulated "forward rate" on the contract maturity or settlement date. Conversely, the buyer agrees to pay the seller any decrease in interest cost if market interest rates fall below the forward rate.
- Final settlement of the amounts owed by the parties to an FRA is determined by The formula

$$\text{Payment} = \frac{(N)(RR-FR)(dtm/DY)}{[1+RR\left(\frac{dtm}{DY}\right)]} \text{ X } 100$$

N = the notional principal amount of the agreement;

RR = Reference Rate for the maturity specified by the contract prevailing on the contract settlement date; typically LIBOR or MIBOR

FR = Agreed-upon Forward Rate; and

dtm = maturity of the forward rate, specified in days (FRA Days)

DY = Day count basis applicable to money market transactions which could be 360 or 365 days.

If LIBOR > FR the seller owes the payment to the buyer, and if LIBOR < FR the buyer owes the seller the absolute value of the payment amount determined by the above formula.

- The differential amount is discounted at post change (actual) interest rate as it is settled in the beginning of the period not at the end.

  FRAs are commonly used to hedge against the risk of rising interest rates by a company with a borrowing. In general, FRA's are used by corporate for the following broad

purposes:

(i) To lock in the cost of borrowing on an existing floating-rate loan.
(ii) To guarantee the rate of interest a company has to pay on future draw downs.
(iii) To guarantee the interest rate earned on surplus funds for any period.

Users of FRAs

1. FRAs are far more widely used than futures by corporates. Usually, this is because corporates, being less interest-rate sensitive on the whole than financial institutions. The forward rate agreement provides corporate treasurers with approximately the same hedging benefits of futures, but with none of the technical and administrative difficulties.
2. Banks are also heavy users of the FRA market. The most common use of FRAs by banks is to iron out mismatches in the short-term structure of their assets and liabilities.

Q.18 Give the meaning of 'Caps, Floors and Collars' options.

Ans. Interest Rate Cap

An interest rate cap is a derivative in which the buyer receives payments at the end of each period in which the interest rate exceeds the agreed strike price.

It is a type of European Call Option and for this buyer is required to pay premium.

In other words, a caplet is an interest rate call option that provides the purchaser an upper limit on interest rates.

The payoff (Gross Profit) of a cap is given by the following formula:

(Actual Interest Rate - Strike or Floating Rate) x (Days to maturity / 360) x (Nominal Loan Amount)

Interest Rate Floor

An interest rate floor is a derivative in which buyer of the floor receives money if on the maturity, the interest rate is below the agreed strike price of the floor.

It is a type of European Put Option and for this buyer is required to pay premium.

A floor let is an interest rate put option that provides the purchaser an lower limit on interest rates

The payoff (Gross Profit) of a Floor is given by the following formula:

(Strike or Floating Rate - Actual Interest Rate) x (Days to maturity / 360) x (Nominal Loan Amount)

Collars: It is a combination of a Cap and Floor. The purchaser of a Collar buys a Cap and simultaneously sells a Floor. A Collar has the effect of locking its purchases into a floating rate of interest that is bounded on both high side and the low side.

Q.19 Explain swaptions and their uses?

Ans. (i) Swaptions are combination of the features of two derivative instruments, i.e., option and swap.

(ii) A swaption is an option on an interest rate swap. It gives the buyer of the swaption the right but not obligation to enter into an interest rate swap of specified parameters (maturity of the option, notional principal, strike rate, and period of swap). Swaptions are traded over the counter, for both short and long maturity expiry dates, and for wide range of swap maturities.

(iii) The price of a swaption depends on the strike rate, maturity of the option, and expectations about the future volatility of swap rates.

(iv) The swaption premium is expressed as basis points

Uses of swaptions:

(a) Swaptions can be used as an effective tool to swap into or out of fixed rate or floating rate interest obligations, according to a treasurer's expectation on interest rates. Swaptions can also be used for protection if a particular view on the future direction of interest rates turned out to be incorrect.

(b) Swaptions can be applied in a variety of ways for both active traders as well as for corporate treasures. Swap traders can use them for speculation purposes or to hedge a portion of their swap books. It is a valuable tool when a borrower has decided to do a swap but is not sure of the timing.

(c) Swaptions have become useful tools for hedging embedded option which is common in the natural course of many businesses.

(d) Swaptions are useful for borrowers targeting an acceptable borrowing rate. By paying an upfront premium, a holder of a payer's swaption can guarantee to pay a maximum fixed rate on a swap, thereby hedging his floating rate borrowings.

(e) Swaptions are also useful to those businesses tendering for contracts. A business, would certainly find it useful to bid on a project with full knowledge of the borrowing rate should the contract be won.

Q.20 Explain Stock Lending & Borrowing Scheme

Ans. • The SLB scheme is facilitated by the National Securities Clearing Corporation of India (NSCCL), the clearing corporation of the National Stock Exchange of India (NSE), through a screen based exchange-traded system called SLB-NEAT. It has a centralised anonymous order book and all the borrowing and lending are cleared, settled and guaranteed. The expected lending fee is quoted as price and the tenures are available up to 12 months.

- Stock lending and borrowing (SLB) is a system in which traders borrow shares that they do not already own, or lend the stocks that they own but do not intend to sell immediately.
- Just like in a loan, SLB transaction happens at a rate of interest and tenure that is fixed by the two parties entering the transaction. However, there are some differences - crucially, the rate of interest is market-determined and free of control. Only stocks in the futures and option segment can be borrowed and lent.
- The interest rate in a stock lending and borrowing transaction is dependent on the stock's value on that day. Most commonly, rates are calculated on a per-month basis.
- Stocks borrowed can be of any tenure up to 12 months. Each SLB transaction is marked with the month in which is due to be settled. The first Thursday of each month is the settlement data for returning the shares to the lender.
- The tenure is however not strict, and the lender of stocks has the right to recall the shares at any point during the tenure.
- The main function of borrowed stocks is to short-sell them in the market. When a trader has a negative view on a stock price, then s/he can borrow shares from SLB, sell them, and buy them back when the price falls.
- The difference between the selling and buying price, minus the interest rate (and other costs) is the trader's profit.
- Stocks are lent by long-term investors who own large number of shares that they do not intend to sell in the near future.

Q.21 Explain Forex Derivatives & its advantages.

Ans. A Foreign exchange (Forex) derivative is a financial derivative contract where the underlying is a particular currency and/or its exchange rate. The multinational corporations often uses these products when they expect to receive large amounts of money in the future but want to hedge their exposure to currency exchange risk. Financial instruments that fall into this category include: currency options contracts, currency swaps, and forward and futures contracts.

Classification of Forex Derivatives

Currency futures: A currency future, also known as FX 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 purchase date. On NSE the price of a future contract is in terms of INR per unit of other currency e.g. US Dollars. Currency future contracts allow investors to hedge against foreign exchange risk. Currency Derivatives are available on four currency pairs viz. US Dollars (USD), Euro (EUR), Great Britain Pound (GBP) and Japanese Yen (JPY).

Currency forwards: A foreign exchange forward is an over-the-counter contract under which a purchaser agrees to buy from the seller, and the seller agrees to sell to the purchaser, a specified amount of a specified currency on a specified date in the future - beyond the spot settlement date - at a known price denominated in another currency (known as the forward price) that is specified at the time the contract is entered into. Forward contracts are different from futures contracts in that they are not standardized and are negotiated privately.

Currency swaps: A Currency swap is a specified type of forex derivative. A currency swap is an agreement between two parties to agree to exchange different currencies normally at the prevailing spot exchange rate with an agreement to reverse the exchange of currencies, at the same spot exchange rate, at a fixed date in the future, generally at the maturity of the swap.

Currency option: Currency options, commonly known as a Forex options are contracts which allows a person the right to buy or sell currency of their choice at a given price for a limited period of time however it does not oblige them to do so. The only person obliged to perform anything is the seller of the option. In India Currency options are currently available on US Dollars.

Advantages of Forex Derivatives

1. It establishes exchange rates between currencies and to provide a vehicle for making cross-border payments.
2. Currency swaps allow companies to revise their debt conditions to take advantage of currency or expected future market conditions. As a result of these advantages, they are used as financial tools to lower the amount needed to service a debt.
3. Forex derivatives allow companies to take advantage of the global markets more efficiently by bringing together two parties that have an advantage in different markets.

Q.22 Explain Credit Derivatives.

Ans.What is a 'Credit Derivative'

A credit derivative consists of bilateral contracts that allow users to manage their exposure to credit risk. Credit derivatives are financial assets such as forward contracts, swaps and options for which the price is driven by the credit risk. For example, a bank concerned that one of its customers may not be able to repay a loan can protect itself against loss by transferring the credit risk to another party while keeping the loan on its books. In essence, all derivative products are insurance products, especially credit derivatives.

Credit Derivative Example

There are many different types of credit derivatives including credit default swaps (CDS), collateralized debt obligations (CDO), total return swaps, credit default swap options and credit spread forwards. In exchange for an upfront fee, referred to as a premium, banks and other lenders can remove the risk of default entirely from a loan portfolio. As an example, assume company A borrows INR 100 millions from a bank over a 10-year period. Company A has a history of bad credit and must purchase a credit derivative as a condition of the loan. The credit derivative gives the bank the right to "put" or transfer the risk of default to a third party. In other words, in exchange for an annual fee over the life of the loan, the third party pays the bank any remaining principal or interest on the loan in case of default. If company A does not default, the third party gets to keep the fee. Meanwhile, company A receives the

loan, the bank is covered in case of default on company A, and the third party earns the annual fee. Everyone is happy.

The value of the credit derivative is dependent on both the credit quality of the borrower and the credit quality of the third party; however, the credit quality of the third party is of chief concern. The third party is referred to as the counterparty. In the event the counterparty goes into default or cannot honor the derivatives contract, the lender does not receive a payment and the premium payments end. In this way, the credit quality of the counterparty is more important than the borrower.

Q.23 Write short note on Credit Default Swap (CDS)

Ans. It is one of the credit derivatives. Many bonds and other securities that are sold have a fair amount of risk associated with them. While institutions that issue these forms of debt may have a relatively high degree of confidence in the security of their position, they have no way of guaranteeing that they will be able to make good on their debt. Because these kinds of debt securities will often have lengthy terms to maturity, like ten years or more, it will often be difficult for the issuer to know with certainty that in ten years time or more, they will be in a sound financial position. If the security in question is not well-rated, a default on the part of the issuer may be more likely.

A credit default swap is, in effect, insurance against non-payment. Through a CDS, the buyer can mitigate the risk of their investment by shifting all or a portion of that risk onto an insurance company or other CDS seller in exchange for a periodic fee. In this way, the buyer of a credit default swap receives credit protection, whereas the seller of the swap guarantees the credit worthiness of the debt security. For example, the buyer of a credit default swap will be entitled to the par value of the contract by the seller of the swap, should the issuer default on payments.

If the debt issuer does not default and if all goes well the CDS buyer will end up losing some money, but the buyer stands to lose a much greater proportion of their investment if the issuer defaults and if they have not bought a CDS. As such, the more the holder of a security thinks its issuer is likely to default, the more desirable a CDS is and the more the premium is worth it.

Q.24 Explain Mark to Market Settlement mechanism.

Ans. It refers to debit or credit on a daily basis a margin account based on the close of that day's trading session. In this way, buyers and sellers are protected against the possibility of contract default. All futures contracts for each member are marked-to-market to the daily settlement price of the relevant futures contract at the end of each day. The profits/losses are computed as the difference between:

a) The trade price and the day's settlement price in respect of contracts executed during the day but not squared up,
b) The previous day's settlement price and the current day's settlement price in respect of brought forward contracts,
c) The buy price and the sell price in respect of contracts executed during the day and squared-up.

The CMs (Clearing Members) who have suffered a loss are required to pay the mark-to-market (MTM) loss amount in cash which is in turn passed on to the CMs who have made a MTM profit. This is known as daily mark-to-market settlement. CMs are responsible to collect and settle the daily MTM profits/losses incurred by the TMs and their clients clearing and settling through them. Similarly, TMs are responsible to collect/pay losses/profits from/to their clients by the next day. The pay-in and pay-out of the mark- to-market settlement are affected on the day following the trade day.

After completion of daily settlement computation, all the open positions are reset to the daily settlement price. Such position becomes the open positions for the next day.

Final Settlement for Futures: On the expiry day of the futures contracts, after the close of trading hours, NSCCL marks all positions of a CM to the final settlement price and the resulting profit/loss is settled in cash. Final settlement loss/profit amount is debited/credited to the relevant CM's clearing bank account on the day following expiry day of the contract.

Mark-to-Market settlement of index futures

All open positions in the index contracts are daily settled at the Mark-to-Market settlement price. Thus if a contract entered on a particular day at Sensex value of 3300 has the value at 3310 the next day, the position of the buyer will get credited by 10 points and position of seller will get debited by 10 points. The process will continue till the closure of the position. On the expiry, the settlement price is the spot index value as on expiry of any futures contract, the spot value and the futures value coverage. Mark-to-Market settlement is in cash.

Q.25 Explain the concept of margin in F & O segment

Ans.Options and futures writers are required to have a sufficient amount of margin in their accounts to cover potential losses. At the time of initiating trades on the stock and commodity exchanges in India, exchanges usually block margins. These margins comprise of 2 components which include SPAN margins (Initial Margin) and Exposure margins.

What is SPAN Margin or Initial Margin?

SPAN margin derives its origin from SPAN i.e. Standard Portfolio Analysis of Risk which is a method for measuring portfolio risk. In Indian stock markets, SPAN margin is also commonly referred to as VaR (Value at Risk) margin or initial margin which is the minimum margin requirement for initiating a trade in the markets.

The SPAN margin is usually different for every security depending on the nature of risk of the security. For instance, the SPAN margin requirement for a Index will be lower than the SPAN margin requirement for a single stock since the risk of portfolio/index is usually lower than that of a specific stock or security. One of the other significant factors under consideration for the determination of SPAN margins is the historic volatility of the underlying. So an inference can be drawn, that lower the volatility, lower the SPAN and higher the volatility, higher the SPAN margin requirement.

What is the Meaning of Exposure Margin?

In addition to SPAN margin which is collected at the time of initiating trades, an additional margin over and above the SPAN margin is collected which is known as the Exposure margin and is also known as additional margin. This margin is collected in order to protect a broker's liability which may arise due to wild swings/moves in the markets.

Total Margin = SPAN Margin + Exposure Margin

What is the difference between Exposure Margin and SPAN Margin?

SPAN margin is an initial margin which is calculated basis the risk and volatility of the underlying whereas the exposure margin is like an adhoc margin calculated on the value of the exposure taken. The SPAN margin for a particular security keeps changing from time to time based on the volatility of the underlying whereas the Exposure margin usually remains the same since its basic function is work as an additional safety net and it is not the initial margin requirement in itself.

Maintenance Margin

This is the balance a trader must maintain in his or her account as the balance changes due to price fluctuations. It is some fraction may be 75% of initial margin. If the balance in the trader's account drops below this margin, the trader is required to deposit enough funds or securities to bring the account back up to the initial margin requirement. Such a demand is referred to as a margin call. The trader can close his position in this case but he is still

responsible for the loss incurred. However, if he closes his position, he is no longer at risk of losing additional funds.

Variation margin is the additional funds that a broker may request from a client so that the initial margin requirements of his position restored. If the client's equity falls below the initial margin requirement due to losses debited due MTM then a margin call will be made. It is called variation margin call.

Q.26 Write a short note on Commodity Derivatives?

Or

Write a short note on total set of customer needs concerning commodity derivatives?

Ans. Trading in derivatives first started to protect farmers from the risk of the value of their crop going below the cost price of their produce. Derivative contracts were offered on various agricultural products like cotton, rice, coffee, wheat, pepper and so on.

Necessary Conditions to Introduce Commodity Derivatives

The following attributes are considered crucial for qualifying for the derivatives trade:

1. A commodity should be durable and it should be possible to store it;
2. Units must be homogeneous;
3. The commodity must be subject to frequent price fluctuations with wide amplitude; supply and demand must be large;
4. Supply must flow naturally to market.

Total set of customer needs concerning commodity derivatives

The total set of customer needs concerning commodity derivatives is differentiated into instrumental needs and convenience needs.

Instrumental needs are the hedgers' needs for price risk reduction.

Not only do hedgers wish to reduce price risk, they also desire flexibility in doing business, easy access to the market, and an efficient clearing system. These needs are called convenience needs.

Some of the advantages of commodity markets are:

(i) Most money managers prefer derivatives to tangible commodities;
(ii) Less hassle (delivery, etc);
(iii) Allows indirect investment in real assets that could provide an additional hedge against inflation risk.

Special characteristics of Commodity derivatives trading are:

(i) To complement investment in companies that use commodities;
(ii) To invest in a country's consumption and production;
(iii) No dividends, only returns from price increases

Four popular national commodity exchanges of India are: National Multi-Commodity Exchange of India (NMCE), National Board of Trade (NBOT),National Commodity and Derivatives Exchange (NCDEX) and Multi Commodity Exchange (MCX).

National Commodity and Derivatives Exchange (NCDEX) is the largest commodity derivatives exchange with a turnover of around Rs 3,000 crore (Rs 30 billion) every fortnight.

Q.27 Write a short note on Commodity Futures.

Ans. Commodities futures, or futures contracts, are an agreement to buy or sell a commodity at a specific date in the future at a specific price.

The prices of commodities can change on a weekly or even daily basis. If the price goes up, the buyer of the futures contract makes money, because he gets the product at the lower, agreed-upon price and can now sell it at the higher, market price. If the price goes down, the seller makes money, because he can buy the commodity at the lower market price, and sell it to the buyer at the higher, agreed-upon price.

Advantages of Commodity Futures

1. Easiest and cheapest way to invest in commodities
2. Can either buy (go long) or sell (go short)
3. Can trade with a small amount of capital
4. Volatility offers potential for quick profits

Disadvantage of Commodity Futures

1. Principal/Initial Investment is not guaranteed
2. High risk due to use of leverage
3. High price volatility could lead to margin calls

Major Categories of Commodity Futures are

1. Agricultural products (soft commodities) -fibers, grains, food, livestock
2. Energy - crude oil, heating oil, natural gas
3. Metals - copper, aluminum, gold, silver, platinum

Q.28 Write a short note on Commodities market.

Ans.A commodity may be defined as an article, a product or material that is bought and sold. It can be classified as every kind of movable property, except Actionable Claims, Money & Securities.

A commodity market is a market that trades in primary rather than manufactured products. Trading is done in agricultural products such as wheat, coffee, cocoa, sugar etc. and in mined commodity, such as gold, rubber, oil etc. Commodity markets can include physical trading and derivatives trading using spot prices, forwards, futures, and options on futures. Farmers have used a simple form of derivative trading in the commodity market for centuries for price risk management

Commodities offer immense potential to become a separate asset class for market-savvy investors, arbitrageurs and speculators. Retail investors, who understand the equity markets, find commodities an unfathomable market. Commodities are easy to understand as far as fundamentals of demand and supply are concerned.

Historically, pricing in commodities futures has been less volatile compared with equity and bonds, thus providing an efficient portfolio diversification option.

Commodity market is an important constituent of the financial markets of any country. It is important to develop a vibrant, active and liquid commodity market. This would help investors hedge their commodity risk, take speculative positions in commodities and exploit arbitrage opportunities in the market

Advantages of commodity trading

1. **Leverage:** Commodity futures operate on margin, meaning that to take a position only a fraction of the total value needs to be available in cash in the trading account.
2. **Commission costs:** It is a lot cheaper to buy/sell one futures contract than to buy/sell the underlying instrument.
3. **Liquidity:** The involvement of speculator means that futures contracts are reasonable liquid. However, how liquid depends on the actual contract being traded. Electronically traded contracts, such as the e-minis tend to be the most liquid whereas the pit traded commodities like corn, orange juice are not readily available to the retail trader and more expensive to trade in terms of commission and spread.
4. **Ability to go short:** Futures contracts can be sold as easily as they are bought enabling a speculator to profit from falling markets as well as rising ones.
5. **No time delay:** Options suffer from time decay because the closer they come to expiry the less time is for the option to come into the money. Commodity futures do not suffer from this as they are not anticipating a particular strike price at expiry.

Disadvantages of commodity trading

Leverage: Low margin requirements can encourage poor money management, leading to excessive risk taking. Not only are profits enhanced but so are losses.

Q.29 Distinguish between Commodity Derivatives & Financial Derivatives

Ans.1. Derivatives as a tool for managing risk first originated in the Commodities markets. They were then found useful as a hedging tool in financial markets as well.

2. The basic concept of a derivative contract remains the same whether the underlying happens to be a commodity or a financial asset.
3. However there are some features, which are very peculiar to commodity derivative markets. In the case of financial derivatives, most of these contracts are cash settled.
4. Even in the case of physical settlement, financial assets are not bulky and do not need special facility for storage. Due to the bulky nature of the underlying assets, physical settlement in commodity derivatives creates the need for warehousing.
5. Similarly, the concept of varying quality of asset does not really exist as far as financial underlying's are concerned. However in the case of commodities, the quality of the asset underlying a contract can vary largely. This becomes an important issue to be managed.

Q.30 What is "counter party risk" or "default risk"?

Ans. A Forward Contract is a way for a buyer or a seller to lock in a purchasing or selling price for an asset, with the transaction set to occur in the future. In essence, it is a financial contract obligating the buyer to buy, and the seller to sell a given asset at a predetermined price and date in the future. No cash or assets are exchanged until expiry, or the delivery date of the contract. On the delivery date, forward contracts can be settled by physical delivery of the asset or cash settlement.

Because no money exchanges hands initially, there is counterparty credit risk involved with forward contracts. Since you depend on the counterparty to deliver the asset (or cash if it is a cash settled forward contract), if the counterparty defaults between the initial agreement date and delivery date, you may have a loss. However, two conditions must apply before a party faces a loss:

- The spot price moves in favor of the party, entitling it to compensation by the counterparty, and
- The counterparty defaults and is unable to pay the cash difference or deliver the asset.

Q.31. Distinguish between SENSEX & NIFTY

Ans.

Sensex	**Nifty**
1. Sensex is an indicator of all major companies of the Bombay Stock Exchange (BSE) 2. Sensex consists of 30 companies.	Nifty is an indicator of all major companies of the National Stock Exchange (NSE) Nifty takes into account 50 companies.

Nifty takes into account 50 companies.

Common companies listed on Sensex as well as Nifty are as follows:-

- Reliance Industries
- ICICI
- ONGC
- HDFC
- Hero Honda
- Bajaj Auto
- Wipro
- ITC
- SBI
- Maruti Suzuki
- Infosys

Q.32 Distinguish between Forward Contract & Options

Ans.

Forward Contract	Options
Meaning : That form of derivatives in which the parties mutually agree to buy or sell specified amount of asset or security at specific price & date. **Risk :** There exist chances of both unlimited gains and unlimited losses. Premium: No premium is required to be paid. **Exercise:** Such a contract can be exercised at the expiry of the contract only.	An option is the but not the obligation, to buy or sell an underlying asset at a pre-determined price on or before the specified date. Though the chances of unlimited gains exist, the loss in such a case is restricted. Premium is required to be paid to the seller by the buyer. Such contract can be exercised at any time before the expiry of specified term.

Q.33 Distinguish between Interest Swap & Currency Swap

Ans.

Interest Swap	Currency Swap
1.Meaning: Interest rate swap refer to that form of swap in which two parties exchange identical securities having different interest rate	Currency swap are entered in case the parties want to exchange same amount,however in different currencies.
2.Concept: The concept of interest rate swaps arise as a result of existence of both fixed interest rates as well as floating interest rates.The parties may enter in to interest swap in order to swap these two and thus derive gain position from the same.	The concept of currency swap is based on the fact that many a times there is a comperative advantage in borrowing home currency and thus the parties may swap currencies between them so as to avail benefits.

Q.34 " Commodity Trading causes high level of inflation" Do you agree

Ans.The fact that agricultural price inflation accelerated during the post futures period does not, however, necessarily mean that this was caused by futures trading. One reason for the price increase in the post futures period was that the immediate pre-futures period had been one of relatively low agricultural prices, reflecting an international downturn in commodity prices. A part of the acceleration in the post futures period may be due to rebound/recovery of the post trend. In contrast to the view that futures markets cause increases in prices, the bulk of the existing literature on the subject emphasizes that such markets help in price discovery, provide price risk management and also bring about better price stability. **Indian data analysed in this report does not show any clear evidence of either reduced or increased volatility of spot prices due to futures trading.**

Q.35. Distinguish between Index Future & Index Option

Stock future	Index future
Meaning : Stock future is a standardized contract between he buyer and seller wherein the seller is obligated to deliver the buyer specific asset on a specified date at predetermined prices. **Settlement:** It may or may not be	Index future is a derivative whose value is dependent on the value of some underlying index viz. Sensex, Nifty etc. It is settled in cash only.

settled in cash. **Future Price:** Futures Price = Spot Price + Cost of carry (-) Dividend	Index futures price = spot Index + Cost of carry (-) Dividend

Index options: A call or put option is possible on a financial index. Investors trading index options are essentially betting on the overall movement of the stock market as represented by a basket of stocks in the form of index such as BSE Sensex and NSE Nifty.

Q.36 Distinguish between Clearing Mechanism & Settlement Mechanism

Basis	**Clearing mechanism**	**Settlement Mechanism**
Meaning	It is process carried out to calculate which party owns the other and by how much.	Settlement mechanism refers to the process of settling out the net position i.e. give or take of the instruments/securities as well as money
Who & When	Clearing corporation of the stock exchange perform this clearing function.	Settlement cycles are fixed in advance such as t + **2** days i.e. settlement will take place after 2 days of entering the transaction.

Q.37 Distinguish between Call Premium & Put Premium

Particulars	**Call Premium**	**Put Premium**
Exchange rate	As exchange rate increases call premium also increases.	As exchange rate increases put premium decreases.
Strike Price	As strike rate increases call premium decreases.	As strike rate increases put premium also increases.
Risk Free Interest Rate	As the interest rate in the economy increases, value of call option increases.	As the interest rate in the economy increases, value of put option decreases
Rate Volatility	As volatility increases, there is high degree of uncertainty about the rate of the currency and hence on the option.	The owner of the call benefits from the rate increase. Due to increase in volatility the owner of but option benefits from the rate decreases.

Chapter 11	Treasury Management

Q.1 What do you understand by Treasury Management? What are its main objectives?

Ans. Treasury management means "To plan, organise and control cash and borrowings so as to optimise interest and currency flows, and minimise the cost of funds " or in other words "the handling of all financial matters, the generation of external and internal funds for business, the management of currencies and cash flows, and the complex strategies, policies, and procedures of corporate finance" It involves ensuring that proper funds are available with the company at the time of outflow required & also that funds are not kept unutilized for a good long time. This requires the management of cash flows, banking, money-market and capital-market transactions; the effective control of the risks associated with those activities; and the pursuit of optimum performance consistent with those risks.

Objectives of Treasury management are:

1. **Availability of right quantity** - It ensures that the funds have been arranged in required quantity. This quantity is available to the firm either as external loans or as internal generation.
2. **Availability of right time** - The requisite funds for day to day working of the firm are available in time in addition to being available in quantity. The right time is the reasonable time taken to procure the funds.
3. **Deployment of fund in right quantity** - It ensures that right quantity of funds is deployed. For developing the right amount of funds, the treasury manager keeps track of all receipts of funds and time table of deployment of funds is to be drawn up.
4. **Deployment of fund in right time** - A logical corollary of sourcing funds at the right time is that funds should be deployed at the right time. The treasury manager has to honour the outstanding commitments on working capital account within a short span of time.
5. **Profiting from availability and deployment** - One of the prime objectives of a treasury manager is to ensure timely procurement of right amount of funds and timely deployment of right amount of funds. The objective results in administrative smoothening and paves way for register achievement of performance targets of the form. Modern day treasury manager has another objective which is to profit from such sourcing and deployment.

Q.2 Discuss the scope and functions of Treasury Management.

Ans. Treasury management is concerned with both macro and micro facets of the economy. At the macro level, the inflows and outflows of cash, credit and other financial instruments are the functions of the government and the business sectors. These inflows are arranged by them as borrowing from the public. The micro units utilize these inflows and build up their capacities for production of output. This leads to establishment of a production system which logically leads us to the natural consequence, i.e. the establishment of distribution and consumption systems. Once the production, distribution and consumption systems are in place at the micro level, the generation of surpluses at the units begins. These surpluses are channeled back into the macro system as outflows from the micro system. The inflows are the taxes paid to the government and repayment of loans made to the banks and financial institutions. These inflows into the macro level have to be managed by the treasury managers at the macro level.

Functions of Treasury Management include:

1. **Cash Management** : The Treasury Manager controls the cash assets and liabilities of the organization
2. **Liquidity & Funds Management:** Analysis of cash flow arising out of asset liability transaction and funding various asset of balance sheet is the function of treasury management. It also involves policy inputs to strategic planning and yielding expected returns in credit and investment.
3. **Risk Management:** Treasury management plays an active role in risk management by managing the impact of the changes in interest rates, credit risk due to increasing NPA's. It includes customer credit management, vendor/contractor financial analysis, liability claims management, business disaster recovery, and employee benefits program risk.
4. **Reserve Management & Investment:** It includes selection of investment products, investment brokers and methods of borrowing. The treasury manager develops cash management information system and investment policy and processes.
5. Maintaining good relations with supplier of funds, particularly the investors and shareholders.
6. Looking after the financial implications of strategic and policy decisions.
7. Interaction with financial market in general and with capital market in particular.

Q.3 Treasury function is supplemental and complemental to the finance function in a firm. Comment

Ans. The treasury function is supplemental and complemental to finance function. As a supplemental function, it reinforces the activities of the finance function by taking care of the finer points while the latter delineates the broad contours. As a complementary function, the treasury manager takes care of even those areas which the finance function does not touch. Looked at from this point of view, the treasury function integrates better with manufacturing and marketing functions than the finance function. This is because the treasury department of a firm is involved in more frequent interaction with other departments. For the purpose performing this role, the treasury manager operates in various financial markets including the inter-corporate market, money market, G-sec market, forex market etc.

Q.4 Distinguish between Treasury Management and Financial Management.

Ans.(a) **Control Aspects:** The objective of Treasury Management is to execute the plan of finance function, whereas the objective of financial management is to establish, coordinate and administer as an integral part of the management, adequate plan for control of operation.

(b) **Reporting Aspects:** Treasury management is concerned with monitoring the income and expense budget on a periodic basis vis-a-vis the budgets whereas Financial Management is concerned with the preparation of overall financial reports of the firm such as Profit & Loss Account and Balance Sheet.

(c) **Strategic Aspects:** Treasury management would be maintenance of short-term liquidity. Whereas finance function is involved in formulating overall financial strategy for the firm.

(d) **Nature of Aspects:** The Treasury Manager is concerned with the net current assets of the firm whereas the financial manager is concerned with management of fixed assets as well as current assets of the firm.

(e) **Investment Aspects:** The Treasury manager is concerned with short term investments whereas the financial manager is concerned with long term and strategic management.

Q.5 What are the different roles performed by Treasury Manager in the overall functioning of the firm?

Ans. A treasury manager has a significant part to play in the overall functioning of the firm. The treasury manager has the following roles:

1. **Originating roles:** The treasury manager inducts and originates system of accounting for the firm. Routine accounting of the firm is then carried out along these established systems. The treasury manager complies with exhaustive operations manual for the guidance of the users.
2. **Supportive roles:** The treasury manager supports the activities of other departments based on constructive coordination.
3. **Leadership roles:** This role comes into play during times of exigency which can occur during time of systems break down.
4. **Watch dog roles:** Treasury manager is the eyes and ears of the management. As a processor of the financial transactions, he keeps a watch on suspects bungling and frauds in the firm.
5. **Learning roles:** Treasury manager continuously learns the new accounting concepts and technological changes and adopts these changes with open mind; educates other departments of firms about damages.
6. **Informative roles:** The treasury manager is the source of information for the top management regarding performance of the firm vis-a-vis the budgets. For conveying this information, he develops a management information system suited for the organization. This system provides concise and timely information on all the relevant parameters which enable the top management to take decisions.

Q.6 Tools and techniques of treasury managers are very specific. Comment

Ans. There are number of tools and techniques used by the treasury managers. Some of them are explained as under:

1. Analytic and planning tools

In treasury function, planning and budgeting are essential targets to achieve and to keep effective control on costs. Analysis of the data and information is necessary for planning and budgeting. Performance budgeting is referred to as setting of physical targets for each line of activity. The financial outlay or expenditure needed for each is earmarked to choose the least cost mode of activity to achieve the targets. Productivity and efficiency improves by decentralization of responsibility and that is achieved by performance budgeting, where each department or section is made a profit center and is accountable for its targets, financial involvement and profits in financial terms, relative to the targets in physical terms. This type of planning involving performance budgeting is best suited for service industry say a financial services company or bank where every department can function in a decentralized manner and achieve the targets.

2. Zero Based Budgeting (ZBB)

Another tool of analysis and performance is ZBB wherein each manager establishes objectives for his function and gain agreement on them with top management. Then alternate ways for achieving these targets are defined and most practical way for achieving the targets is selected. This alternative is then broken into incremental levels of effort required to achieve the objective. For each incremental level of activity, costs and benefits are assessed. The alternative with the least cost is then selected.

3. Financial Statement Analysis

Financial analysis of a company is necessary to help the treasury manager to decide whether to invest in the company. Such analysis also helps the company in internal controls. The soundness and intrinsic worth of a company is known only by such

analysis. The market price of a share depends, among other things on the sound fundamentals of the company, the financial and operational efficiency and the profitability of that company. These factors can be known by a study of financial statements of the company.

Q.7 Internal Treasury control is a process of self improvement. Comment.

Ans. Internal treasury control is concerned with all flows of funds, cash and credit and all financial aspects of operations. Internal treasury control is exercised from time to time and on regular basis on financial targets. The financial aspects of operations include procuring of inputs, paying creditors, making arrangement for finance against inventory and receivables. The gaps between inflows and outflows are met by planned recourse to low cost mix of financing. The control aims at operational efficiency and removal of wastages and inefficiencies and promotion of cost effectiveness in the firm. The control is exercised under phases of planning and budgeting. These phases include setting up of targets, laying down financial standards, evaluation of performance as per these norms and reporting in a standard format. Hence it is true to say that Internal treasury control is a process of self improvement

Q.8 Discuss the role of Information Technology in Treasury management.

Ans. The major role the information technology in effective treasury management is as follows:

1. **Automate repetitive tasks**
   Technology today is being leveraged to automate repetitive tasks such as data gathering, accounting, bank polling, portfolio tracking and reporting. By automating these processes, the delays and the possibility of human error may be minimized. Automation also facilitate information sharing across departments, offices and geographies, and provide an accurate audit trail. Furthermore, automating these processes enable to focus on more value added tasks, critical to providing effective decision support to management team.
2. **Implement internal controls**
   To ensure compliance with rules and regulations, sound and effective internal controls must be implemented. In treasury management, sophisticated rules must be implemented to ensure policy compliance. The solution that has obtained an internal audit and other compliance activities must be implemented.
3. **Time saver and fraud & error detection Methodology**
   In treasury management system, the source of cash transactions is the previous day's bank data. Through the treasury management system, all repetitive transactions are automatically tagged with the correct instructions. Most companies using a treasury management system get 90-95% of their transactions automatically tagged accurately without any manual intervention.
4. **Forecast cash flows**
   Effective forecasting helps manage financial risk by enabling to predict a cash shortfall or liquidity crisis, taking into account interest rate changes and foreign exchange fluctuations. Forecasting also helps to enhance financial returns, enabling to make more effective decisions regarding investments and borrowing needs. Finally, forecasting helps maintain financial control by identifying unexpected occurrences for further review and action.
5. **Communicate with operating units**
   There should be a two-way flow of information by providing feedback to the operating units based on how the actuals are compared to the forecasts. The treasury forecast performance matters must be compared to forecasts generated by other groups and/ or divisions.

6. **Choose a Web-based treasury management system**
   The full benefits of technology without unnecessary costs or delays may be achieved by selecting a web-based treasury management system. Web-based solutions significantly reduce implementation costs and timeframes, and enable to access the system from anywhere at any time.
7. **Rethink treasury processes**
   There should be reassessing of the treasury management at transparent intervals to evaluate processes and identify how they can be revised to maximize efficiencies. While reevaluating treasury management system, the focus should not only be on data, but on experience and knowledge.
8. **Pay for performance**
   To reinforce the importance of forecasting, portfolio management, cash consolidation, and other value added activities across treasury department, benchmarks should be defined. The proper and effective use of information technology in treasury operation increases the efficiency and effectiveness of corporate officers across the treasury, investor relations, corporate finance and corporate communication function.

Q.9 Distinguish between 'Liquidity Management' and 'Treasury Management'

Ans. Liquidity management ensures that the right amount of cash is available, at the right time and in the right place, is firmly positioned as a pivotal task for every treasurer. Liquidity management is in fact a part of the treasury management. Over the past few years, many treasurers have made substantial progress towards increasing the visibility of their cash flow and centralizing cash within countries or regions. However, liquidity management and particularly cash flow forecasting remain the greatest challenges facing treasurers. With credit more expensive and elusive for many companies, it is now imperative to tackle these challenges effectively. Liquidity management of a financial institution or bank or company is somehow different to that of other trading units. The process starts with tapping of funds at lower rate in shape of deposits/borrowing and ends with investing the same in higher rate to earn profit out of business with a margin of small portion of cash-in-hand kept to meet day to day operation. The main functions of treasury management basically includes making availability of funds in right quantity, at right time, Deployment of funds in right quantity and right time and earning profit from availability and deployment of fund.

Q.10 Zero based budgeting plays a vital role in treasury management. Comment.

Ans. Treasury manager is required to work in a fast changing and competitive environment. For carrying out his activities, he has resort to certain tools and techniques. One of the tools of analysis and performance is zero based budgeting wherein each manager establishes objectives for his function and gain agreement on them with top management. Then alternate ways for achieving these targets are defined and most practical way for achieving the targets is selected. This alternative is then broken into incremental levels of effort required to achieve the objective. For each incremental level of activity, costs and benefits are assessed. The alternative with the least cost is then selected.

Q.11 Write short note on Yield curve & Treasury management

Ans. **Yield Curve**

- It shows the relationship between maturity (in years) and interest rate.
- In horizontal axis [i.e. X Axis], maturity (in years) are represented.
- In vertical axis [i.e. Y-Axis] interest rates/ yields are represented.
- With the use of yield & maturity a curve is drawn which is known as yield curve
- Yield curve is an important curve as it helps to take an investment decision
- Yield curve is an important tool of treasury management.

Treasury Management:

Treasury management is the science of managing treasury operations of a firm. The main function of treasury management is the management of funds. Treasury management has both macro and micro aspects. Treasury management is different from financial management.

Q.12 Explain briefly functions of treasury department.

Ans. The Junctions of treasury department management is to ensure proper usage, storage and risk management of liquid funds so as to ensure that the organisation is able to meet its obligations, collect its receivables and also maximize the return on its investments.Towards this end the treasury function may be divided into the following:

(i) **Cash Management:** The efficient collection and payment of cash both inside the organization and to third parties is the function of treasury department. Treasury normally manages surplus funds in an investment porllolio.

(ii) **Currency Management:** The treasury department manages the foreign currency risk exposure of the company. It advises on the currency to be used when invoicing overseas sales. It also manages any net exchange exposures in accordance with the company policy.

(iii) **Fund Management:** Treasury department is responsible for planning and sourcing the company's short, medium and long-term cash needs. It also participates in the decision on capital structure and forecasts future interest and foreign currency rates.

(iv) **Banking:** Since short-term finance can come in the form of bank loans or through the sale of commercial paper in the money market, therefore, treasury department carries out negotiations with bankers and acts as the initial point of contact with them.

(v) **Corporate Finance:** Treasury department is involved with both acquisition and disinvestment activities within the group. In addition, it is often responsible tor investor relations.

Q.13 The function of treasury management is concerned with both macro and micro facets of economy - Comment

Ans. - Treasury management is the efficient management of liquidity and the financial risk in the business.

- The objective of treasury management is planning, organising and controlling cash assets to achieve the financial goals which may be to maximise the return on available cash or minimise the interest cost or mobilise cash for different activities / transactions.
- Treasury management has both macro & micro aspects.

Macro Level: At the macro level, the inflows & outflows of cash, credit and other financial instruments are the functions of the government and the business sectors. These inflows are arranged by them as borrowing from the public. Reserve Bank of India manages the macro treasury management of the country through issue of currency notes, maintenance of currency chests, distribution of coins & rupee notes on behalf of government.

Micro Level: At micro level, the finance manager aims at optimising the value of his assets. He tries to maximise the wealth of stakeholders of the micro unit. He seeks to increase his operational profits.

Chapter 12	Forex Management

Q. 1. Basic Concepts of Forex Management

Ans. 1. Foreign Currency

It is the legal tender in any other country outside the borders of domestic country. e.g. $, PKR, SLR are foreign currencies for India.

2. Foreign Exchange

It is the process of exchanging one currency against the other at the prevailing exchange rate. The primary purpose of the foreign exchange is to assist international trade and investment, by allowing businesses to convert one currency to another currency.

3. Foreign Exchange Market

The foreign exchange market (Forex, FX, or currency market) is a worldwide decentralized over-the-counter financial market for the trading of currencies. Financial centers around the world function as anchor of trading between a wide range of different types of buyers and sellers around the clock, with the exception of weekends. The foreign exchange market determines the relative values of different currencies.

4. Nostro/Vostro/Loro accounts

Nostro accounts: A foreign currency denominated demand deposit account maintained by a bank in India with a bank overseas is called a Nostro account e.g. : Dena Bank (Mumbai) maintains a USD account with City Bank. (New York)

Vostro accounts: Demand Deposit accounts denominated in Indian Rupees maintained by overseas banks with banks in India are called vostro accounts e.g.: Barclays Bank, London maintains an INR account with Bank of India, Mumbai.

Loro accounts:

If Nostro or Vostro accounts are referred by any 3rd bank they refer it as Loro accounts. It means their account with you.

5. Balance of Payments

BOP is the accounting record of International transactions which are classified into foreign trade transactions and foreign capital transactions.

Foreign trade transactions are exports and imports of visible and invisible goods and services. Exports generate inflow of foreign exchange and imports generate outflow of foreign exchange.

The Central Bank of the Domestic country has monopoly to maintain the BOP account, because the Central Bank of the country is the custodian of Foreign Exchange Reserves of the country and is the Monetary Authority of the country.

BOP account is prepared on double entry book keeping principle & therefore it always balances.

6. Balance of Trade

A record of the receipts and payments arising out of exports and import of visible items is termed as “Balance of Trade”.

A country may import certain visible items like machinery, food-grains, etc. A comparison of value of imports and exports of visible items of a country reveals the position of its balance of trade. If the value of imports of visible items exceeds that of exports during the year, the balance of trade is said to be unfavorable because there exists a deficit. As against it, when the value of imports is less than that of exports then there exist a surplus and hence balance of trade is favourable. A situation is described as equilibrium in the balance of trade if the value of imports is equal to value of exports.

7. Foreign Exchange Rates
It is the rate at which foreign currency can be purchased or sold in terms of domestic currency. It is the relationship between the two currencies. Currency whose rate is given is called base currency and the currency in terms of whose rate is given is called variable currency. USD/INR 45.50 is the foreign exchange rate in which USD is base currency & INR is called the variable currency.
Spot Rate: A spot rate occurs when buyers and sellers of currencies agree for immediate delivery of the currency.
Forward Rate: A forward exchange rate occurs when buyers and sellers of currencies agree to deliver the currency at some future date. The forward exchange rate is set and agreed by the parties and remains fixed for the contract period regardless of the fluctuations in the spot exchange rates in future.
8. Cross Rates/Cross Currency Rates
It is a rate of exchange between two currencies whose direct quote is not available. A cross rate is usually constructed from the individual rates of the two currencies with respect to the vehicle currency. e.g. exchange rate between INR & PKR is not available readily. Such rate can be derived from $: PKR & $: INR rate. Such rate is called cross rate.
9. Vehicle Currency
It is an international currency. It is acceptable in all the countries. It can be used to convert any countries' currency to any other countries' currency. U.S. Dollar is the most commonly used and strongest vehicle currency in the international market. In India, USD operates as a vehicle currency since August '91. World's vehicle currencies are USD, EURO, UKP, JPY, CAD, SGD etc.
10. Arbitrage
The simultaneous purchase and sale of equal amount of an asset in order to profit from a difference in the price. It is low risk transaction. Arbitrage exists as a result of market inefficiencies; it provides a mechanism to ensure prices do not deviate substantially from fair value for long periods of time. Person performing arbitrage is called arbitrageur.
11. Speculation
When a deliberate purchase or sale of foreign currency is carried out with a motive of large gain out of exchange rate fluctuation is known as speculation. Speculation should not be considered purely a form of gambling, as speculators do make informed decision before choosing to acquire the additional risks. Additionally, speculation cannot be categorized as a traditional investment because the acquired risk is higher than average. More sophisticated investors will also use a hedging strategy in combination with their speculative investment in order to limit potential losses.
12. Trading
It refers to continuously buying or selling by an entity of currencies, securities of any commodity in the relevant market. Generally traders buy or sell the relevant asset with very small margin of profit. They are market makers. Their transactions are generally of large volume. They provide liquidity in the market. They provide continuity to price discovery process.
13. Foreign Exchange Quotations:
When a customer asks for a price quote for UK Pound for US dollars to a trader, he would quote in the following manner: e.g. 1.8102 – 1.8450 $/£
This quote means following:
- Quote is in US$ 1.8102 & 1.8450 per 1 £
- This is the buying & selling rate of £ from dealer's point of view
- First number i.e. 1.8102 is his bid rate. Dealer is ready to pay 1.8102 US dollars to buy a Pound. This is his dollar quote to 1 buy pound

- Second number i.e. 1.8450 is his ask rate or offer rate. Dealer is ready to give one Pound if you pay him 1.8450 US dollars. This is his dollar quote to sell pound.
- Since the quotes is available for buy and sell both, it is called as "Two Way quote".

14. Spread
The difference between bid rate and ask rate (offer rate) is called as bid ask spread (bid ask spread). In the example bid ask spread is 0.0348 dollar (per one pound).
Bid ask spread is the measure of the following:
- It is margin to cover transactions costs and other costs of the trader.
- It covers normal profit on capital invested by the trader in dealing function.

$$\text{Spread \%} = \frac{\text{Ask Rate} - \text{Bid Rate} \times 100}{\text{Ask Rate}} \quad \text{OR} \quad \frac{\text{Ask Rate} - \text{Bid Rate} \times 100}{\text{Mid Rate}}$$

15. Mid Rate and Spread:
Sometimes quote may be available in the form of mid rate and bid-ask spread. Mid Rate is the average of bid and ask rate.
For instance, if quote is: Rs. 1.01; Rs. 48.0251, this is a spread and mid rate quote. From this we can derive original two way quote.
16. Direct Quote:
Exchange rate expressed in terms of domestic currency per unit of foreign currency is called as Direct Quote. For instance, 49.32 Rs. = $ is a direct quote in India.
17. Indirect Quote:
Exchange rate expressed in terms of foreign currency per unit (or per hundred units) of domestic currency is called as Indirect Quote.
For instance, 2.0894 $ = 100 Rs. is an indirect quote in India.
For this purpose following relationship should be remembered.

$$\text{Indirect bid rate} = \frac{1}{\text{Direct ask rate}}$$

$$\text{Indirect ask rate} = \frac{1}{\text{Direct bid rate}}$$

e.g. $1.7530, 1.7550/€ is direct quote of € in US.
Indirect quote would be, € 0.5698 - 0.5705/$ as shown below:

$$\text{Indirect bid rate} = \frac{1}{1.7550} = 0.5698$$

$$\text{Indirect ask rate} = \frac{1}{1.7530} = 0.5705$$

18. American Terms (Quotes):
Exchange rate expressed in terms US dollars per unit of another currency then it is called as American quote. In other words if variable currency is USD it is called American Quote.
For instance, $ 0.9980=€ or $ 1.5613=£
19. European Terms (Quotes):
If exchange rates are expressed as number of units of another currency per US$ then it is called as quote in European Terms.
For instance, €1.0121/$ or SFr 1.4500/$

Q. 2. List the factors which influence exchange rates.
Ans. Following are the factors which determine changes in the exchange rate:

1. Import and Export transactions: These transactions on the current account of BOP change the exchange rate. Imports increase more than exports. Current account becomes deficit. Demand increases more than supply of foreign currencies and

exchange rate increases. Current account becomes surplus with more exports and less imports. Therefore, exchange rate decreases.

2. Gross Domestic Product: If there is increasing trend in GDP, surplus goods are exported in the International market. Exports increase more than imports and exchange rate decreases.
3. Inflation: If general price level in the domestic country has consistently increasing trend, prices of exports in the International market increase. Demand for exports decreases. Exports are less than imports and exchange rate increases.
4. Central Bank Intervention: If Central Bank performs open market operations in the FOREX market at regular time interval, there is constant change in the exchange rate in response to purchase and sale operations of the Central Bank.
5. Interest rate: If interest rate in the Money market increases regularly, demand for domestic currency decreases in the money market and demand for foreign currencies increases in the FOREX market. Therefore, exchange rate increases.
6. Marginal propensity to import: It is the proportion of national income allocated by the working population to import of foreign goods. If this propensity increases in the domestic country, demand for imports increase. Therefore, imports increase more than exports and exchange rate increases.

Q. 3. Distinguish between FIXED and FLEXIBLE exchange rate systems

Ans.

	Fixed System	**Flexible System**
1.	Provides for stable exchange rates	Provides for variable exchange rates.
2.	Exchange rates are officially controlled	Exchange rates are market determined
3.	The system promoted trade and investments.	The system promoted transparency in Exchange Rate Determination.
4.	Rates are artificially controlled and hence may not reflect the correct state of the underlying economy.	Market established rates reflect the true state of the economic changes.
5.	Subject to devaluation/revaluation by the monetary authority.	Subject to depreciation/appreciation through market demand/supply forces.
6.	Devaluation/Revaluation is one time effects which cannot be factored into trade negotiations since they are unpredictable.	Depreciation/Appreciation are gradual effects which can be reasonably predicted and hence can be factored into trade negotiations.
7.	It provided for greater control over inflation by the monetary authority.	The monetary authority has lesser control over inflation.
8.	Risk management systems are not needed nor is there a need for derivatives hence cost of operations is lower.	Variability of rates increases risk hence there is a need for risk management systems and use of derivatives for hedging which increases operational cost.
9.	In the long run the system helps to maintain low interest rates and achieve a higher per capita income.	In the long run the system is susceptible to higher interest rates and lower growth in terms of per capita income.

Q. 4. What is Exchange Rate Forecasting?

Ans. Participants in the international markets face problems, in making decisions which are based on future exchange rates. The future exchange rates are required by many companies to hedge against potential losses, arranging short-and long-term funds, performing investment analysis, and to assess earnings of a foreign subsidiary. The quality of decision, in such cases, depends on the accuracy of exchange rate projections. The percentage change between the current and the forecasted exchange rates may be calculated to find out appreciation or depreciation in the currency. A positive percentage change represents currency appreciation whereas a negative percentage change shows depreciation.

The exchange rates may be fixed or floating. Different methods are used to forecast fixed and floating exchange rates.

The floating exchange rates are determined by the market forces of demand and supply. These are not influenced by the government intervention. Fixed exchange rates, on the other hand, are decided by the regulating agencies. The floating exchange rates may be forecast with the help of various methods. Fundamental and technical analyses are commonly used for this purpose. Fundamental analysis studies the relationship between macro economic variables (such as inflation rates, national income growth, and changes in money supply) and exchange rates to forecast the latter. Technical analysis uses past prices and volume movements to project future currency exchange rates.

Q. 5. The forward rate is an accurate predictor of the future spot rate. Do you agree?

Ans. Theoretically, in the efficient market and in the absence of intervention or control in the exchange or financial markets, the forward rate is an accurate predictor of the future spot rate. These requirements are, generally, satisfied if the following three conditions are found:

(1) Interest Rate Parity: According to interest rate parity principle, the forward premium (or discount) on currency of a country vis-a-vis the currency of another country will be exactly offset by the interest rate differential between the countries. The currency of the country with lower interest rate is quoted at a forward premium and vice-versa.

(2) Purchasing Power Parity (PPP): According to the PPP Principle, the currency of a country will depreciate vis-a-vis the currency of another country on the basis of differential in the rates of inflation between them. The rate of depreciation in the currency of a country would roughly be qual to the excess inflation rate in the country over the other country.

(3) International Fisher Effect: The interest rate differential between two countries, according to the Fisher effect, will reflect differences in the inflation rates in them. The high interest country will experience higher inflation rate. However, even if these conditions are satisfied, the future spot rate might not be identical to the forward rate. Random differences between the two rates may be found.

Q. 6. Differentiate between Interest Rate Parity and Purchasing Power Parity

Ans. Interest Rate Parity (IRP) : This theory which states that "the size of the forward premium (or discount) should be equal to the interest rate differential between the two countries of concern". When interest rate parity exists, covered interest arbitrage (means foreign exchange risk is covered) is not feasible, because any interest rate advantage in the foreign country will be offset by the discount on the forward rate.

Purchasing Power Parity (PPP): This theory focuses on the "inflation-exchange rate" relationship.

There are two forms of PPP theory:

- **Absolute Form -** Also called the Law of One Price" suggests that "prices of similar products of two different countries should be equal when measured in a common

currency". If a discrepancy in prices as measured by a common currency exists, the demand should shift so that these prices should converge.

- **Relative Form** - An alternative version that accounts for the possibility of market imperfections such as transportation costs, tariffs, and quotas. It suggests that because of these market imperfections, prices of similar products of different countries will not necessarily be the same when measured in a common currency.

Q. 7. Briefly discuss the various participants in Forex market.

Ans. 1. Authorised Money Changers: In order to provide facilities for encashment of foreign currency to visitors from abroad, especially foreign tourists, Reserve Bank has granted licences to certain established firms, hotels and other organisations permitting them to deal in foreign currency notes, coins and travellers cheques subject to directions issued to them from time to time. Authorized money changers are of two types: Full-fledged money changers and Restricted money changers.

2. Authorised Dealers in Foreign Exchange: Banks and some financial institutions that have been authorized to deal in foreign exchange by the Reserve Bank are known as authorized dealers. An authorized dealer should comply with the directions and instructions of the Reserve Bank given from time to time. These authorized dealers deals in foreign exchange from the customs (importers, exporters and others receiving or making personal remittances).

3. Reserve Bank of India: The Reserve Bank participates in the market to acquire or spend their country's foreign exchange reserves as well as to influence the price at which their own currency is traded. It may act to support the value of rupee because of policies adopted at the national level or because of commitments entered into at international level.

Q. 8. What are the various types of Foreign Exchange Risk exposures?

Ans. A firm dealing with foreign exchange may be exposed to foreign currency exposures. The exposure is the result of possession of assets and liabilities and transactions denominated ii foreign currency. When exchange rate fluctuates, assets, liabilities, revenues, expenses that have been expressed in foreign currency will result in either foreign exchange gain or loss. A firm dealing with foreign exchange may be exposed to the following types of risks:

(i) Transaction Exposure: A firm may have some contractually fixed payments am receipts in foreign currency, such as, impart payables, export receivables, interest payable on foreign currency loans etc. All such items are to be settled in a foreign currency. Unexpected fluctuation m exchange rate will have favourable or adverse impact or its cash flows. Such exposures are termed as transactions exposures.

(ii) Translation Exposure: The translation exposure is also called accounting exposure o balance sheet exposure. It is basically the exposure on the assets and liabilities shown ii the balance sheet and which are not going to be liquidated in the near future. It refers to the probability of loss that the firm may have to face because of decrease in value of assets due to devaluation of a foreign currency despite the fact that There was no foreign exchange transaction during the year.

(iii) Economic Exposure: Economic exposure measures the probability that fluctuations in foreign exchange rate will affect that value of the firm. The intrinsic value of a firm is calculated by disco uniting the expected future cash flows with appropriate discounting rate. The risk involved in economic exposure requires measurement of the effect of fluctuations in exchange rate on different future cash flows.

Q. 9. Differentiate between Ask price and Bid price.

Ans. The Ask Price is the rate at which the foreign exchange dealer asks its customers to pay in local currency in exchange of the foreign currency. In other words, ask price is the selling

rate or the offer rate and refers to the rate at which the foreign currency can be purchased from the dealer. On the other hand, the Bid price is the rate at which the dealer is ready to buy the foreign currency in exchange for the domestic currency. So, the bid price is the rate which the dealer is ready to pay in domestic currency in exchange for the foreign currency and therefore, it is the buying rate.

Q.10. What is the role of Company Secretary as a forex manager?

Ans. Company Secretary as a forex manager

The developments in international trade have resulted in the emergence of a new brand of manager called the forex manager. The forex manager is a category apart from the finance manager or the treasury manager. He has to transact with dealers, brokers and bankers in the foreign exchange market. He has to face special kind of risk. Yet his vocation is full of opportunities and challenges. For effective management of forex transactions, the forex manager is expected to have awareness of historical development of world trade, ability to forecast future trends in exchange movements, have comparative analysis skills, have in depth knowledge of forex market and movement of interest rates,. He should also be able to hedge his position. By virtue of their training and education, a company secretary is competent in dealing with all these situations.

Q.11. Describe various Risk Management Tools

Ans. Techniques for Managing Exposure & Risk

The aim of foreign exchange risk management is to stabilize the cash flows and reduce the uncertainty from financial forecasts. Various techniques for managing the exposure are as follows:

(1) Derivatives: A derivatives transaction is a bilateral contract or payment exchange agreement whose value depends on - derives from - the value of an underlying asset, reference rate or index. Every derivatives transaction is constructed from two simple building blocks that are fundamental to all derivatives: forwards and options. They include:

a) Forwards-based Derivatives: There are three divisions of forwards-based derivatives:

i. The Forward Contract-The simplest form of derivatives is the forward contract. It obliges one party to buy, and the other to sell, a specified quantity of a nominated underlying financial instrument at a specific price, on a specified date in the future.

ii. Swaps-Swaps are infinitely flexible. They are a method of exchanging the underlying economic basis of a debt or asset without affecting the underlying principal obligation on the debt or asset. Swaps can be classified into the following groups: Interest rate; Currency;

iii. Futures Contracts- A basic futures contract is very similar to the forward contract in its obligation and payoff profile. Some important distinctions between futures and forwards and swaps are:

The contract terms of futures are standardized.

All transactions are carried out though the exchange clearing system thus avoiding the other party risk.

b) Options: They offer, in exchange for a premium, the right - but not the obligation - to buy or sell the underlying at the strike price during a period or on a specific date. So the owner of the option can choose not to exercise the option and let it expire.

An option is a contract which has one or other of the two key attributes:

- Call option- It is a contract that gives the buyer the right, but not the obligation, to buy a specified number of units of commodity or a foreign currency from the seller of option at a fixed price on or up to a specific date.
- Put option- It is a contract that gives the buyer the right, but not the obligation, to sell a specified number of units of commodity or a foreign currency to a seller of option at a fixed price on or up to a specific date.

The holder of an American option has the right to exercise the contract at any stage during the period of the option, whereas the holder of a European option can exercise his right only at the end of the period.

(2) Money Market Hedge: A money market hedge involves simultaneous borrowing and lending activities in two different currencies to lock in the home currency value of a future foreign currency cash flow. The simultaneous borrowing and lending activities enable a company to create a homemade forward contract.

(3) Forward Market Hedge: In a forward market hedge, a company that has a long position in a foreign currency will sell the foreign currency forward, whereas a company that has a short position in a foreign currency will buy the foreign currency forward. In this manner, the company can fix the dollar value of future foreign currency cash flow.

(4) Netting: Netting involves associated companies, which trade with each other. The technique is simple. Group companies merely settle inter affiliate indebtedness for the net amount owing. Gross intra-group trade, receivables and payables are netted out.

(5) Matching: Matching is a mechanism whereby a company matches its foreign currency inflows with its foreign currency outflows in respect of amount and approximate timing. Receipts in a particular currency are used to make payments in that currency thereby reducing the need for a group of companies to go through the foreign exchange markets to the unmatched portion of foreign currency cash flows.

(6) Leading and Lagging: Leading means paying an obligation in advance of the due date. Lagging means delaying payment of an obligation beyond its due date. Leading and lagging are foreign exchange management tactics designed to take advantage of expected devaluations and revaluations of currencies.

(7) Price Variation: Price variation involves increasing selling prices to counter the adverse effects of exchange rate change.

(8) Invoicing in Foreign Currency: Sellers usually wish to sell in their own currency or the currency in which they incur cost. This avoids foreign exchange exposure. For the buyer, the ideal currency is usually its own or one that is stable relative to it, or it may be a currency of which the purchaser has reserves.

(9) Asset and Liability Management: Asset and liability management can involve aggressive or defensive postures. In the aggressive attitude, the firm simply increases exposed cash inflows denominated in currencies expected to be strong or increases exposed cash outflows denominated in weak currencies. By contrast, the defensive approach involves matching cash inflows and outflows according to their currency of denomination, irrespective of whether they are in strong or weak currencies.

Q.12. What is netting? What are its advantages?

Ans. It is a technique of optimising cash flow movements with the combined efforts of the subsidiaries thereby reducing administrative and transaction costs resulting from currency conversion. There is a co-ordinated international interchange of materials, finished products and parts among the different units of MNC with many subsidiaries buying /selling from/to each other. Netting helps in minimising the total volume of inter- company fund flow.

Advantages derived from netting system includes:

1) Reduces the number of cross-border transactions between subsidiaries thereby decreasing the overall administrative costs of such cash transfers

2) Reduces the need for foreign exchange conversion and hence decreases transaction costs associated with foreign exchange conversion.
3) Improves cash flow forecasting since net cash transfers are made at the end of each period
4) Gives an accurate report and settles accounts through co-ordinated efforts among all subsidiaries.

Q.13. Write short note on Leading and lagging

Ans. Leading means advancing a payment i.e. making a payment before it is due. Lagging involves postponing a payment i.e. delaying payment beyond its due date.

In forex market Leading and lagging are used for two purposes:-

(a) Hedging foreign exchange risk: A company can lead payments required to be made in a currency that is likely to appreciate. For example, a company has to pay $100000 after one month from today. The company apprehends the USD to appreciate. It can make the payment now. Leading involves a finance cost i.e. one month's interest cost of money used for purchasing $100000.

A company may lag the payment that it needs to make in a currency that it is likely to depreciate, provided the receiving party agrees for this proposition. The receiving party may demand interest for this delay and that would be the cost of lagging. Decision regarding leading and lagging should be made after considering (i) likely movement in exchange rate (ii) interest cost and (iii) discount (if any).

(b) Shifting the liquidity by modifying the credit terms between inter-group entities: For example, A Holding Company sells goods to its 100% Subsidiary. Normal credit term is 90 days. Suppose cost of funds is 12% for Holding and 15% for Subsidiary. In this case the Holding may grant credit for longer period to Subsidiary to get the best advantage for the group as a whole. If cost of funds is 15% for Holding and 12% for Subsidiary, the Subsidiary may lead the payment for the best advantage of the group as a whole. The decision regarding leading and lagging should be taken on the basis of cost of funds to both paying entity and receiving entity. If paying and receiving entities have different home currencies, likely movements in exchange rate should also be considered.

Q.14. What is the relationship between spot rate and forward rate?

Ans. 1. Spot rate is the current exchange rate and is used for immediate delivery of currency whereas forward rate is the currency rate which is determined at present but for delivery at some future determined date/point.
2. Spot rate is thus the rate at which interested buyers/sellers could convert the currency into another at that particular point of time while forward rate is determined for delivery at future date.
3. Spot transaction is for the present time i.e. to be settled between two marking days. On the other hand, forward contract can be for a maximum period of 6 months.

Q.15.Write short note on arbitrage free market.

Ans. (a) The term 'arbitrage* refers to a method wherein profits are booked due to change in exchange rate or difference in exchange rates.
(b) Thus, arbitrage denotes opportunity arising as a result of discrepancies prevalent in market.
(c) Arbitrager buys in one market and sell in another to take benefit of the difference.
(d) Arbitrage may arise on account of: .
- Time Arbitrage
- Space Arbitrage

(e) That form of market in which there exist no arbitrage opportunity is called arbitrage free market.

Q.16. Write short note on Hedge Funds

Ans. Hedge funds: Funds raised in the form of hedge funds are employed for speculative trading.

- Such funds are organised mainly in form of private investment.
- Wide variety of strategies and trading techniques are deployed.
- Short selling and making use of derivative instrument is the characteristic of such funds.
- Investments in the so called hedge funds is mainly done by individuals and enterprises having strong financial base.

Q.17. What are the essentials of Forex management?

Ans. Essential elements of forex management are as follows:

- Forex management is a form of management science which makes use of techniques of management including planning, organising and controlling of forex. .
- Forex management deals with the generation of forex from export of goods and services.
- It also includes in its ambit the deployment of forex reserves which is generally consumed when goods or services are imported by a country.
- Last but not the least, forex management also takes the storage of forex into consideration which is generally done in form of deposits in foreign currency bank accounts like FCNR etc.

Q.18. Write short note on Caps & Collars.

Ans. An interest rate cap is a type of interest rate derivative in which the buyer receives payments at the end of each period in which the interest rate exceeds the agreed strike price. An example of a cap would be an agreement to receive a payment for each month the LIBOR rate exceeds 2.5%.

Similarly an interest rate floor is a derivative contract in which the buyer receives payments at the end of each period in which the interest rate is below the agreed strike price.

Caps and floors can be used to hedge against interest rate fluctuations. For example, a borrower who is paying the LIBOR rate on a loan can protect himself against a rise in rates by buying a cap at 2.5%. If the interest rate exceeds 2.5% in a given period the payment received from the derivative can be used to help make the interest payment for that period, thus the interest payments are effectively "capped" at 2.5% from the borrowers' point of view.

An interest rate collar is the simultaneous purchase of an interest rate cap and sale of an interest rate floor on the same index for the same maturity and notional principal amount.

- The cap rate is set above the floor rate.
- The objective of the buyer of a collar is to protect against rising interest rates (while agreeing to give up some of the benefit from lower interest rates).
- The purchase of the cap protects against rising rates while the sale of the floor generates premium income.
- A collar creates a band within which the buyer's effective interest rate fluctuates

Caps	Collars
Those financial assets which are employed to hedge via reducing the risk in case of rising interest rates while retaining advantage of falling interest rates.	Collars are the mixture/ combination of caps (maximum) and floors (minimum) where as floor is the opposite of cap.

Q.19. Write short note on Capital & Current account of BOP & their convertibility.

Ans. The balance of payments contains two accounts: current and capital. The current account deals with short-term transactions known as actual transactions, as they have a real impact on income, output and employment levels of a country through the movement of goods and services in the economy. It is comprised of visible trade (export and import of goods),invisible trade (export and import of services), unilateral transfers and investment income (income from factors such as land or foreign shares). The resulting balance of the current account is approximated as the sum total of balance of trade.

The capital account is a record of the inflows and outflows of capital that directly affect a country's foreign assets and liabilities. It is concerned with all international trade transactions between citizens of a given country and citizens in other countries. The components of the capital account include foreign investment and loans, banking capital and other forms of capital, as well as monetary movements or changes in foreign exchange reserve. The capital account flow reflects factors such as commercial borrowings, banking, investments, loans and capital.

In economic terms, the current account deals with receipt and payment in cash as well as non-capital items, and the capital account reflects sources and utilization of capital.

Capital & Current account convertibility

Q.20. Foreign Direct Investment & Foreign Portfolio Investment

Ans.

	FDI	**FPI**
Motive	Motive behind FDI is to acquire controlling interest in a foreign entity or set up an entity with controlling interest.	Motive behind FPI is to make (capital) gains from investments. There is no intention to control the entity.
Source	FDI investment comes from MNCs and corporate so as to derive benefit of new market, cheaper resources (labor), efficiency and skills, strategic asset seeking (oil fields)	FPI investment come from investors, mutual funds, portfolio management companies, and corporate with pure motive of investment gains.
Duration	FDI investment is more enduring and has longer time stability.	FPI highly volatile.
Form	FDI generally comes as subsidiary or a joint venture.	FPI comes mainly through stock markets.
Purpose	FDI is made with core thought of business philosophy of diversification, integration, consolidation, expansion and core business formation. Calculation of gains is always prime criteria but never the sole criteria.	FPI's sole criteria and motive is gains on investments.

Q.21. Differentiate Netting & Matching in Forex

Ans. Difference between Netting and Matching in Forex

Netting and Matching are the two important exchange risk and exposures management tools.

Netting. Under this method, all transaction - gross receipts and payments among the parent firm and subsidiaries should be adjusted and only net amounts should be transferred. This technique is called netting. This again involves centralisation of data at the corporate evel, selection of the time period at which netting is to be done and choice of the currency in which netting is to be done. The currency could be the home currency of the firm. Netting reduces costs of remittance of funds and increases control of intra-firm settlements. It also produces savings in the form of lower float (funds in the pipe-line) and lower exchange costs.

Matching as against netting is a process whereby cash inflows in a foreign currency are matched with cash outflows in the same currency with regard, to as far as possible, amount and maturation. Hedging of exchange risk could be done for the unmatched portion. When there are cash inflows in one foreign currency and cash outflows in another foreign currency, the two could still be matched, provided they are positively correlated i.e. expected to move in tandem. There is the risk of exchange rates going off the expectations.

Q.22. What is Pegging of currency?

Ans. Pegging of currency refers to a method of stabilizing a country's currency by fixing its exchange rate to that of another country. Different countries follow different methods for pegging of their currencies. The foreign exchange value is established according to the practice being followed by a country. There are many intermediate arrangements for determination of exchange values. These arrangements are being listed below:

- Domestic currency pegged to one foreign currency .
- A currency pegged to a basket of currencies
- Flexibility limited in terms of a single currency
- Pegged to some indicators
- Managed Float
- Independent float.

Q.23. How tax can be minimised by transfer pricing mechanism?

Ans. Minimising Tax on Cash Flows through Transfer Pricing Mechanism: Large entities having many divisions require goods end services to he transferred frequently from one division u> another. The profits of different divisions are determined by the price to be charged by the transferor division to the transferee division. The higher the transfer price, the larger will be the gross profit of the transferor division with respect to the transferee division. The position gels complicated for MNCs due to exchange restrictions, inflation differentials, import duties, tax rate differentials between two nations, quotas imposed by host country, etc.