Biyani's Think Tank

***Concept based notes***

# Financial Management

*(BBA)*

***Ankita Nyati***

Deptt. of Management

Biyani Institute of Science and Management,



Biyani's
Group of Girls' Colleges

*Published by :*

**Think Tanks**

**Biyani Group of Colleges**



Sector-3, Vidhyadhar Nagar,

Jaipur-302 023 (Rajasthan)

Ph : 0141-2338371, 2338591-95 • Fax : 0141-2338007

E-mail : acad@biyanicolleges.org

Website :www.gurukpo.com; www.biyanicolleges.org

**First Edition : 2012**



*Leaser Type Setted by :*

**Biyani College Printing Department**

# Preface

I am glad to present this book, especially designed to serve the needs of the students. The book has been written keeping in mind the general weakness in understanding the fundamental concepts of the topics. The book is self-explanatory and adopts the “Teach Yourself” style. It is based on question-answer pattern. The language of book is quite easy and understandable based on scientific approach.

Any further improvement in the contents of the book by making corrections, omission and inclusion is keen to be achieved based on suggestions from the readers for which the author shall be obliged.

I acknowledge special thanks to Mr. Rajeev Biyani, *Chairman* & Dr. Sanjay Biyani, *Director* (*Acad.*) Biyani Group of Colleges, who are the backbones and main concept provider and also have been constant source of motivation throughout this Endeavour. They played an active role in coordinating the various stages of this Endeavour and spearheaded the publishing work.

I look forward to receiving valuable suggestions from professors of various educational institutions, other faculty members and students for improvement of the quality of the book. The reader may feel free to send in their comments and suggestions to the under mentioned address.

**Author**

# Syllabus

## Code 205 : Financial Management

**Unit I** **Financial Management :** Meaning, objectives and scope , Organization; Frame Work of financial management, Relationship of finance department with other departments, Role of finance manager.

**Unit II** **Financial Planning :** Meaning, concept, objectives, significance, steps, basic consideration and limitations.

**Unit III** **Cost of Capital :** Concept. Infrastructure, Classification and determination of cost of capital, Factors influencing capital structure.

**Unit IV** Capital Budgeting Techniques.

**Unit V** Working Capital Management, Cash Management, Receivables Management, Inventory Management.

**Recommended Books**


1. Agrawal, M.D. and Agrawal , N.P. - Financial Management (RBD Jaipur)
2. Agrawal, N.P.& Mishra ,B.K..- Business Finance (RBD Jaipur)
3. Vani Latur Kar, Arpita Alvi – Jahanvi Publication Pvt. Ltd. jaipur

# Content

# Unit –1

# Financial Management

**Ques1. What do you understand by financial management? Discuss its role or key areas of finance in brief.**

**Ans.** **Introduction:** Financial management is has emerged as an interesting and exciting area for academic studies as well as for the practical finance managers. Financial management covers all decisions, taken by an individual or a business firm, which have financial implications. In our simple understanding finance perceives as Money. But in actual terms finance is study of money and its flow.

**Meaning:**

The world "Financial Management" is the composition of two words i.e. *'Finance'* and *'Management'*.

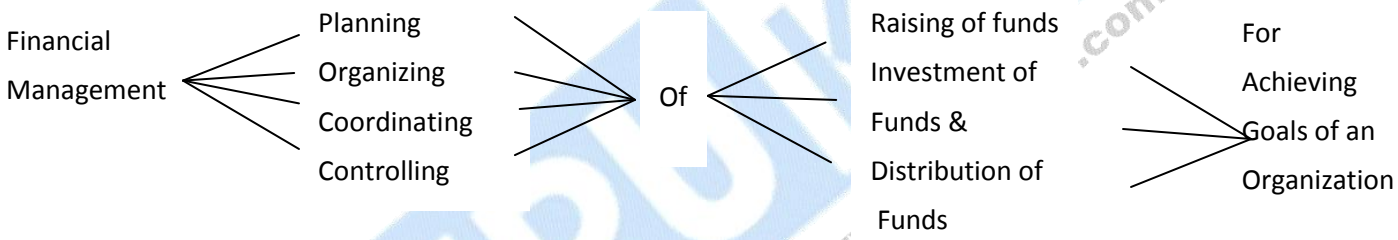
- *Finance* means the science or study of money and its supply. It is the procuring or raising of money supply (funds) and allocating (using) those resources (funds) on the basis of monetary requirements of the business. Finance is called science of money. It is not only act of making money available, but its administration and control so that it could be properly utilized.
- The word *'Management'* means planning, organizing, coordinating and controlling human activities with reference to finance function for achieving goals/objectives of organization. Thus financial management is

defined as the overall administration and management of money and its flow.

**Definition of Financial management:**

***Financial Management means planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise.***

**Diagrammatic Explanation of Financial Management**




**Explanation of the key areas of finance:**

**I – Raising of funds** – Based on the total requirements of capital/funds for use in fixed assets, current assets as well as intangible assets like goodwill, patent, trade mark, brand etc. crucial decision are:

- When to raise (time)
- Sources from which to raise
- How much (quantum of money)
- In which form (debt or equity)
- Cost of raising funds

**II – Investment of funds –** Funds raised need to be allocated/ invested in:

- **Fixed assets –** also known as capital assets or capital budgeting decision. These decisions are based upon cost and return analysis through various techniques
- **Current assets –** also known as working capital management. These are assets for day today running the business like cash, receivables, inventory, short form investments etc. Decision about investment of funds is taken keeping in view two important aspects i.e. Profitability and Liquidity.

**III - Distribution of funds** - Profit earned need to be distributed in the form of dividend. Higher the rates of dividend, higher world are the price of shares in market. Another crucial decision under it would be the quantum of profit to be retained. The retained profit is cost free money to the organization.

**Q.2 What are the key objectives or goals of Financial Management?**

**Or**

**Why wealth maximization /value maximization is considered as better objective instead of profit maximization?**

**Ans** There are two objectives of financial management viz

- *Profit maximization*
- *Share holders wealth maximization*

There are two schools of thought in this regard

1. Traditional and

2. Modern.
   While tradition approach favors profit maximization as key objective, the modern thinker's favors share holders wealth maximization as key objective of financial management. Traditional thinkers believe that profit is appropriate yardstick to measure operational efficiency of an enterprise. They are of the view that a firm should undertake only those activities that increase the profit.

**Aspects of profit maximization:**

**(i)** Profit is an ambiguous concept. Profit can be long term or short term, profit before Tax or after Tax, profit can be operating profit or gross profit etc. The economists concept of profit is different then accountants concept of profit.

**(ii)** Profit motto may lead to exploitation of customers, workers, employees and ignore ethical trade practices.

**(iii)** Profit motive also ignores social considerations or corporate social responsibility or general public welfare.

**(iv)** Profit always goes hand- to hand with risk. The owners of business will not like to earn more and more profit by accepting more risk.

**(v)** The profit maximization was taken as objective when business was self financed and self controlled.

**Contradictory View**: In view of above, modern thinkers consider wealth maximization as key objective of financial management. This is also known as value maximization or net present worth maximizations. This share holder's wealth maximization is evident from increase in the price of shares in the market. They are of the view that wealth maximization is supposed to be superior over profit maximization due to following reasons:

**Aspects of wealth Maximization:**

- This uses the concept of future expected cash flows rather than ambiguous term of profit.
- In takes in to accent time value of money.
- It also takes care of risk factors associated with project as the discount rate used for calculating present value is generally a risk adjusted discount rate.
- It is consistent with the objective of maximizing owner's welfare.

**Conclusion:**

Equity shares of a company are traded in stock market and stock market quotation of a share serves as an index of performance of the company. The wealth of equity share holders in maximized only when market value of equity share of the company is maximized. In this context, the term wealth maximization is redefined as value maximization.

At macro level, a firm has obligation to the society which is fulfilled by maximizing production of goods and services at least cost, thereby maximizing wealth of society.

**Q.3 Discuss in brief the responsibilities of a financial manager in present scenario?**

**Or**

**Explain in brief key functions of a finance manager or chief finance officer of a large size industrial organization.**

**Ans. Financial manager is the one who performs the financial management in the company.** A finance manager of a large organization has a very

crucial responsibility to shoulder as he has to take all decision about raising & utilization of resources have been taken efficiently and at no time resources should remain idle. As the size of organization grows and volume of financial transactions increases, his role and functions assumes greater importance. A financial manager is also known as CFO, i.e. Chief Financial Officer.

The key functions of a financial manger are as follows:

**A) Management functions**

- **Planning** - A CFO has to make financial planning in the form of short term and long term plans and frame policies relating to sources of finance, investment of funds including capital expenditure and distribution of profit.
- **Organizing**- creating and monitoring proper organizational structure of finance looking to the needs of organization.
- **Coordination** – A CFO has to coordinate with all other department so that no department suffers for want of funds.
- **Controlling** – A CFO has to fix/ set standards of performance, compare actual with standards fixed and exercise control on differences. He can apply techniques of budgetary control and for this; he has to develop a system of collecting/ processing/analyzing information.

**B) Functions related to finance:**

- **Financial Planning** – A CFO has to make financial planning in the form of short term and long term plans and frame policies relating to sources of finance, investment of funds including capital expenditure and distribution of profit.
- **Financial forecasting** – Creating and monitoring proper organizational structure of finance looking to the needs of organization.

- **Financial engineering** - A CFO has to keep himself abreast with new techniques of financial analysis and new financial instruments coming in market. In financial engineering, a CFO has to work on finding out solutions to the problem through complex mathematical models and high speed computer solutions.

- **C) Basic Functions**

  **6A's**

  - **Anticipating the needs of funds in the organization**
  - **Acquisition of funds**
  - **Allocation of funds**
  - **Administration of finds**
  - **Analyzing the performance of funds**
  - **Accounting and recording the transactions.**

  **The six A's of Finance can be précised in the following three broad headings:**

- **Anticipating and Acquisition of funds –** A Financial manager has to ensure adequate quantum of funds from right source, right cost, right time, and right form and at minimum cost. He is responsible for acquiring the funds with the best possible and minimum cost.
- **Allocation and Administration of funds –** How much amount of funds are to be invested in current capital as well as in fixed assets (long term assets), this is to be considered by the finance manager while keeping in view liquidity & profitability. He also ensures the administration of finance in different departments.
- **Analyzing the Performance of funds and thereafter managing the accounts. –** The financial manager has to ensure the performance of the

allocation and administration of funds, so as to achieve the objectives of the firm. And finally interpret the results while maintain the records and accounts thereof.

i. **Evaluation of financial performance & reporting –** A CFO has to periodically review financial performance against set standards, take corrective measures as well as report performance to the board & management for facilitating timely decisions pertaining to finance at top level.

ii. **Upkeep of records and other routine functions –** A CFO has to look in to following aspects:

- supervision of cash receipts
- safe custody of valuables & securities
- maintenance of account
- internal audit
- compliance of govt regulations

**D) – Subsidiary functions:**

Besides core functions as above, a CFO has to perform following equally important functions such as:

- **Maintaining liquidity –** Adequate liquidity need to be maintained for paying obligations in time as well as meeting day to day expenses and for this, he has to keep close eyes on cash in-flows, cash out flows. Hence cash budget and cash for-casting becomes his important function.
- **Profitability –** For ensuring adequate profit and maximizing share holders wealth a CFO has to look in to:
  - Profit planning
  - Price fixation of goods & services
  - Cost of funds/capital

- Cost control

- **Risk management –** Preparing strategies for combating risks arising out of
  - Internal &
  - External factors

**E) <u>Other Functions of Modern Age</u>**

- **Achieving corporate goals –** Besides goals of organization goals of different departments have to be achieved to increased market share of company's products.

- **Financial projections / forecasting –** for next 5-10 years consisting of cost & revenues for coming long term period keeping in view companies long term plans.

- **Corporate Governance –** for image building in the eyes of all stake holders of the company, transparency in systems / procedure and adherence of laws as well as rules & regulations.
- **Merger and acquisitions initiative –**
  - Including new product lines
  - Technological tie-up/ collaboration with foreign firms
  - Financial restructuring for increasing profitability
- Tie-up arrangements for greater penetration in new markets in the country & abroad.

**Q.4 What are the major sources of Finance? Throw light on their uses and specifications.**

**Ans**. There are two main sources of financing a project i.e.

- Own funds and
- Loan funds.

The cost of a project depends on the nature of project i.e. a project set up for the first time, expansion project, modernization project, diversification project, take over project joint venture project, merger project etc.

The correct estimation of capital costs and working capital requirements is very necessary otherwise the project face serious problems and ultimately the project may remain incomplete or the project may take more time for want of funds. The capital cost may consists of items like land and site development, building and civil works, plant and machinery, technical knowhow fees, miscellaneous fixed assets, interest, provisions for contingencies etc. Similarly, working capital may consists of items like raw material, work in progress, finished products, debtors/receivables, power, fuel, salary & wages ,taxes, duties, overhead expanses and contingencies.

**Main sources of finance-**

I - **Own funds**

(i) Share capital

- Equity and

- Preference share capital

(ii) Premium on issue of share capital

(iii) Reserves and surplus including retained earnings

(iv) Subsidy received from central/state governments

II - **Loan funds or debt**

(i) Debentures – convertible, non convertible an partly convertible debentures

(ii) Term loans or long term loans from all India level development financing institutions AIDFI's and state level development financing institutions.

(iii) Unsecured loans – Like commercial paper

Deferred credit- receiving goods, plan & machinery from suppliers on credit and payment in installments

**Q5. Explain the scope and significance of financial management in the present day business world.**

**Ans.** The scope and significance of financial management can be discussed from the following angles:

**I – Importance to Organizations**

- **Business organizations –** Financial management is important to all types of business organization i.e. Small size, medium size or a large size organization. As the size grows, financial decisions become more and more complex as the amount involves also is large.

- **Charitable organization / Non-profit organization / Trust –** In all those organizations, finance is a crucial aspect to be managed. A finance manager has to concentrate more on collection of donations/ revenues etc and has to ensure that every rupee spent is justified and is towards achieving Goals of organization.

- **Government / Govt. or public sector undertaking –** In central/ state Govt, finance is a key/ important portfolio generally given to most capable or competent person. Preparation of budget, monitoring capital /revenue receipt and expenditure are key functions to be performed by the person in charge of finance. Similarly, in a Govt or public sector organization, financial controller or Chief finance officer has to play a key role in performing/ taking all three financial decisions i.e. raising of funds, investment of funds and distributing funds.

- **Other organizations-** In all other organizations or even in a family finance is a key areas to be looked in to seriously by a competent person so that things do not go out of gear.

**II – Importance to all Stake holders:-**

- **Share holders –** Share holders are interested in getting optimum dividend and maximizing their wealth which is basic objective of financial management.
- **Investors / creditors –** these stake holders are interested in safety of their funds, timely repayment of the principal amount as well as interest on the same. All these aspect are to be ensured by the person managing funds/ finance.
- **Employees –** They are interested in getting timely payment of their salary/ wages, bonus, incentives and their retirement benefits which are possible only if funds are managed properly and organization is working in profit.
- **Customers –** They are interested in quality products at reasonable rates which is possible only through efficient management of organization including management of funds.

- **Public –** Public at large is interested in general public welfare activities under corporate social responsibility and this aspect is possible only when organization earns adequate profit.
- **Government –** Govt is interested in timely payment of taxes and other revenues from business world where again efficient finance manager has a definite role to play.
- **Management –** Management is interested in overall image building, increase in the market share, optimizing share holders wealth and profit and all these aspect greatly depends upon efficient management of financial resources.

## III – Importance to other departments of an organization.

A large size company has many departments like (besides finance dept.)

- Production Dept.
- Marketing Dept.
- Personnel Dept.
- Material/ Inventory Dept.

All these departments look for availability of adequate funds so that they could manage their individual responsibilities in an efficient manner. Lot of funds are required in production/manufacturing dept for ongoing / completing the production process as well as maintaining adequate stock to make available goods for the marketing dept for sale. Hence, finance department through efficient management of funds has to ensure that adequate funds are made available to all department and these departments at no stage starve for want of funds. Hence, efficient financial management is of utmost importance to all other department of the organization.

# Unit-2

# Financial planning

**Q.1 What does financial planning signifies? Explain the meaning and concept of financial planning for a business. Explain.**

**Ans**: **Introduction**

Financial planning is a growing industry with projected faster than average job growth. Financial managers must be able to analyze the current position of their own firms as well as that of their competition .They must also plan for the company's financial future. The financial manager is responsible for planning to ensure that the firm has enough funds for the needs. A useful tool for planning future cash needs to plan for the continuing profitability. Planning is an inevitable process in any business firm irrespective of its size and nature. So the financial planning encompasses both the business plan as well as analyzes the current as well as future financial position of the firm.

**Meaning of financial planning**

When you want to maximize your existing financial resources by using various financial tools to achieve your financial goals that is financial planning.
Financial Planning is the process of estimating the capital required and determining its competition. It is the process of framing financial policies in relation to procurement, investment and administration of funds of an enterprise.

**The Definition of Financial Planning**

***Financial planning is a systematic approach whereby the financial planner helps the organization to maximize his existing financial resources by utilizing financial tools to achieve his financial goals.***

**Financial planning in mathematical form:**

There are 3 major components:

- Financial Resources (FR)
- Financial Tools (FT)
- Financial Goals (FG)

| **Financial Planning: FR + FT = FG** |
|---|

In other words, financial planning is the process of meeting your life goals through proper management of your finances. Life goals can include buying a home, saving for your children's education or planning for retirement. It is a process that consists of specific steps that help you to take a big-picture look at where you are financially. Using these steps you can work out where you are now, what you may need in the future and what you must do to reach your goals.

**Who is a Financial Planner?**

A financial planner is someone who uses the financial planning process to help you figure out how to meet your life goals. The planner can take a `big picture` view of your financial situation and make financial planning recommendations that are right for you. The planner can look at all of your needs including budgeting and saving, taxes, investments, insurance and retirement planning.

A **financial planner** or **personal financial planner** is a practicing professional who prepares financial planning for people covering various aspects of personal finance which includes: cash flow management, education planning, retirement planning, investment planning, risk

management and insurance planning, tax planning, estate planning and business succession planning (for business owners). One of the key objectives with which a financial planner works is to provide inflation and risk adjusted returns for its clients

Financial planners are also known by the title financial adviser in some countries, although these two terms are technically not synonymous, and their roles have some functional differences.

When you have a professional relationship with a planner that does not mean that he replaces other professionals such as lawyers or accountants. A planner is a coordinator who works with others in making the planning process work.

**Financial planner's job function**

A financial planner specializes in the planning aspects of finance, in particular personal finance, as contrasted with a stock broker who is generally concerned with the investments, or with a life insurance intermediary who advises on risk products.

**Q.2. What are the steps and the basic consideration followed in financial planning process. Explain.**

Ans. Financial planning is usually a multi-step process, and involves considering the client's situation from all relevant angles to produce integrated solutions. The six-step financial planning process has been adopted.

- ✓ ***Determine Current Financial Situation***
- ✓ ***Develop your financial goals***
- ✓ ***Identify alternative courses of action***
- ✓ ***Evaluate alternatives on various considerations***
- ✓ ***Identify alternative courses of action***
- ✓ ***Create and implement your financial action plan***
- ✓ ***Review and Revise the financial plan***

**Financial planning for the client's perspective:**

**Step 1: Setting goals with the client** This step (that is usually performed in conjunction with Step 2) is meant to identify where the client wants to go in terms of his finances and life.

**Step 2: Gathering relevant information on the client** This would include the qualitative and quantitative aspects of the client's financial and relevant non-financial situation.

**Step 3: Analyzing the information** The information gathered is analysed so that the client's situation is properly understood. This includes determining whether there are sufficient resources to reach the client's goals and what those resources are.

**Step 4: Constructing a financial plan** Based on the understanding of what the client wants in the future and his current financial status, a roadmap to the client goals is drawn to facilitate the achievements of those goals.

**Step 5: Implementing the strategies in the plan** Guided by the financial plan, the strategies outlined in the plan are implemented using the resources allocated for the purpose.

**Step 6: Monitoring implementation and reviewing the plan** The implementation process is closely monitored to ensure it stays in alignment to the client's goals. Periodic reviews are undertaken to check for misalignment and changes in the client's situation. If there is any significant change to the client's situation, the strategies and goals in the financial plan are revised accordingly.

**Considerations**

Personal financial planning is broadly defined as "a process of determining an individual's financial goals, purposes in life and life's priorities, and after considering his resources, risk profile and current lifestyle, to detail a balanced and realistic plan to meet those goals." The individual's goals are used as guideposts to map a course of action on 'what needs to be done' to reach those goals.

Alongside the data gathering exercise, the purpose of each goal is determined to ensure that the goal is meaningful in the context of the individual's situation. Through a process of careful analysis, these goals are subjected to a reality check by considering the individual's current and future resources available to achieve them. In the process, the constraints and obstacles to these goals are noted. The information will be used later to determine if there are sufficient resources available to get to these goals, and what other things need to be considered in the process. If the resources are insufficient or absent to meet any of the goals, the particular goal will be adjusted to a more realistic level or will be replaced with a new goal.

Planning often requires consideration of self-constraints in postponing some enjoyment today for the sake of the future. To be effective, the plan should consider the individual's current lifestyle so that the 'pain' in postponing current pleasures is bearable over the term of the plan. In times where current sacrifices are involved, the plan should help ensure that the pursuit of the goal will continue. A plan should consider the importance of each goal and should prioritize each goal. Many financial plans fail because these practical points were not sufficiently considered.

In Short, the scope of planning would usually consider the following:

- ✓ Risk Management and Insurance Planning
  - o Managing cash flow risks through sound risk management and insurance techniques
- ✓ Investment and Planning Issues
  - o Planning, creating and managing capital accumulation to generate future capital and cash flows for reinvestment and spending
- ✓ Retirement Planning
  - o Planning to ensure financial independence at retirement including 401Ks, IRAs etc.
- ✓ Tax Planning
  - o Planning for the reduction of tax liabilities and the freeing-up of cash flows for other purposes
- ✓ Estate Planning

- Planning for the creation, accumulation, conservation and distribution of assets
- ✓ Cash Flow and Liability Management
- Maintaining and enhancing personal cash flows through debt and lifestyle management
- ✓ Relationship Management
- Moving beyond pure product selling to understand and service the core needs of the client.

**Q.3. What is the objective and importance of financial planning?**

**Ans. Objectives :**

People enlist the help of a financial planner because of the complexity of performing the following:

- Providing financial security and ensuring that all goals of personal finance are met
- Finding direction and meaning in one's financial decisions;
- Understanding how each financial decision affects other areas of finance; and
- Adapting to life changes to feel more financially secure.

The best results of working with a comprehensive financial planner, from an individual client or family's perspective are:

- To create the greatest probability that all financial goals (anything requiring both money and planning to achieve) are accomplished by the target date, and
- To have a frequently-updated sensible plan that is proactive enough to accommodate any major unexpected financial event that could negatively affect the plan, and
- To make intelligent financial choices along the way (whether to "buy or lease" whether to "refinance or pay-off" etc.).

Before working with a comprehensive financial planner, a client should establish that the planner is competent and worthy of trust, and will act in the client's interests rather than being primarily interested in selling the

client financial products for his own benefit. As the relationship unfolds, an individual financial planning client's objective in working with a comprehensive financial planner is to clearly understand what needs to be done to implement the financial plan created for them. So, in many ways, a financial planner's step-by-step written implementation plan of action items, created after the plan is completed, has more value to many clients than the plan itself. The comprehensive written lifetime financial plan is a technical document utilized by the financial planner, the written implementation plan of action is just a few pages of action items required to implement the plan; a much more "usable" document to the client.

*Financial Planning has got many objectives in reference with the procedural steps to to look forward to.These are listed as following:*

a. Determining capital requirements- This will depend upon factors like cost of current and fixed assets, promotional expenses and long- range planning. Capital requirements have to be looked with both aspects: short- term and long- term requirements.
b. Determining capital structure- The capital structure is the composition of capital, i.e., the relative kind and proportion of capital required in the business. This includes decisions of debt- equity ratio- both short-term and long- term.
c. Framing financial policies with regards to cash control, lending, borrowings, etc.
d. A finance manager ensures that the scarce financial resources are maximally utilized in the best possible manner at least cost in order to get maximum returns on investment.

***Importance of Financial Planning***

Financial Planning is process of framing objectives, policies, procedures, programmes and budgets regarding the financial activities of a concern. This ensures effective and adequate financial and investment policies. The importance can be outlined as-

1. Adequate funds have to be ensured.

2. Financial Planning helps in ensuring a reasonable balance between outflow and inflow of funds so that stability is maintained.
3. Financial Planning ensures that the suppliers of funds are easily investing in companies which exercise financial planning.
4. Financial Planning helps in making growth and expansion programmes which helps in long-run survival of the company.
5. Financial Planning reduces uncertainties with regards to changing market trends which can be faced easily through enough funds.
6. Financial Planning helps in reducing the uncertainties which can be a hindrance to growth of the company. This helps in ensuring stability an d profitability in concern.

***Financial Planning should achieve the following*:**

**Income:** To manage income more efficiently. The cash and need analysis and income expenditure budgeting will show the best way possible in managing income. Regardless of the amount of income earned, part of the earning will go for tax payment, expenditure and what's left would be the saving. Thus, proper management of income is necessary in increasing cash flow.

**Cash flow** : To increase cash flow and monitor spending habits and expenses. Financial planning will help in determining what should be done to generate cash flow in order to make investing possible. Tax planning, careful budgeting and prudent spending are aspects that need to be paid attention to in generating cash flow. This will help as part of the cash can be preserved for long term use.

**Capital**: To build a long term capital-base and shape your financial future. Once there is an increase in cash flow, it means an increase in capital base too. This allows one to be able to venture into various portfolio investment. With a strong capital base, one can have a wider portfolio of investment.

**Investment**: To identify investment opportunities relevant to your financial situation. Financial planning can help in evaluating the best investment opportunities. A good investment planning can turn goals from dreams into realities. Apart from picking the `right` investment, it shows how to allocate money among different type of investment. This can have a greater effect on investment success.

**Family security**: To provide for your family's financial security with proper coverage through right kind of policies. The good old days when a worker retired with a nice pension seem to be gone now. Today, one need to take charge and plan for the family's future security. How much income should one plan in needing for the family's financial security? In doing these projections, inflation effects must be considered too. This is where financial planning can be of help.

**Financial understanding**: To get a whole new approach to budgeting and gain control over your financial lifestyle. One can evaluate the level of risk in an investment portfolio or adjust a retirement plan due to changing family circumstances for example. It becomes obvious that financial understanding has been attained when measurable financial goals are set, the effect of each financial decision is understood, the financial situation is periodically evaluated, financial planning is done as soon as possible with realistic expectations and ultimately when one realizes that only he or she is fully in charge of it.

**Standard of living**: To maintain your family's present standard of living by maximizing the household insurance portfolio. One can create a personal and family financial plan so that there are clearly defined goals or targets and there is enough savings to get there. For example, one can make sure that there is enough disability coverage to replace any lost income. This can ensure that the family remains financially secure if the head of the family or the bread winner dies. Thus, the family's standard of living doesn't suffer and is maintained.

**Savings**: It used to be called saving for a rainy day. But sudden financial changes can still throw one off the track. An emergency fund for example might be be ideal. It has to be always very liquid. It means that it should be very easy to convert that fund into cash. Savings bank or money market accounts are examples of investment with high liquidity. This way, a systematic and organized saving and investment plan can be provided to fund children's education and secure a comfortable retirement and on top of that, be ready for any unexpected occurrences.

**Assets**: To insure assets accumulation and liability cancellation to leave the maximum amount of wealth to your heirs. In the process of accumulating assets, many fail to realize that it usually comes with a liability package. In order to determine the true worth of any asset, the liabilities need to be settled, or

cancelled. Only then, the true value of the assets would be of use and help for the heirs. Otherwise, assets can easily mean unwanted or unexpected financial burden.

**Financial security and mastery**: To assist you and your family to attain the ultimate objective of financial security and mastery. Financial planning will provide directions and meaning to one's financial decisions. It allows an understanding of how financial decisions made can affect other areas of finances. By viewing each financial decision as part of a whole, the short and the long term effects on one's life goals can be considered. This will help in adapting more easily to life changes and feel more secure financially, knowing that financial mastery has been achieved.

# Unit-3

# Cost of capital

**Q. 1 Explain the meaning and concept of Cost of capital.**

**Ans. Introduction:**

Every profit seeking corporations has its own risk return characteristics .Each group of investors in the corporation-bond holders ,preferred stock holders ,and common stock holders –requires a minimum rate if return commensurate with the risks it accepts by investing in the firm. The minimum rate of return that the corporation must earn in order to satisfy the overall rate of return required by its investors is called the corporation's cost of capital.

The **cost of capital** is a term used in the field of financial investment to refer to the cost of a company's funds (both debt and equity), or, from an investor's point of view "the shareholder's required return on a portfolio of all the company's existing securities". It is used to evaluate new projects of a company as it is the minimum return that investors expect for providing capital to the company, thus setting a benchmark that a new project has to meet.



**Definition of 'Cost Of Capital'**

***The required return necessary to make a capital budgeting project, such as building a new factory, worthwhile. Cost of capital includes the cost of debt and the cost of equity.***

**Q.2. What do you understand from Capital Structure? Discuss its relevance in the performance of the firm.**

**Ans. Introduction:** In finance, **capital structure** refers to the way a corporation finances its assets through some combination of equity, debt, or hybrid securities. A firm's capital structure is then the composition or 'structure' of its liabilities. For example, a firm that sells Rs.20 billion in equity and Rs.80 billion in debt is said to be 20% equity-financed and 80% debt-financed.

**Capital Structure defined as**

- The term capital structure is used to represent the proportionate relationship between debt and equity.
- The various means of financing represent the financial structure of an enterprise. The left-hand side of the balance sheet (liabilities plus equity) represents the financial structure of a company. Traditionally, short-term borrowings are excluded from the list of methods of financing the firm's capital expenditure.

**Questions while Making the Financing Decision**

- How should the investment project be financed?
- Does the way in which the investment projects are financed matter?
- How does financing affect the shareholders' risk, return and value?
- Does there exist an optimum financing mix in terms of the maximum value to the firm's shareholders?
- Can the optimum financing mix be determined in practice for a company?
- What factors in practice should a company consider in designing its financing policy?

**Features of an Appropriate Capital Structure**

- Capital structure is that capital structure at that level of debt – equity proportion where the market value per share is maximum and the cost of capital is minimum.
- Appropriate capital structure should have the following features
- Profitability / Return
- Solvency / Risk
- Flexibility
- Conservation / Capacity
- Control

**Determinants of Capital Structure**

- Seasonal Variations
- Tax benefit of Debt
- Flexibility
- Control
- Industry Leverage Ratios
- Agency Costs
- Industry Life Cycle
- Degree of Competition
- Company Characteristics
- Requirements of Investors
- Timing of Public Issue
- Legal Requirements

**Patterns / Forms of Capital Structure**

- Following are the forms of capital structure:
- Complete equity share capital;
- Different proportions of equity and preference share capital;
- Different proportions of equity and debenture (debt) capital and
- Different proportions of equity, preference and debenture (debt) capital.

**Features of an Appropriate Capital Structure**

- Profitability
- Solvency
- Return
- Risk
- Flexibility
- Capacity
- Control
- Conservatism

**An illustrative example: Problem on Capital structure**

Aks and company is now capitalized with Rs. 50,00,000 consisting of 10,000 ordinary shares of Rs. 500 each. Additional finance of Rs. 50,00,000 is required for a major expansion programme launched by the company. Four possible financing planes are under consideration. These are:

- Entirely through additional share capital, issuing 10,000 shares of Rs. 500 each.
- Rs. 25 lakhs through ordinary shares and Rs. 25lakhs through 12% debt.
- Entirely through 13% debt.
- Rs. 25 lakhs through equity and Rs. 25lakhs through 10% preference shares of Rs. 500 each.
- The company's EBIT presently is Rs. 6lakhs. By virtue of the increase in capitalization, the EBIT is expected to double the present level.
- Examine the impact of financial leverage of these four plans and calculate the EPS for the shareholders, assuming the tax rate to be 50%.

*Another example:*

- A company needs Rs. 12, 00,000 for the installation of a new factory, which would yield an annual EBIT of Rs. 200,000. The company has the objective of maximizing the EPS. It is considering the possibility of issuing equity shares plus raising a debt of Rs. 200,000, Rs. 600,000 or Rs. 10, 00,000. The current market price per share is Rs. 40 which is expected to drop to Rs. 25 per share if the market borrowings were to exceed t 750,000.
- Cost of borrowings are indicated as under:
- Up to Rs. 250,000 10%p.a
- Between Rs. 250,001 and Rs. 625000 14%p.a
- Between Rs. 625,001 and Rs. 10,00,000 16%p.a
- Assuming tax rate to be 50% work out EPS in each case and suggest the best option.

**Q.3. What are the theories given under Capital structure approaches? Explain.**

**Ans: The theories given under Capital Structure approach are :**

- **Net operating income (NOI) approach.**
- **Traditional approach and Net income (NI) approach.**
- **MM hypothesis with and without corporate tax.**
- **Miller's hypothesis with corporate and personal taxes.**
- **Trade-off theory: costs and benefits of leverage**.

**Assumption of Capital Structure Theories**

- There are only two sources of funds i.e.: debt and equity.
- The total assets of the company are given and do no change.
- The total financing remains constant. The firm can change the degree of leverage either by selling the shares and retiring debt or by issuing debt and redeeming equity.
- Operating profits (EBIT) are not expected to grow.

- All the investors are assumed to have the same expectation about the future profits.
- Business risk is constant over time and assumed to be independent of its capital structure and financial risk.
- Corporate tax does not exist.
- The company has infinite life.
- Dividend payout ratio = 100%.

**Net Income (NI) Approach**

- According to NI approach both the cost of debt and the cost of equity are independent of the capital structure; they remain constant regardless of how much debt the firm uses. As a result, the overall cost of capital declines and the firm value increases with debt.
- This approach has no basis in reality; the optimum capital structure would be 100 per cent debt financing under NI approach.

**Net Operating Income (NOI) Approach**

- According to NOI approach the value of the firm and the weighted average cost of capital are independent of the firm's capital structure.
- In the absence of taxes, an individual holding all the debt and equity securities will receive the same cash flows regardless of the capital structure and therefore, value of the company is the same.

**MM Approach without Tax:**

MM's Proposition I

- MM's Proposition I states that the firm's value is independent of its capital structure. With personal leverage, shareholders can receive exactly the same return, with the same risk, from a levered firm and an unlevered firm. Thus, they will sell shares of the over-priced firm and buy shares of the under-priced firm until the two values equate. This is called arbitrage.

### MM's Proposition II

- The cost of equity for a levered firm equals the constant overall cost of capital plus a risk premium that equals the spread between the overall cost of capital and the cost of debt multiplied by the firm's debt-equity ratio. For financial leverage to be irrelevant, the overall cost of capital must remain constant, regardless of the amount of debt employed. This implies that the cost of equity must rise as financial risk increases.

### MM Hypothesis with Corporate Tax

- Under current laws in most countries, debt has an important advantage over equity: interest payments on debt are tax deductible, whereas dividend payments and retained earnings are not. Investors in a levered firm receive in the aggregate the unlevered cash flow plus an amount equal to the tax deduction on interest. Capitalizing the first component of cash flow at the all-equity rate and the second at the cost of debt shows that the value of the levered firm is equal to the value of the unlevered firm plus the interest tax shield which is tax rate times the debt (if the shield is fully usable).
- It is assumed that the firm will borrow the same amount of debt in perpetuity and will always be able to use the tax shield. Also, it ignores bankruptcy and agency costs.

### MM Hypothesis: Behavioral Explanation of NOI Approach

The Modigliani-Miller theorem, proposed by Franco Modigliani and Merton Miller, forms the basis for modern thinking on capital structure, though it is generally viewed as a purely theoretical result since it assumes away many important factors in the capital structure decision. The theorem states that, in a perfect market, how a firm is financed is irrelevant to its value. This result provides the base with which to examine real world reasons why capital structure *is* relevant, that is, a company's

value is affected by the capital structure it employs. These other reasons include bankruptcy costs, agency costs, taxes, information asymmetry, to name some. This analysis can then be extended to look at whether there is in fact an optimal capital structure: the one which maximizes the value of the firm.

**Capital structure in a perfect market**

Modigliani-Miller theorem

Assume a perfect capital market (no transaction or bankruptcy costs; perfect information); firms and individuals can borrow at the same interest rate; no taxes; and investment decisions aren't affected by financing decisions. Modigliani and Miller made two findings under these conditions. Their first 'proposition' was that the value of a company is independent of its capital structure. Their second 'proposition' stated that the cost of equity for a leveraged firm is equal to the cost of equity for an unleveraged firm, plus an added premium for financial risk. That is, as leverage increases, while the burden of individual risks is shifted between different investor classes, total risk is conserved and hence no extra value created.

Their analysis was extended to include the effect of taxes and risky debt. Under a classical tax system, the tax deductibility of interest makes debt financing valuable; that is, the cost of capital decreases as the proportion of debt in the capital structure increases. The optimal structure then would be to have virtually no equity at all.

**Capital structure in the real world**

If capital structure is irrelevant in a perfect market, then imperfections which exist in the real world must be the cause of its relevance. The theories below try to address some of these imperfections, by relaxing assumptions made in the M&M model. The firm's ratio of debt to total financing, 80% in this example is referred to as the firm's leverage. In reality, capital structure may be highly complex and include tens of sources. Gearing Ratio is the proportion of the capital employed of the

firm which come from outside of the business finance, e.g. by taking a short term loan etc.

**Q.4 How one can Classify the Cost of Capital. Also explain the methods of determining different cost of capital.**

**Ans. Classification of the cost of capital are as under:**

**Cost of debt**

The cost of debt is computed by taking the rate on a risk free bond whose duration matches the term structure of the corporate debt, then adding a default premium. This default premium will rise as the amount of debt increases (since, all other things being equal, the risk rises as the amount of debt rises). Since in most cases debt expense is a deductible expense, the cost of debt is computed as an after tax cost to make it comparable with the cost of equity (earnings are after-tax as well). Thus, for profitable firms, debt is discounted by the tax rate. The formula can be written as **(Rf + credit risk rate) (1-T)**, where T is the corporate tax rate and Rf is the risk free rate.

The yield to maturity can be used as an approximation of the cost of debt.

**Cost of equity**

Cost of equity = Risk free rate of return + Premium expected for risk
Cost of equity = Risk free rate of return + Beta x (market rate of return-risk free rate of return) where Beta= sensitivity to movements in the relevant market

$$E_s = R_f + \beta_s(R_m - R_f).$$

Where:

$E_s$ The expected return for a security

$R_f$ The expected risk-free return in that market (government bond yield)

$\beta_s$ The sensitivity to market risk for the security

$R_M$ The historical return of the stock market/ equity market

$(R_M\text{-}R_f)$ The risk premium of market assets over risk free assets.

The risk free rate is taken from the lowest yielding bonds in the particular market, such as government bonds.

**Expected return**

The expected return (or required rate of return for investors) can be calculated with the "dividend capitalization model", which is

$$K_{cs} = \frac{Dividend_{Payment/Share}}{Price_{Market}} + Growth_{rate}.$$

**Cost of retained earnings/cost of internal equity**

Note that retained earnings are a component of equity, and therefore the cost of retained earnings (internal equity) is equal to the cost of equity as explained above. Dividends (earnings that are paid to investors and not retained) are a component of the return on capital to equity holders, and influence the cost of capital through that mechanism.

**Weighted average cost of capital**

The Weighted Average Cost of Capital (WACC) is used in finance to measure a firm's cost of capital.

The total capital for a firm is the value of its equity (for a firm without outstanding warrants and options, this is the same as the company's market capitalization) plus the cost of its debt (the cost of debt should be continually updated as the cost of debt changes as a result of interest rate changes). Notice that the "equity" in the debt to equity ratio is the market value of all equity, not the shareholders' equity on the balance sheet. To

calculate the firm's weighted cost of capital, we must first calculate the costs of the individual financing sources: Cost of Debt, Cost of Preference Capital and Cost of Equity Cap...

Calculation of WACC is an iterative procedure which requires estimation of the fair market value of equity capital.

**Summary**

For an investment to be worthwhile, the expected return on capital must be greater than the cost of capital. The cost of capital is the rate of return that capital could be expected to earn in an alternative investment of equivalent risk. If a reject is of similar risk to a company's average business activities it is reasonable to use the company's average cost of capital as a basis for the evaluation. A company's securities typically include both debt and equity; one must therefore calculate both the cost of debt and the cost of equity to determine a company's cost of capital. However, a rate of return larger than the cost of capital is usually required.

# Unit-4

# Capital Budgeting

**Q.1 What do you understand by the term Capital budgeting? Explain its concept.**

**Ans. Introduction:**

A firm incurs two types of expenses i.e.

**Revenue expenditure** – The benefits of which are supposed to be exhausted within the year concerned and their planning and control is done through various functional departments

**Capital expenditure** – The benefits of which are expected to be received over long period a series of years in future like building, plant, machinery or to undertake a program on

- Research and development of a product
- Diversification in to a new product line
- Replacement of a machine
- Expansion in production capacity
- Promotional campaign

Capital expenditure involves investment of substantial funds for longer period and the benefits of such investment are in the form of increasing revenues or decreasing costs. Wrong decision under this head may effect future earnings, employment capacity, quantity and quality of production. Hence, long term planning and right decision to incur or not to incur such expenditure is a crucial responsibility of management.

The techniques used by management to carry out this responsibility is known as capital budgeting. Hence planning and control of capital expenditure is termed as capital budgeting.

**Definitions:**

According to Milton "*Capital budgeting involves planning of expenditure for assets and return from them which will be realized in future time period".*

According to I.M pandey "*Capital budgeting refers to the total process of generating, evaluating, selecting, and follow up of capital expenditure alternative"*

**Nature / Features of Capital budgeting decisions**

(1) **Long term effect** - such decisions have long term effect on future profitability and influence pace of firms growth. A good decision may bring amazing/good returns and wrong decision may endanger very survival of firm. Hence capital budgeting decisions determine future destiny of firm.

(2) **High degree of risk** - decision is based on estimated return. Changes in taste, fashion, research and technological advancement leads to greater risk in such decisions.

(3) **Huge funds –** large amount/funds are required and sparing huge funds is problem and hence decision to be taken after proper care/analysis

(4) **Irreversible decision –** Reverting back from a decision is very difficult as sale of high value asset would be a problem.

(5) **Most difficult decision –** decision is based on future estimates/uncertainty. Future events are affected by economic, political and technological changes taking place.

(6) **Impact on firms future competitive strengths** – These decisions determine future profit/ cost and hence affect the competitive strengths of firm.

(7) **Impact on cost structure** – Due to this vital decision, firm commits itself to fixed costs such as supervision, insurance, rent, interest etc. If investment does not generate anticipated profit, future profitability would be affected.

**Q.2 Discuss the objectives of using Capital budgeting techniques and the factors affecting the decision making.**

**Ans. Objectives of capital Budgeting**

(1) **Share holder's wealth maximization**. In tune with objectives of financial management, its aim is selecting those projects that maximize shareholders wealth. The decision should avoid over/under investment in fixed assets.

(2) **Evaluation of proposed capital expenditure** – Capital budgeting helps in evaluating expenditure to be incurred on various assets to measure validity of each expenditure

(3) **Controlling costs** - by evaluating expenditure costs can be controlled.

(4) **Determining priority** – arranging projects in order of their profitability enabling the management to select most profitable project.

**Factors affecting capital Budgeting Decisions (CBD)**

(1) **Technological changes** – Before taking CBD, management will have to undertake in-depth study of cost of new product

/equipment as well productive efficiencies of new as well as old equipment.

(2) **Demand forecast –** Analysis of demand for a long period will have to be undertaken before CBD.

(3) **Competitive strategy –** If a competitor is going for new machinery /equipment of high capacity and cost effective, we may have to follow that.

(4) **Type of management –** If management is innovative, firm may go for new equipments/ investment as compared to conservative management.

(5) **Cash flow –** cash flow statement or cash budget helps a firm in identifying time when a firm can make investment in CBD.

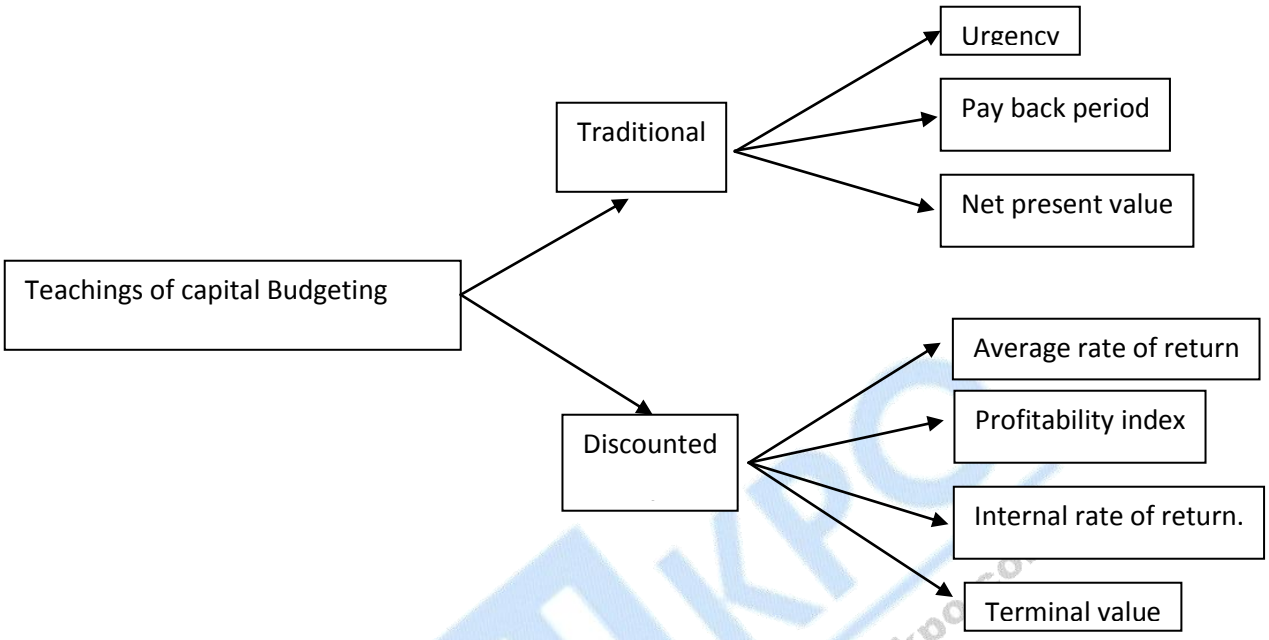
(6) **Other factors**- Like fiscal policy (tax concessions, rebate on investments) political salability, global situation etc.

**Q.3. What are the various methods used in Capital Budgeting? What are its merits and Demerits?**

**Or**

**How capital budgeting is helpful in making investments decisions. Explain.**

**Ans**




Capital budgeting decision may be thought of as a cost-benefit analysis. We are asking a very simple question: "If I purchase this fixed asset, will the benefits to the company be greater than the cost of the asset?" In essence, we are placing the cash inflows and outflows on a scale (similar to the one above) to see which is greater.

A complicating factor is that the inflows and outflows may not be comparable: cash outflows (costs) are typically concentrated at the time of the purchase, while cash inflows (benefits) may be spread over many years. The *time value of money* principle states that dollars today are not the same as dollars in the future (because we would all prefer possessing dollars today to receiving the same amount of dollars in the future). Therefore, before we can place the costs and benefits on the scale, we must make sure that they are comparable. We do this by taking the present value of each, which restates all of the cash flows into "today's dollars." Once all of the cash flows are on a comparable basis, they may be placed onto the scale to see if the benefits exceed the costs.

**The Major Capital Budgeting Techniques**

A variety of measures have evolved over time to analyze capital budgeting requests. The better methods use *time value of money* concepts. Older methods, like the payback period, have the deficiency of not using time value techniques and will eventually fall by the wayside and be replaced in companies by the newer, superior methods of evaluation.

**1. Payback Period**

It **is the length of time that it takes to recover your investment.**

For example, to recover $30,000 at the rate of $10,000 per year would take 3.0 years. Companies that use this method will set some arbitrary payback period for all capital budgeting projects, such as a rule that only projects with a payback period of 2.5 years or less will be accepted. (At a payback period of 3 years in the example above, that project would be rejected.)

The payback period method is decreasing in use every year and doesn't deserve extensive coverage here.

**2. Profitability index** (PI), also known as **profit investment ratio** (PIR) and **value** investment **ratio** (VIR), is the ratio of payoff to investment of a proposed project. It is a useful tool for ranking projects because it allows you to quantify the amount of value created per unit of investment.

The ratio is calculated as follows:

Assuming that the cash flow calculated does not include the investment made in the project, a profitability index of 1 indicates breakeven. Any value lower than one would indicate that the project's PV is less than the initial investment. As the value of the profitability index increases, so does the financial attractiveness of the proposed project.

Rules for selection or rejection of a project:

- If PI > 1 then accept the project
- If PI < 1 then reject the project

**3. Accounting rate of return**, also known as the **Average rate of return**

**ARR** is a financial ratio used in capital budgeting. The ratio does not take into account the concept of time value of money. ARR calculates the return, generated from net income of the proposed capital investment. The ARR is a percentage return. Say, if ARR = 7%, then it means that the project is expected to earn seven cents out of each dollar invested. If the ARR is equal to or greater than the required rate of return, the project is acceptable. If it is less than the desired rate, it should be rejected. When comparing investments, the higher the ARR, the more attractive the investment. Over one-half of large firms calculate ARR when appraising projects.

**ARR=Profit / Investment**

**3. Net Present Value**

Using a minimum rate of return known as the hurdle rate, the *net present value* of an investment is the *present value of the cash inflows* minus the *present value of the cash outflows.* A more common way of expressing this is to say that the net present value (NPV) is the present value of the benefits (PVB) minus the present value of the costs (PVC)

NPV = PVB - PVC

By using the hurdle rate as the discount rate, we are conducting a test to see if the project is expected to earn our minimum desired rate of return. Here are our decision rules:

| If the NPV is: | Benefits vs. Costs | Should we expect to earn at least our minimum rate of return? | Accept the investment? |
|---|---|---|---|
| Positive | Benefits > Costs | Yes, more than | Accept |
| Zero | Benefits = Costs | Exactly equal to | Indifferent |
| Negative | Benefits < Costs | No, less than | Reject |

Remember that we said above that the purpose of the capital budgeting analysis is to see if the project's benefits are large enough to repay the company for (1) the asset's cost, (2) the cost of financing the project, and (3) a rate of return that adequately compensates the company for the risk found in the cash flow estimates.

Therefore, if the NPV is:

- Positive, the benefits are more than large enough to repay the company for (1) the asset's cost, (2) the cost of financing the project, and (3) a rate of return that adequately compensates the company for the risk found in the cash flow estimates.

- Zero, the benefits are barely enough to cover all three but you are at breakeven - no profit and no loss, and therefore you would be indifferent about accepting the project.
- Negative, the benefits are not large enough to cover all three, and therefore the project should be rejected.

**4. Internal Rate of Return**

The *Internal Rate of Return (IRR)* is the rate of return that an investor can expect to earn on the investment. Technically, it is the discount rate that causes the present value of the benefits to equal the present value of the costs. According to surveys of businesses, the IRR method is actually the most commonly used method for evaluating capital budgeting proposals. This is probably because the IRR is a very easy number to understand because it can be compared easily to the expected return on other types of investments (savings accounts, bonds, etc.). If the internal rate of return is greater than the project's minimum rate of return, we would tend to accept the project.

The calculation of the IRR, however, cannot be determined using a formula; it must be determined using a trial-and-error technique. This process is explained in the following link.

**5. Modified Internal Rate of Return**

The *Modified Internal Rate of Return (MIRR)* is an attempt to overcome the above two deficiencies in the IRR method. The person conducting the analysis can choose whatever rate he or she wants for investing the cash inflows for the remainder of the project's life.

For example, if the analyst chooses to use the hurdle rate for reinvestment purposes, the MIRR technique calculates the present value of the cash outflows (i.e., the PVC), the future value of the cash inflows (to the end of

the project's life), and then solves for the discount rate that will equate the PVC and the future value of the benefits. In this way, the two problems mentioned previously are overcome:

1. the cash inflows are assumed to be reinvested at a reasonable rate chosen by the analyst, and

2. There is only one solution to the technique.

**Q. 3 Which Method Is Better: the NPV or the IRR? Give reasons for your answer.**

Ans: The NPV is better than the IRR. It is superior to the IRR method for at least two reasons:

1. Reinvestment of Cash Flows: The NPV method assumes that the project's cash inflows are reinvested to earn the hurdle rate; the IRR assumes that the cash inflows are reinvested to earn the IRR. Of the two, the NPV's assumption is more realistic in most situations since the IRR can be very high on some projects.

2. Multiple Solutions for the IRR: It is possible for the IRR to have more than one solution. If the cash flows experience a sign change (e.g., positive cash flow in one year, negative in the next), the IRR method will have more than one solution. In other words, there will be more than one percentage number that will cause the PVB to equal the PVC.

When this occurs, we simply don't use the IRR method to evaluate the project, since no one value of the IRR is theoretically superior to the others. The NPV method does not have this problem.

## *Something Important* :

**Ques Explain the methods of time value of money.**
**Ans. Two methods of taking care of time value of money:-**

1. **Compounding/ future value :-** Future value or compounding is the value of an asset or cash at a specified date in the future that is equivalent in value to a specified sum today

**Future Value(n) = Present Value * (1+k)n**

**Future Value= PV* FVIF(k,n)**

Where, FV(n) = Future value of the initial flow n years hence

PV = Initial cash flow

K = Annual Rate of interest

n = Life of investment.

FVIF= Future Value Interest Factor ( it will be calcularted by fv table value)

**2. Discounting / present value --** The current worth of a future sum of money or stream of cash flows given a specified rate of return. Future cash flows are discounted at the discount rate, and the higher the discount rate, the lower the present value of the future cash flows

Under the method of discounting, in time value of money, we compare the initial outflow with the sum of present value (PV) of the future inflows at a given rate of interest.

PV = FV/(1+k)n

PV= FV* PVIF (k,n)

Where PVIF= Present value interest factor ( calculated by table value)

# Unit – 5

# Working capital Management

**Q.1. Explain the meaning and concept of working capital and its management.**

**Or**

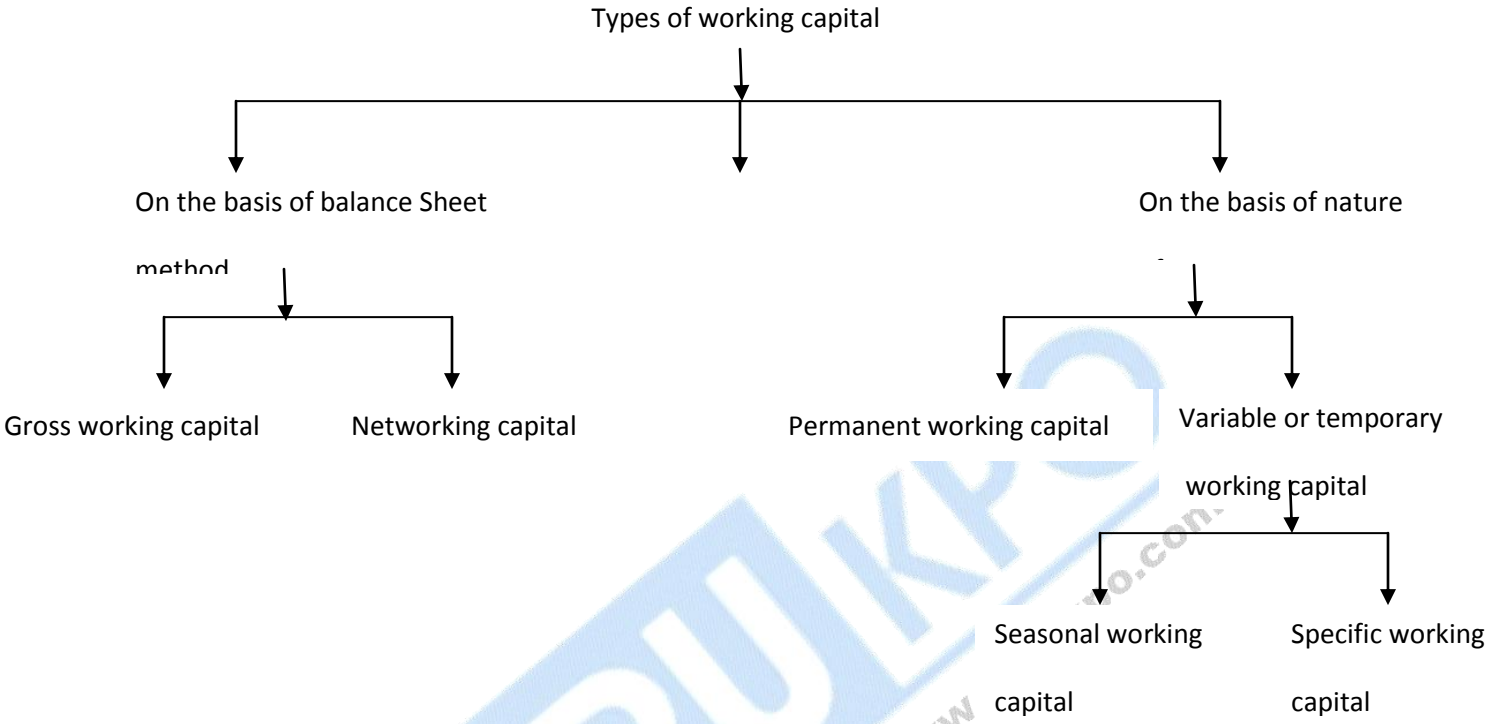
**How working capital management meant a lot in achieving the goals of a firm.**

**Ans.** **Introduction:** Working capital in that part of firms capital which is required for financing current assets such as cash, debtors, receivables inventories, marketable securities etc. Funds invested in such assets keep revolving with relative rapidity and are constantly converted in to cash.

**Other names**: Working capital is also known as circulating capital, revolving capital, short term capital or liquid capital.

Meaning and Definition:

**Working capital** is a financial metric which represents the amount of day-by-day operating liquidity available to a business. Along with fixed assets such as plant and equipment, working capital is considered a part of operating capital. It is calculated as current assets minus current liabilities. A company can be endowed with assets and profitability, but short of liquidity, if these assets cannot readily be converted into cash




*Explaination :*

- **Gross working capital** – Refers to firms investments in current assets which are converted in to cash during an accounting year such as cash, bank balance, short term investments, debtors, bills receivable, inventory, short term loans and advances etc.
- **Net working capital** – Refers to difference between current assets and current liabilities or excess of total current assets over total current liabilities.
- **Regular or permanent working capital –** Refers to minimum amount which permanently remain blocked and can not be converted in to cash such as minimum amount blocked in raw material, finished product debtors etc.

- **Variable or temporary working capital** – Refers to amount over and above permanent working capital i e difference between total working capital less permanent working capital.
- **Seasonal working capital** - Refers to capital required to meet seasonal demand e.g. extra capital required for manufacturing coolers in summer, woolen garments in winter. It can be arranged through short term loans.
- **Specific working capital** – Refers to part of capital required for meeting unforeseen contingencies such as strike, flood, war, slump etc.

**Q.2 List out the various determinants of working capital?**

**Or**

**Explain in brief important factors which help in estimating requirements of working capital in an organization.**

**Ans.** Important factors or determinants of working capital are:

i. **Nature of business:** firms dealing in luxury goods, construction business, steel industry etc need more capital while those dealing in fast moving consumer goods (FMCG's) need less working capital.

ii. **Size of business:** large size firms need more working capital as compared to small size firms.

iii. **Level of technology:** use of high level technology leads to fastening the process and reduce wastage and in such case, less working capital would be required.

iv. **Length of operating cycle:** longer is the operating cycle; higher would be the need of working capital.

v. **Seasonal nature:** firms dealing in goods of seasonal nature, higher capital during peak season would be required.

vi. **Credit policy:** If credit policy followed is liberal more working capital would be required and if the same is strict less working capital would be required.

vii. **Turnover of working capital:** If rate of turnover is more, less working capital would be required and this rate is less, more working capital would be required.

viii. **Dividend policy:** If a firm retains more profit and distributes fewer amounts as dividend, less working capital would be required.

ix. **Profit margin:** If rate of margin of profit is more, less working capital would be required.

x. **Rate of growth**: If growth rate is high and firm is continuously expending/ diversifying its production & business, more working capital would be needed.

xi. **Other factors like** :

- Means of transport
- Availability of water, power nearly
- Political stability

Coordination of activities also effect estimation of requirements of working capital.

**Q.3 Working capital is the lifeblood of any business." Comment.**

**(Significance/Importance of adequate working capital**

**Ans: Effects of Adequate capital**

- Prompt payment to supplies & benefit of cash/ trade discount.
- Increase in good will/ image
- Easy loans from banks
- Increase in the efficiency of employee's executives/ directors.
- Increase in the productivity as well as profitability

**Inadequate or short working capital**

- Stock out situation may arise
- Loosing customers
- Less profit
- Down fall of good will / image

**Excess working capital**

- Unnecessary piling of stock due to which loss of interest on amount blocked, theft, pilferage
- Lead to inefficiency of management
- Adversely effect production and profitability
- Dissatisfaction to share holders

**Q.4 Write short note on:**

**Ans** **Operating cycle**– Refers to capital/ amount required in different forms at successive stages of manufacturing operation/ process. It represents cycle during which cash is reconverted in to cash again. In manufacturing process, cash is required for purchasing raw material- raw material is converted in to work in progress – which is converted in to finished product – finished products are sold on credit- than cash is realized out of

credit sale. Total time taken in completing one cycle helps in ascertaining working capital requirements.

**Q.5 What do you understand by "Management of receivable"? Explain in brief its scope and costs associated with it.**

**Ans.** Receivables are created on account of credit sales. They are represented in the balance sheet in the form of sundry debtors, trade debtors, and book debts, accounts receivable, bills receivable etc. Receivables constitute around 15 to 20% of assets or around 1/3 of working capital in a big organization and substantial amount of working is blocked in this asset. Hence, their efficient management occupies great significance in financial management.

Receivable Management means matching the cost of increasing sales with the benefits arising out of increased sales and maximizing return on investment of firm under this head. Hence, the prime objective of receivables management is to:

- Optimize return on investment
- By minimizing costs associated with receivables

**Features of receivables**

- They involve risk based on present economic value and seller expects the same value ot a later date
- Implies futurity

**Benefits of receivables**

- Growth in sales- If a firm does not sell on credit, sales cant grow
- Increase in profit – Growth in sales leads to increase in profit. At times, credit sales are at a price more than price of cash sales
- Enables to face competition in market

**Costs associated with receivables are:**

1. **Carrying cost –** cost of amount blocked in the form of
   - Interest if amont is borrowed
   - Opportunity cost if amount blocked is out of retained earnings.
2. **Administrative costs –** Cost incurred on maintaining staff, for keeping records and for process of collecting amount from debtor's e.g.
   - Salary to staff
   - Cost of collecting information about debtors
   - Record keeping
   - Cost of collecting cheques
   - Cost on phone calls, reminders follow up
   - Cost on office space, equipments etc and expenditure on staff assigned the duty of collection of amount from debtors.

3. **Delinquency cost** - cost on following up with delinquent debtors, reminders, legal charges etc.

**4. Default cost** – cost of debtors becoming bad debts

**Factors effecting investments in receivables**

(i) Level of sales – Higher the sales, high would be amount of credit sales & receivable would also be high

(ii) Nature and conditions of business – In competitive market, more credit sales in consumer durables like furniture, refrigerators etc.

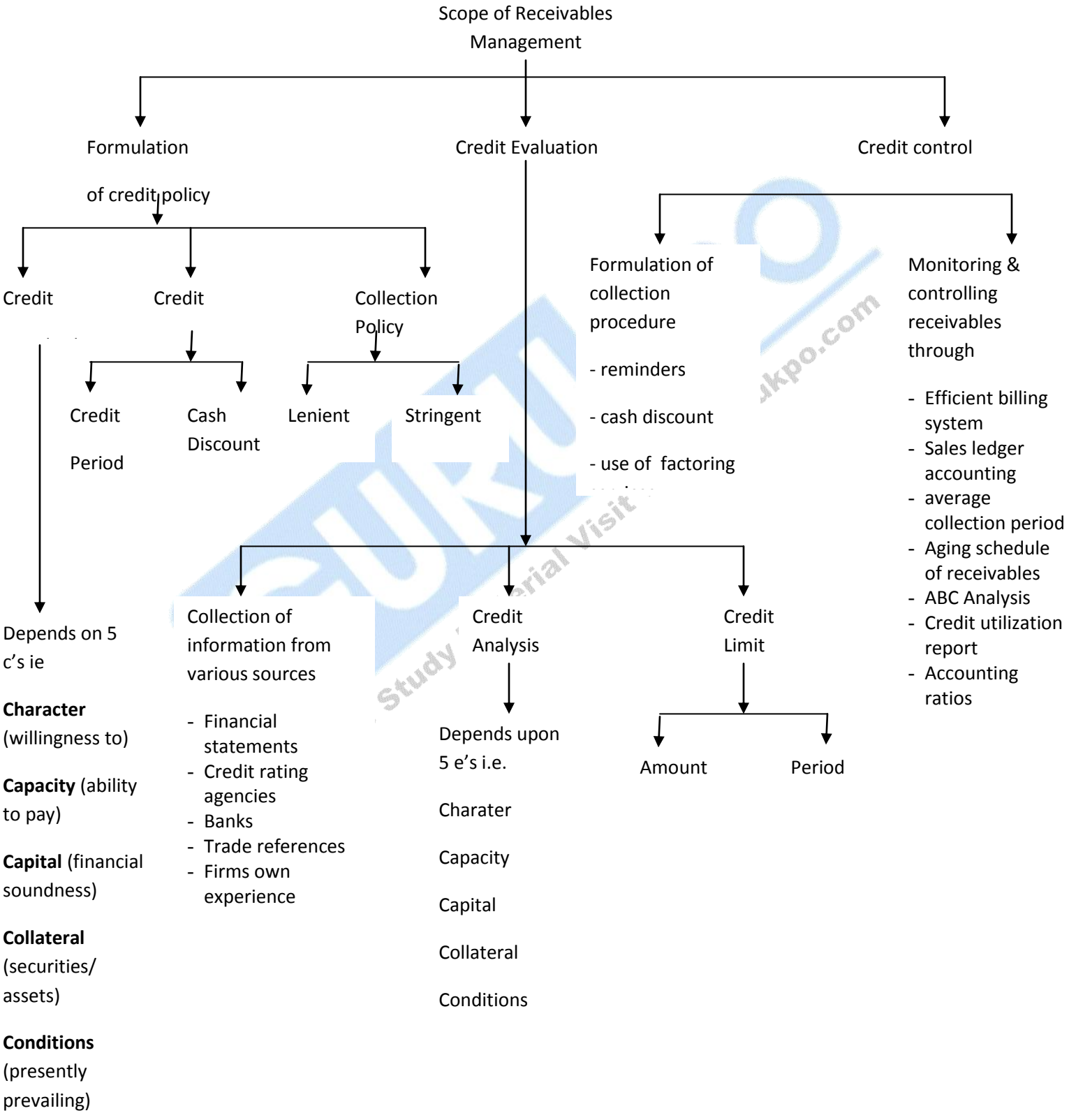
(iii) Credit policy of firm – If credit policy is liberal, more would be amount of receivables

(iv) Terms of credit - Terms of cash & trade discount and period in which payment is expected from debtors.

(v) Capacity of credit department – With reference to :-

- Scrutiny of orders placed by customers
- Assessing creditworthiness for which collecting information from various sources
- Timely collection of receivables from debtors

**Scope of Receivables Management –** There are three part under which scope of receivables management can be discussed i.e. Formulation of credit policy, credit evaluation and credit control. This scope has been presented in the form of a chart on next page.


Scope of Receivables Management
Formulation of credit policy
Credit Evaluation
Credit control
Credit
Credit Period
Credit
Cash Discount
Collection Policy
Lenient
Stringent
Formulation of collection procedure
- reminders
- cash discount
- use of factoring
Monitoring & controlling receivables through
- Efficient billing system
- Sales ledger accounting
- average collection period
- Aging schedule of receivables
- ABC Analysis
- Credit utilization report
- Accounting ratios
Depends on 5 c's ie
Character (willingness to)
Capacity (ability to pay)
Capital (financial soundness)
Collateral (securities/ assets)
Conditions (presently prevailing)
Collection of information from various sources
- Financial statements
- Credit rating agencies
- Banks
- Trade references
- Firms own experience
Credit Analysis
Depends upon 5 e's i.e.
Charater
Capacity
Capital
Collateral
Conditions
Credit Limit
Amount
Period

**Q.6 What do you understand by term "inventory" and "inventory management " ? Explain the key objectives of inventory control.**

**Ans.** Inventory means stock of goods in the form of raw material, stores or supplies, work in progress and finished product waiting for sale. Important features of inventory are.

- If accounts for large share of working capital
- Risk factor is high in holding inventory
- If involves many types of costs.
- It influences price and income of the firm as well as profitability.
- It involves almost all functional areas of management i.e. purchase, production, marketing & finance.

Various types of risks associated with inventory are.

- risk of price fluctuation
- risk of deterioration of quality of goods
- risk of obsolescence
- risk of pilferage & loss

Inventory management – means efficient management/ control of capital invested in inventory for obtaining maximum return by keeping inventory costs at minimum.

Objectives of inventory control – are two ie.

| Operating objectives |
|---|
| (i) Regular flow of material |
| (ii) Minimization of risks due to stock out. |
| (iii) Avoid obsolescence of stored Goods due to change in demand, technology |

| Financial objective |
|---|
| (i) Minimum investment or maximization of returns on investments |
| (ii) Minimizing inventory costs. |

**Key functions of inventory control are:**

- effective use of financial resources
- economy in purchasing
- uninterrupted production of goods & services
- protection against loss of material
- prompt delivery of goods to customers
- eliminating redundant inventory
- providing information to management for decision making

**Dangers of over stocking of inventory**

- **Blocking of funds** – which may lead to reduction in profit due to interest cost or opportunity cost
- **Increase in holding cost** – besides interest rent of space, insurance, loss on account of theft pilferage etc.
- **Loss of liquidity** – as it is difficult to sell stores, woks in proposes as well as semi-finished goods.
- **Dangers of under stocking of inventory/stock out/ shortage of inventory items**
- Loss of profit due to loss of sales
- Loss of future sales as customers may go else where
- Loss of customers confidence resulting to loss of good will

- Loss of machine and men hours as they may remain idle which lead to frustration in labour may force, unnecessary stoppage in production, extra costs in urgent replenishment of items.

**Q.7. Explain in brief different types of costs associated with inventory. Also explain different techniques of inventory control.**

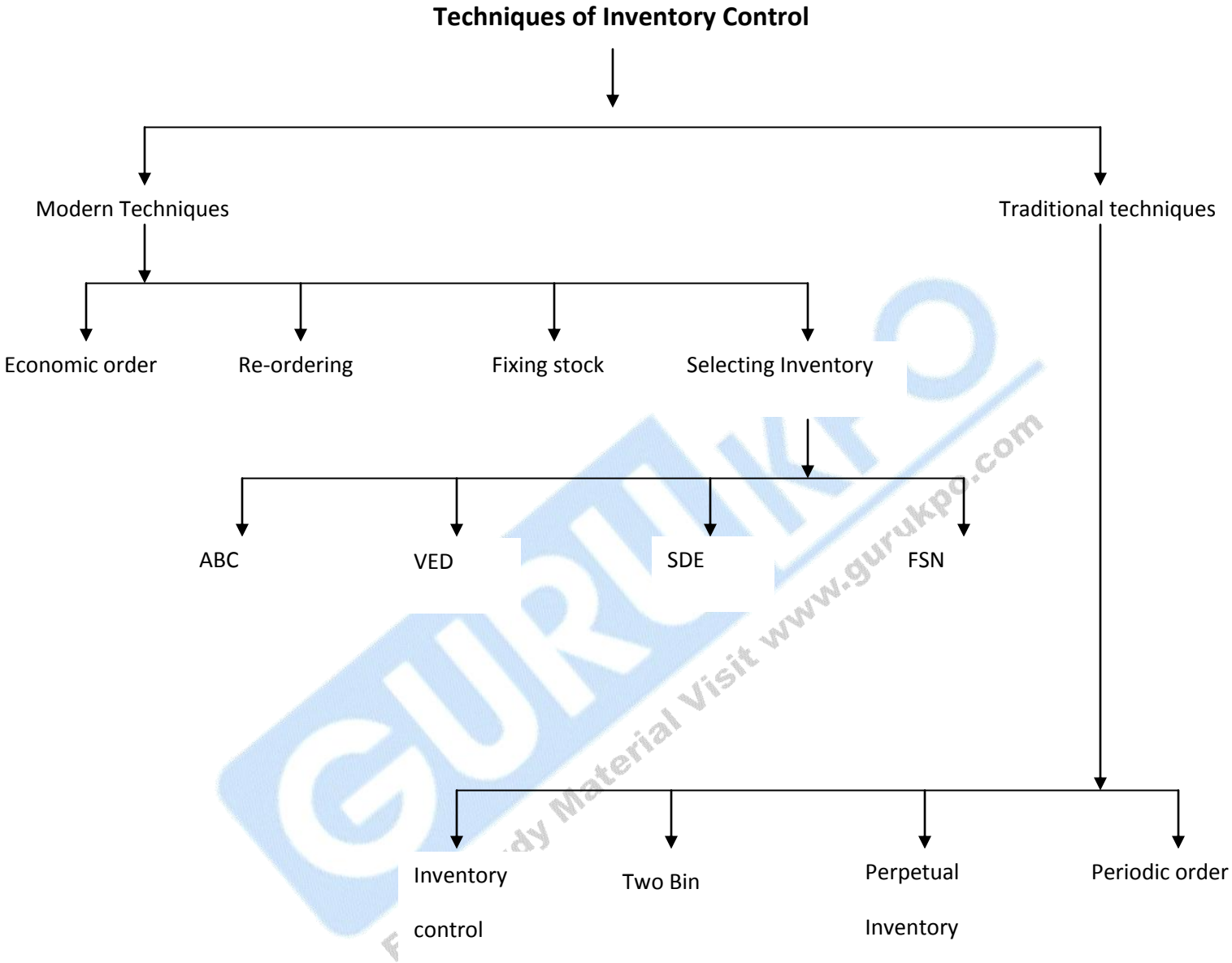
**Ans**. Following are the key types of costs associated with inventory:

(i) **Material cost –** Which include cost of purchasing material/ Goods including transportation cost, sales tax, octroi, handling cost (loading unloading) etc.

(ii) **Ordering costs**: Clerical & administrative costs such as salary, postage, stationary telephone etc associated with purchasing, cost of requision of material for order, follow up, receiving/evaluating quotations, checking of material when received (quality/quantity) accounting costs such as checking of supplies against orders, making payment, maintaining records of purchase etc. setup costs when items are manufactured internally.

(iii) **Carrying costs**- storage cost eg. rent, lighting heating, refrigeration, labour costs in handling material, store staff equipments, taxes, depreciation, insurance, product deterioration obsolescence spoilage, breakage, pilferage, audit & accounting cost and lastly interest cost on capital or opportunity cost.

(iv) **Stock out costs or shortage of material –** Which include loss of profit due to loss of sale, loss of future sales, loss of loosing goodwill in the eyes of customers and loss of man and machine hours.


Techniques of Inventory Control
Modern Techniques
Traditional techniques
Economic order
Re-ordering
Fixing stock
Selecting Inventory
ABC
VED
SDE
FSN
Inventory control
Two Bin
Perpetual Inventory
Periodic order

**EOQ** - Optimum size of an order for replenishment of an item of inventory is called EOQ

**ROP** - Re-ordering point is the level of inventory at which an order should be placed for replenishment of on item of inventory.

**Stock levels** - Fixing levels like minimum, maximum, re-order and danger level.

ABC analysis – Always Better control. All items of inventory are divided in to three categories i.e. 'A', 'B', & 'C'.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Category | 'A' | value | 70% to 80% | Where quantity is | | | | 5% to 10% |
| " | " | 'B' | " " | 20% | " | " | " | 20% |
| " | " | 'C' | " " | 10% | " | " | " | 70% |

VED Analysis – Vital, Essential & Desirable (used for spare parts)

SDE Analysis

- Scarce (items in short supply)
- Difficult (items cant be procured easily)
- Easy (items which are easily available)

FSN Analysis

- Fast moving (stock to be maintained in large quantity)
- Slow moving (not frequently required by production dept.)
- Non-moving (items which are rarely required by production dept)

**Q.8 Explain in brief all aspects of management of cash in a business organization.**

**Ans.** Efficient management of cash is crucial to the solvency of business. It implies making sure that all business generated revenues are efficiently controlled and utilized in best possible manner to result in gains to the organization. Cash management is concerned with optimizing amount of cash available to the company & maximizing interest on spare funds not required immediately by the company.

**Objectives of cash management**:-

- Ensuring availability of cash as per payment schedule

- Minimize amount of idle cash
- Effective control of cash (Maximizing interest on cash/funds not required immediately by the firm)

**Motives of holding cash**:-

(i) **Transaction motive**: - Refers to cash required for making payments like wages, operating expenses, taxes, dividend, interest etc.

(ii) **Precautionary motive:-** To make payment for unpredictable contingencies like strike, lockout, fire, sharp rise in prices etc.

(iii) **Speculative motive**:- To take advantages of unexpected opportunities e.g. purchase of raw material at reduced prices on cash basis, buying securities at a time when prices have fallen etc.

**Importance /advantages of efficient management of cash:-**

- firms goodwill is maintained by meeting obligations in time
- cash discount can be availed
- healthy relations can be maintained
- Unforeseen events can easily by face.

**Scope of cash management: - In includes:**

- Cash planning & forecasting
  - Cash budged
  - cash flow statement
  - ratio analysis
- Managing cash flows
  - Inflows
  - Out flows
- Determining optimum level of cash
- Investing surplus cash.

**Cash budget**: - A statement showing estimate of cash receipts, cash disbursement and net cash balance for a future period of time. It is a time based schedule & covers a specific period.

**There are two methods of preparing cash budget**

(i) Cash budget for a short period (up to one year) A statement projecting cash inflows and flows for a firm over various interim periods (months, quarters). For each period, expected cash inflows are put against expected out follows to find out if there is any surplus or deficiency.

(ii) Long term cash budget (3 to 7 year) under this method profit and loss account is adjusted to know estimates of eash receipts/ payments

**This cash budgets helps in**

- planning for borrowings
- planning for repayment of loans
- distribution of dividends
- estimation of idle cash
- better coordination of timings of each inflows & out flows
- identification of cash surplus position and planning for alternative investments in advance

**Collection and disbursement methods to improve cash management efficiency.**

**Collection methods**:

**Concentration banking** – improving flow of cash by establishing collection centers at different places i.e. multiple collection centers instead of single centre. Even the local cheques received are collected fast and amount is deposited in bank. The bank in the head office of firm is known as concentration bank.

**Lock Box system –** A firm takes on rent post office boxes in selected areas and instructs customers to mail their payment in these boxes. The bank of the firm is authorized to open these boxes, pick up mails and deposit cheques in the account of firm and sends a list of cheques received for the record of firm.

**Disbursement methods –**

(i) **Centralized disbursement centre** – Establishing a centralized disbursement centre at head office of firm and all payments only through this centre. This would help in consolidating all funds in a single account and making a proper schedule of payments/ handling funds.

(ii) **Payment on due date** – all payment on their due dates (not early & not late) strictly according to agreed terms so that there is no loss of cash/ trade discount and credit worthy ness of firm is maintained.

**(iii) Proper synchronization of receipts and payments**

(iv) **Utilizing float** – float indicates difference between bank balance and firms bank account & bank pass book. It arises due to time gap between cheque written/issued and time when it is presented or time gap between cheque deposited and time when credit is actually given by the bank to the firm this float may be

**Postal float** – Time required for receiving cheque from customers through post

**Deposit float** –Time required toprocess the cheques received and depositing them in bank.

**Bank float** – Time required by banker to collect the payment from customer's bank.

**Models of cash management:**

(i) **Bamoul Model** :- It is like EOQ model of inventory control. According to this model, optimum level of cash is one at which carrying cost of cash or cost of receiving cash is minimum. Carrying cost of cash refers to interest for gone on marketable securities. This is also called opportunity cost. Cost of receiving cash or transaction cost is the cost of converting marketable securities in cash.

(ii) **Hiller orr model** – This model is based on assumption that cash balance changes randomly over a period of time in size. This model prescribes two levels i.e. upper limited and lower limit. Optimum balance of cash lies between upper and lower limit. When cash balance reaches upper limit, cash equal to difference between upper limit and optimum limit, it should be invested in marketable

securities. When cash balance reaches to lower limit, cash equal to difference between optimum limit and lower limit, finance manager should immediately sell marketable securities so that cash balance reaches normal level.

**Treasury management (TM)**

T.M mainly deals with working capital management and financial risk management. The working capital management include cash management and decide asset liability mix. Financial risk includes forex and interest and interest rate management. Hence, key goal of TM is planning organizing and controlling cash assets to satisfy financial objectives of organization. The goal is to:

- Maximize return on available cash
- Minimize interest cost
- Mobilise as much cash as possible for corporate returns.

**Key responsibilities of T.M.**

- Maintaining good relations with banks and other financing institutions
- Managing cost while earning optimum return from any surplus fund.
- Providing long term and short term funds for business at minimum cost.
- Managing interest rate risk in accordance with firms/groups policy
- Advising on all matters of corporate finance including capital structure, merger & acquisitions etc.

**Functions of a treasury manager**

1. Cash management:- efficient collection & payment of cash.
2. Fund management:- Planning and sourcing of short/medium/long term funds.
3. **currency management** :- managing foreign currency risk in a multinational company by T.M

4. **Banking function**: - negotiating with banks and maintaining good contact with banks.

**Q.9 What do you understand by "Financing of Working Capital?**

**Ans.** Financing working capital refers to arranging working capital in an organization i.e. different sources from which working capital has to be raised. For this purpose, we have to classify working capital in to two main categories i.e.

I – Temporary/ Short term/ variable working capital

II – Permanent /fixed/ Long term working capital

Arranging or financing both these categories would be different as explained below:

I – **Financing temporary / short term / variable working capital** – different sources of financing this type of working capital are:

i. Commercial banks:- in the form of short term loan like short term credit limit, overdraft limit, pledge loan etc.

ii. Indigenous bankers/private money lenders in case of small business organization

iii. Trade credit :- Receiving goods on credit from suppliers

iv. Installment credit: - goods/ assets are purchased and payment is made in installments.

v. Advances from customers/ agents :- against orders received for supplying goods

vi. Deferred income :- i.e. incomes received in advance

vii. Commercial paper:- issuing unsecured promissory note

viii. Public deposits: - accepting deposit for short period i.e. 3 month, 6 months etc.

II – **Permanent /fixed/ long term working capital** – Different sources for financing such capital are.

i. Shares – In the form of equity shares, preference shares, deferred shares etc.

ii. Debentures – debentures may be of different type ie secured, unsecured, redeemable, unredeemable convertible, non-convertible etc.

iii. Ploughing back of profit- retaining profit for growth. It is a internal source and a source which is cost free.

iv. Public deposits – accepting fixed deposits from public for a period of one year and above.

v. Loan from financing institutions – term loan from institutions like:

- Commercial banks
- National state level financing institutions like IFCI, IDBI, State Finance corporations, SIDC's etc.

# Case Problems

**Q.1 Explain Cost of Debentures.**

**Ans.** The cost of debentures can be calculated with the following formula:

**kd= M [i(1-t) – (f-p)t/n)(1-t)/ ( F + P)/2**

Where:-

kd = post-tax cost of debenture capital

i= annual interest payment per debenture capital

t= corporate tax rate

F= redemption price per debenture

P= net amount realized per debenture and

n= maturity period.

**Q. 2 A ltd. Made an issue of 14% debentures of Rs. 400 lacs, face value of Rs. 100. The interest is payable annually and the debenture is redeemable at a premium of 5% after 10 years.**

**If A ltd. Realizes Rs. 97 per debenture and the corporate tax rate is 50%, what is the cost of the debenture to the company?**

**Ans.**

Given:

i = Rs. 14

t = 0.5

P = Rs. 97

n = 10 years

F = Rs. 105

by putting these values in the above mentioned formula we will get

kd = [i(1 – t) + (F – P)/n]/(F + P)2

kd = [14(1 - .05) + (105 – 97)/10]/(105 + 97)/2

kd = 7.7%

**Ques 3 Explain Cost of Preference Share Capital.**

**Ans**. Cost of preference share capital can be calculated by the following formula:

**kp = ( D + (F – P)/n)/ ( F + P)/2**

Where:

kp = Cost of preference share capital

D = preference dividend per share payable annually

F = Redemption price

P = net amount realized per share and

n = maturity period.

**Ques 4** The terms of a preference share issue made by a company are as follows: 14% preference shares of Rs. 100 each dividend payable annually. Share is redeemable after 12 years at par. If the net amount realized per share is Rs. 95, what is the cost of the preference capital.

**Ans.**

Given,

D = 14,

F = 100,

P = 95, and

n = 12

Putting the given values in the above mentioned formula we get,

kp = ( D + (F – P/n)/ ( F + P)/2

kp = [14 + (100 – 95)/12] /( 100 + 95)/2

kp = 0.148 or 14.8%

**Ques 5 The market price per share of a company is Rs. 125. The dividend expected per share after a year is Rs. 12 and the dividend is expected to grow at a constant rate of 8% per annum. What is the cost of equity capital to the company.**

**Ans.**

The cost of equity capital can be calculated as follows:

ke = (D1/Pe) + g = (12/125) + 0.08 = 17.6%

**Ques 6 A Ltd. has got Rs. 100 lacs of retained earnings and Rs. 100 lakh ofexternal equity through a fresh issue, in its capital structure. The equity investors expect a rate of return of 18%. The cost of issuing external equity is 5%. Find out the cost of retained earnings and the cost of external equity?**

**Ans:** Cost of retained earnings: Kr = ke i.e. 18%

Cost of external equity raised by the company:

Now K'e = ( ke/1-f) = 0.18/(1 – 0.05) = 18.95%

**Ques 7 Explain the Concept of Weighted Average Cost of Capital.**

**ABC Ltd. has the following capital structure:**

| | |
|---|---|
| **Equity Capital(Rs. 10 Lacs share at par value)** | **100** |
| **12% Preference share capital** | **10** |
| **Retained Earnings** | **120** |

| | |
|---|---|
| **14% Non – convertible Debentures (70000 debentures at par)** | **70** |
| **14% term loan from Bank** | **100** |
| **Total** | **400** |

**Rs. In Lacs**

**The market price per equity share is Rs. 25. The next expected dividend per share is Rs. 2 and the DPS is expected to grow at a constant rate of 8%, The preference shares are redeemable after 7 years at par and are currently quoted at Rs. 75 per share on the stock exchange. The debentures are redeemable after 6 years at par and their current market quotation is Rs. 90 per share. The tax rate is 50%. Calculate the weighted average cost of capital.**

**Ans.**

**First calculate the costs of various sources of finance**

i. Cost of Equity = Ke= (D1/Po) + g = (2/25) + 0.08 = 0.16
ii. Cost of Retained earnings = Kr = Ke = o.16%
iii. Cost of preference shares =kp=(D+(f-p)/n)/(f+p)/2

= (12 + (100 -75)/7)/(100 + 75)/2 = 0.1780

iv. Cost of debentures = [i(1-t) + (f-p)/n]/(f+p)/2

= [14(1-.50) + (100 – 90)/6]/( 100 + 90)2 = 0.0912

v. Cost of term loans = ki = 0.14(1 – 0.5) = 0.07

Then we will calculate the weights associated with the various sources of funds:

i. We = 100/400 = 0.25
ii. Wr = 120/400 = 0.30
iii. Wp = 10/400 = 0.025
iv. Wd = 70/400 = 0.175
v. Wi = 100/400 = 0.25

Weighted average cost of capital

= Weke + Wrkr + Wpkp + Wdkd + Wiki

=(0.25 * 0.16) + (0.30 * 0.16) + (0.025 * 0.1780) + (0.175 * 0.0912) + (0.25 * 0.07) = 0.1259 = 12.59%

**Ques**8 **If X has a sum of Rs. 1000 to be invested, and there are two schemes, one offering a rate of interest of 10%, compounded annually, and other offering a simple rate of interest of 10%, which one should he opt for assuming that he will withdraw the amount at the end of (a) 1 Year (b) 2 Year, and (c) 5 Years?**

**Ans.** PV= Rs 1000

Rate of interest (k) = 10%

No. of years = 1 yr.

**Future Value (n) = Present Value * (1+k)n**

FV = 1000* (1+.10) 1

= Rs. 1100 .

a) No. of years = 2

FV = 1000 * (1+.10) 2

= R. 1210

b) No. of years = 3

FV = 1000* (1+ .10) 3

= Rs. 1331

**Ques 9.The fixed deposit scheme of a bank offers the following interest rates**

| Period of Deposits | Rate Per Annum |
|---|---|
| 46 days to 179 days | 10.00% |
| 180 days to 1 year | 10.50% |
| 1 Year and above | 11.00% |

**An amount of Rs. 10000 invested today will grow in three years ?**

**Ans.** **Future Value(n) = Present Value (1+k)n**

=Pv * FVIF(11,3)

=10000(1.368)

=Rs. 13,680

**Ques 10 Explain the future value of non annual compounding.**

**Ans.** When there are non annual compounding for semi –annually or quarterly then

The generalised formula for shorter compounding periods is

FV (k,n) = PV(1+k/m)m*n

Where, FV n = Future value after 'n' years

PV = Cash Flow Today

K = Nominal interest rate per annum

m = Number of times compounding is done in an year

n = Number of years for which compounding is done

**Ques 11** In a particular investment scheme deposits can be made for periods ranging from 6 months to 10 years. Interest to be compounded quarterly.

Rate of Interest for 12 to 23 months = 9%

Rate of Interest for 24 to 120 months = 10%

An amount of Rs. 1000 invested for 2 years will grow to ?

**Ans.** **FVn = PV(1+k/m)m*n**

Where, m = frequency of compounding during a year

= 1000(1+0.10/4)8

= 1000(1.025)8

= 1000*1.2184 = 1218

**Ques 12 Explain the future value of multiple flows**.

**Ans.** Suppose we invest Rs. 1000 now (beginning of the year 1 ), Rs . 2000 at the beginning of the year two and Rs. 3000 at the beginning of the year three, how much will these flows accumulate to at the end of year three at a rate of interest of 12% p.a?

To determine the accumulated sum at the end of year three, we have to just add the future compounded values of Rs. 1000, Rs. 2000 and Rs. 3000.

FV(Rs. 1000) + FV(Rs. 2000) + FV(Rs. 3000)

At k = 0.12, the sum is equal to

= Rs. 1000*FVIF (12,3) + 2000*FVIF(12,2) + 3000*FVIF(12,1)

= Rs. [(1000*1.405) + (2000*1.254) + (3000*1.120)]

= Rs. 7273

**Ques 13 What is effective rate of interest ?**

**Ans**. **Effective vs. Nominal Rate of Interest**

r= (1+k/m)m-1

Where, r = Effective rate of interest

k = Nominal Rate of interest

m = Frequency of compounding per year.

**Ques 14 If we get Rs. 1611 at 10% rate of interest for a period of 5 years. What is the present value of this Investment?**

**Ans.** Fv **=** Rs. 1611

K = 10%

N = 5 years

**PV = FV/(1+k)n**

= 1611 / (1+.10)5

= Rs. 1000

**Ques 15 Amount can be invested for a period of 1 to 10 years. The rate of interest is 12% p.a compounded quarterly. What would be the issue price of a certificate of Rs. 100000 to be received after 10 years?**

**Ans.**

PV = FVn/(1+k)n

Firstly the effective rate of interest has to be calculated

R = [1+0.12/4]4 – 1

= 12.55%

The issue price of the cash certificate can now be calculated as

= 100000/(1+0.1255)10

= Rs. 30,658

**Ques. 16 Interest rate = 12% certificate has a value of Rs. 100 after one year what would be the issue price of the certificate if the interest is to be compounded quarterly?**

**Ans.-** The effective rate of interest has to be calculated first:

r=(1+k/m)m – 1

r = (1+ 0.12/4)4 - 1

= 12.55%

The issue price of the certificate is

PV = FVn/(1+k)n

= 100/(1+0.1255)1

= Rs. 88.85

**Ques. 17. What is Annuity ? Explain Future value and present value of annuity.**

**Ans**. **Annuity-**

**Future Value of Annuity –**

**Future Value of Annuity**

FVAn = A[(1+K)n-1/k]

Where, A = Amount deposited at the end of the year for n years

K = Rate of interest (expressed in decimals)

n = Time horizon

FVAn = Accumulation at the end of n years.

**Present value of annuity**- In this case the cash flow values remain the same throughout the n periods.

The present value of an annuity receivable at the end of every year for a period of n years at a rate of interest k is equal to

PVAn = A*[(1+k)n – 1 / k (1+k)n]

**Ques. 18. As per the investment scheme a fixed sum is deposited every month for 12 months to 120 months. The period of deposit should be in multiples of three months.**

**Ans. -** Rate of Interest for 12 to 24 months = 9%

Rate of Interest for 24 to 120 months = 10%

Interest to be compounded quarterly.

Amount of deposit = Rs. 5 per month.

Rate of interest = 9% p.a compounded quarterly

Effective rate of interest P.a = (1+0.09/4)4-1 = 0.0931

Rate of interest per month = (r+1)1/m-1

= (1+0.0931)1/12-1

= 1.0074 - 1 = .0074 = .74%

Maturity value can be calculated using the formula

FVAn = A{(1+k)n-1/k}

= 5{(1+0.0074)12-1/0.0074}

= 5 * 12.50

= Rs. 62.50

**Ques. 19 A lump sum deposit is remitted and the principal is received with the interest @ 12% p.a in 12 or 24 monthly instalments, interest is compounded quarterly. What amount should be deposited initially to receive a monthly instalment of Rs. 100 for 12 months**.

**Ans. -** Firstly, the effective rate of interest has to be calculated:

r =(1+k/m)m – 1

= (1+ 0.12/4)4 - 1

= 12.55%

After calculating the effective rate of interest p.a the effective rate of interest per month has to be calculated which is nothing but:-

=(1.1255)1/12 – 1

= .00990

The initial deposit can now be calculated as below

PVAn = A*[(1+k)n – 1 / k (1+k)n]

= 100[(1+.00990)12 – 1/.00990(1+.00990)12]

= 100[.1255/.01114]

= 100*11.26

= Rs. 1126

**Ques 20 Calculate Average Rate of Return for the following information:**

| Year | 0 | 1 | 2 | 3 |
|---|---|---|---|---|
| Investment | 100000 | | | |
| Sales Revenue | | 120000 | 100000 | 80000 |
| Operating Expenses (Excluding Depreciation) | | 60000 | 50000 | 40000 |
| Depreciation | | 30000 | 30000 | 30000 |
| Annual Income | | 30000 | 20000 | 10000 |

Average annual income = (30000+20000+10000)/3 = 20000

Average net book value if the investment = (100000+0)/2 = 50000

Accounting rate of return = 20000/50000 * 100 = 40%

The firm will accept the project if its target rate is less than 40%.

**Ques 21** **A ltd is considering the purchase of a new leather cutting machine to replace an existing machine which has a book value of Rs. 3000 and can be sold for Rs. 1500. The estimated salvage value of the old machine in four years would be zero, and it is depreciated on a straight line basis. The new machine will reduce costs (before tax) by Rs. 7000 per year i.e. Rs. 7000 cost savings over the old machine. The new machine has a four year life, costs Rs. 14000 and can be sold for an expected amount of Rs. 2000 at the end of the fourth year. Assuming straight line depreciation and a tax rate of 40%, calculate the cash flows associated with the investment and calculate the NPV of the project assuming the cost of funds to the firm is 12% and straight line method is used for tax purposes?**

**Ans.** Cash flows associated with the replacement decisions

| Year | | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| 1. | Net investment in new machine | (12500) | | | | |
| 2. | Savings in costs | | 7000 | 7000 | 7000 | 7000 |
| 3. | Incremental Depreciation | | 2250 | 2250 | 2250 | 2250 |
| 4. | Pre-Tax profits | | 4750 | 4750 | 4750 | 4750 |
| 5. | Less Tax | | 1900 | 1900 | 1900 | 1900 |
| 6. | Post-tax profits | | 2850 | 2850 | 2850 | 2850 |
| 7. | Initial Flow (=1) | (12500) | | | | |
| 8. | Operating Flow (= (6) + (3)) | | 5100 | 5100 | 5100 | 5100 |
| 9. | Terminal Flow | | | | | 2000 |
| 10. | Net Cash flow(=7+8+9) | 12500 | 5100 | 5100 | 5100 | 7100 |

| Year | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Net cash flows | 5100 | 5100 | 5100 | 7100 |

| | | | | |
|---|---|---|---|---|
| PVIF @k = 12% | 0.893 | 0.797 | 0.712 | 0.636 |
| Present Value (Rs.) | 4554 | 4065 | 3631 | 4516 |

Net present value

= (-12500) + (4554 + 4065 + 3631 + 4516)

= Rs. (-12500 + 16766)

= Rs. 4266

The decision rule based on NPV is obvious. A project will be accepted if the NPV is positive and rejected if NPV is negative.

**Ques 22. Project has the following patterns of cash flows:**

| Year | Cash Flow (Rs. In Lakh) |
|---|---|
| 0 | (10) |
| 1 | 5 |
| 2 | 5 |
| 3 | 3.08 |
| 4 | 1.20 |

What is the IRR of this project?

**Ans.:** To determine the IRR, we have to compare the NPV of the project for different rates of interest until we find that rate of interest at which the NPV of the project is equal to zero. To reduce the number of iterations involved in this hit and trial process, we can use the following short cut procedure:

Step 1

Find the average annual net cash flow based on given future net cash inflows.

= (5 + 5 + 3.08 + 1.20)/4 = 3.57

Step 2

Divide the initial outlay by the average annual net cash inflows i.e. 10/3.57 = 2.801

Step 3

From the PVIFA table find that interest rate at which the present value of an annuity of Rs. 1 will be nearly equal to 2.801 in 4 years i.e. the duration of the project. In this case the rate of interest will be equal to 15%.

We use 15% as the initial value for starting the hit and trial process and keep trying at successively higher rates of interest until we get an interest rate at which the NPV is zero.

The NPV at r = 15% will be equal to:

= - 10 + (5 * .0870) + ( 5 * .756 ) + (3.08 * .658 ) + ( 1.2 * .572) = 0.84

NPV at r = 16 % will be equal to:

= - 10 + (5 * .862) + (5 * .743) + (3.08 * .641) + (1.2 * .552) = .66

NPV at r = 18% will be equal to:

= - 10 + (5 * .848) + (5 * .719) + (3.08 * .0609) + (1.2 * .516) = .33

NPV at r = 20% will be equal to:

= -10 + (5 * .833) + (5 * .694) + (3.08 * .609) + (1.20 * .482) = 0

We find that at r= 20%, the NPV is zero and therefore the IRR of the project is 20%.

# Practical Cases related to Working Capital Management

**Ques 1 Explain Operating Cycle Approach to Working Capital Management.**

**Ans**. Operating cycle approach has following periods.

**Raw Material Storage Period ( n1)**

1. Annual consumption of raw materials, components etc.
2. Average daily consumption of raw material by dividing the first point above by 360.
3. Average stock of raw materials, components etc. opening + closing stock /2.
4. Raw material storage period = 3/2 = n1 days.

**Conversion Period (n2)**

1. Annual cost of production = Opening WIP + Raw material consumed + other manufacturing costs like wages fuel etc. + Depreciation – Closing WIP.
2. Average daily cost of production = 1/360
3. Average stock of WIP = opening WIP + Closing WIP /2
4. Average conversion period = 3/2 = n2 days

**Finished Goods Storage Period (n3)**

1. Annual cost of sales = Opening stock of finished goods + cost of production + Excise duty + Selling and distribution costs + General administrative costs + Financial costs – Closing stock of finished goods.
2. Average daily cost of sales = 1/360
3. Average stock of finished goods = Opening stock + Closing stock/2
4. Finished goods storage period = 3/2 = n3 days

**Average Collections Period (n4)**

1. Annual credit sales of the company.
2. Average daily credit sales = 1/360
3. Average balance of sundry debtors = Opening balance + Closing balance /2
4. Average collection period = 3/2 = n4 days

**Average Payment Period (n5)**

1. Annual credit purchases made by a company.
2. Annual daily credit purchases = 1/360
3. Average balance of sundry creditors = opening balance + closing balance /2
4. Average payment period = 3/2 = n5 days.

**Gross Operating Cycle = n1 + n2 + n3 + n4**

**Net Operating Cycle = n1 + n2 + n3 + n4 – n5**

**Ques 2.Calculate the gross and net operating cycle periods from the data given below:-**

| Particulars | Amount (Rs. In Lakh) |
|---|---|
| 1. Opening Balances of | |
| ○ Raw Materials, Stores and Spares, etc | 3454.84 |
| ○ Work – in – Process | 56.15 |
| ○ Finished Goods | 637.92 |
| ○ Accounts Receivable | 756.45 |
| ○ Accounts Payable | 2504.18 |
| 2. Closing Balances of | |
| ○ Raw Materials, Stores and Spares, etc | 4095.41 |
| ○ Work – in – Process | 72.50 |
| ○ Finished Goods | 1032.74 |
| ○ Accounts Receivable | 1166.32 |
| ○ Accounts Payable | 3087.47 |
| 3. Purchases of Raw Materials, Stores and Spares, etc. | 10676.10 |
| 4. Manufacturing Expenses etc. | 1146.76 |
| 5. Depreciation | |
| 6. Customs and Excise Duty | |
| 7. Selling administration and financial expenses | |
| 8. Sales | |

| | |
|---|---|
| | 247.72<br>35025.56<br>4557.48<br>54210.65 |

**Ans.**

A. Raw Material Storage Period

1. Annual Consumption of Raw Materials

   = Opening Stock + Purchases – Closing Stock

   = 3454.84 + 10676.10 – 4095.41

   = 10035.53

2. Average daily consumption of raw materials:-

   = 10035.53/360 = 27.88

3. Average stock of Raw Materials

   = (3454.84 + 4095.41)/2

4. Raw Material Storage Period

   = 3775.13/27.88 = 135 days

B. Average Conversion or Work-in-process Period

1. Annual Cost of Production

   = Opening WIP + Consumption of Materials + Manufacturing Expenses + Depreciation – Closing WIP

   =56.15 + 10035.53 + 1146.76 + 247.72 – 72.50

   =11413.66

2. Average Daily Cost of Production

   = 11413.66/360 = 31.70

3. Average Stock of Work- in – Progress

   = (56.15 + 72.50)/2 = 64.33

4. Average Conversion Period

   = 64.33/31.70 = 2 days

C. Finished Goods Storage Period

**1. Annual cost of sales**

= Opening stock of finished goods + cost of production + Selling, administration and financial expenses + customs and excise duties – closing stock of finished goods.

= 637.92 + 11413.66 + 4557.48 + 35025.56 – 1032.74

= 50601.88

2. Average daily cost of sales : = 50601.88/360 = 140.56

3. Average inventory of finished goods = (637.92 + 1032.74)/2 = 835.33

4. Finished goods storage period = 835.33/140.56 = 6 days

D. **Average Collection Period**

1. Annual Sales = 54210.65
2. Average Daily Sales = 54210/360 = 150.59

3. Average Book Debts =(756.45+1166.32)/2 = 961.38

4. Average Collection Period = 961.38/150.59 = 6 days

**E. Average Payment Period**

1. Annual Purchases = 10676.10

2. Average Daily Purchases = 10676.10/360 = 29.66

3. Average balance of trade creditors = (2504.18 + 3087.47)/2= 2795.82

Operating Cycle Period= 135 + 2 + 6 + 6 – 94 = 55 days

# Inventory Management Techniques

**Ques 1 What is Economic Order Quantity ?**

**Ans**. The economic order quantity (EOQ) refers to the optimal order size that will result in the lowest total of order and carrying costs for an item of inventory given its expected usage, carrying costs and ordering cost. By calculating the economic order quantity, the firm determine the order size that will minimize the total inventory costs.

EOQ = √2RO/C

Where R= Annual Requirement

O= Ordering Cost

C= Carrying Cost

**Example:-**

A firm expects a total demand for its product to be 10000 units, while the ordering cost per order is Rs. 100 and the carrying cost per unit is Rs. 2.

EOQ = Under root of 2*10000*100/2 = 1000 units.

**Ques 2 Explain Reorder Point Formula.**

**Ans**. At what point in the level of inventory a reorder has to be placed for replenishment of stock.

Reorder Point

= U * L + F * √U * R * L

Where,

U= Usage in units per day

L= Lead time in days

R= Average number of units per order

F= Stock out acceptance factor

**Ques 3 For a company the average daily usage of a material is 100 units, lead time for procuring material is 20 days and the average number of units per order is 2000 units. The stock out acceptance factor is considered to be 1.3. What is the reorder level for the company**?

**Ans.**

From the data contained in the problem we have

U = 100 units

L = 20 Days

R = 2000 Units

F = 1.3

Reorder Level = U * L + F * √U*R*L

= 100 * 20 + 1.3 * Under root of 100 * 2000 * 20

= 2000 * 1.3 + 2000 = 4600

# Multiple Choice Questions

**Q.1 What Is Finance?**

1. Getting things on loan
2. ***Study of money and its flow.***
3. Finance means money and cash
4. Finance is only the supply of funds

**Q.2 Which Of The Following Does Not Come Under The Key Areas Of Finance?**

1. Raising of funds
2. Investment of funds
3. Distribution of funds
4. ***Getting loans from banks***

**Q.3 Which Of The Following Determine The Basic Functions Of Financial Management?**

1. Six p's
2. Three t's
3. Four i'
4. ***Six a's***

**Q.4 The Objectives Of Financial Manager Constitute:**

1. Acquisition of assets
2. ***Profit maximization & wealth maximization***
3. Increase in the property of the properietor
4. Issue of shares and debentures.

**Q.5 Cost Of Capital Is The Combination Of**

1. Cost of transaction and sunk cost
2. ***Cost of equity and cost of debt***
3. Variable cost and marginal cost
4. Cost of earnings and expenses.

**Q.6 Working Capital Should Be**

1. Maximum
2. Minimum
3. ***Adequate***
4. Not important

**Q.7 Current Ratio Should Be _____ For The Better Performance Of The Firm**

1. Less then 1
2. Should be more than 1
3. ***Equal to one***
4. Zero

**Q.8 Operating Cycle Does Not Constitute The Following**

1. Cash
2. ***Fixed assets***
3. Inventory
4. Work in progress

**Q.9 Capital Budgeting Is A Technique Used For Making**

1. ***Long term investment decisions***
2. Calculation of cash flows
3. Short term investments
4. Consideration of time value of money

**Q.10. Npv Stands For**

1. ***Net present value***
2. Net profit value
3. Null present value
4. Net profitability value

**Q.11 Which Technique Of Capital Budgeting Is Considered Better Than Npv**

1. Profitability index
2. ***Internal rate of return***
3. Pay back period
4. Accounting rate of return

**Q.12 What Is Not The Approach For Capital Structure**

1. Mm theory
2. Net operating income approach

3. ***Capital asset pricing theory***
4. Net income approach

**Q.13 One Should Accept The Proposal Whose Npv Is**

1. ***Positive***
2. Negative
3. Zero
4. Maximum

**Q.14.Which Is Not The Constituent Of Current Asset**

1. Cash at bank
2. ***Bills payable***
3. Debtors
4. Inventory

**Q.15 Financial Management Does Not Include The Following**

1. Acquisition of funds
2. Anticipation of funds
3. ***Assesing the competition***
4. Administration of funds

# Key Terminologies

**Money** – Value of exchange, store of value, unit of account**.**

**Cash-** Money in liquid form.

**Fund-** Accumulated amount of money invested in a project.

**Finance –** Science or the study of money and its flow.

**Financial management-** Financial management means planning, organizing, directing and controlling the financial activities such as procurement and utilization of funds of the enterprise. It means applying general management principles to financial resources of the enterprise.

**Finance manager-**The Person Responsible For Financial Management.

**Financial planning-** Financial planning is a systematic approach whereby the financial planner helps the organization to maximize his existing financial resources by utilizing financial tools to achieve his financial goals**.**

**Financial planner**- A financial planner is someone who uses the financial planning process to help you figure out how to meet your life goals.

**Cost of capital-** The required return necessary to make a capital budgeting project, such as building a new factory, worthwhile. Cost of capital includes the cost of debt and the cost of equity

**Capital structure-** Capital structure refers to the way a corporation finances its assets through some combination of equity, debt, or hybrid securities

**Leverage-**In finance, leverage (also known as gearing or levering) refers to the use of debt to supplement investment

Wacc the total capital for a firm is the value of its equity (for a firm without outstanding warrants and options, this is the same as the company's market capitalization) plus the cost of its debt (the cost of debt should be continually updated as the cost of debt changes as a result of interest rate changes).

**Capital budgeting:** "Capital budgeting involves planning of expenditure for assets and return from them which will be realized in future time period

**Cash inflow:** The amount of cash generated from the course of action done in the business.

**Cash outflow:** The amount of cash moved as expenses for carrying the business.

**Pay back period:** It is the length of time that it takes to recover your investment.

**Average rate of return:** arr calculates the return, generated from net income of the proposed capital investment.

**Profitability index -**It is the ratio of payoff to investment of a proposed project. It is a useful tool for ranking projects because it allows you to quantify the amount of value created per unit of investment.

**Net present value:** The net present value of an investment is the present value of the cash inflows minus the present value of the cash outflows.

**Internal rate of return:** The internal rate of return (irr) is the rate of return that an investor can expect to earn on the investment.

**Time value of** money value of money depreciates with time

**Working capital-** Working capital is a financial metric which represents the amount of day-by-day operating liquidity available to a business.

Working capital in that part of firms capital which is required for financing current assets such as cash, debtors, receivables inventories, marketable securities etc.

**Current ratio** This is a ratio obtained by dividing current assets and current liabilities.it must be 1.

**Operating cycle -** Refers to capital/ amount required in different forms at successive stages of manufacturing operation/ process. It represents cycle during which cash is reconverted in to cash again.

**Inventory -**Inventory means stock of goods in the form of raw material, stores or supplies, work in progress and finished product waiting for sale.

**Recievable-** Receivables are created on account of credit sales. They are represented in the balance sheet in the form of sundry debtors, trade debtors, and book debts, accounts receivable, bills receivable etc.

**Cash budget: -** A statement showing estimate of cash receipts, cash disbursement and net cash balance for a future period of time. It is a time based schedule & covers a specific period.

# Bibliography


| Sr. No. | Name of the Book | Name of the Author |
|---|---|---|
| 1. | Financial Management | I.M. Pandey |
| 2. | Financial Management | M.R. Agrawal |
| 3. | Financial Management | Agrawal & Mishra |
| 4. | Financial Management | Rustagi |
| 5. | Indian Financial System | M.Y. Khan |


## Suggested Websites

www.wikipedia.com

www.managementstudyguide.com

www.eindiabooks.com

www.studyfinance.com

www.investopedia.com

wps.pearsoned.co.uk