# UNIT NO:- 4 FINANCIAL MANAGEMENT

## 4.1 FINANCE AND ITS DEFINITION

In general term finance means management of money for your expenses.

• In broad term finance is the science of funds management. Finance includes saving money and often includes lending money.

• The general areas of finance are business finance, personal finance, and public finance.

• Finance is also a money budget management. The field of finance deals with how money is spent and budgeted. It also deals the concepts of time, money and risk and how they are interrelated.

• Finance is used by individuals as personal finance, by governments as public finance, by businesses as corporate finance, as well as by a wide variety of organizations including schools and non-profit organizations. Finance is the need of the today world economy.

**FINANCE:**

• FINANCE is the life-blood of business. Without finance neither any business can be started nor successfully is run .Finance needed to promote or establish business, acquire fixed assets, make necessary investigations, develop product keep man and machines at work, encourage management to make progress and create values.

**FINANCIAL MANAGEMENT:**

• FINANCIAL MANAGEMENT is one of the functional area of management. It refer to that part of the management activity which is concerned with the planning and controlling of firms financial resources.
**Financial management** refers to the strategic **planning**, organising, directing, and controlling of **financial** undertakings in an organisation or an institute. It also includes applying **management** principles to the **financial** assets of an organisation, while also playing an important part in fiscal **management**.

**Basic Concept of Financial Management:**

In simple concept financial management means, if you save me today – I will save you tomorrow. In this competitive era, funds are acquired from several sources. The procurement of these funds has always been reckoned as a stumbling block. The characterization of funds procured from different sources varies in terms of cost, risk, management and control. A smart manager will know that the funds should be procured at minimum cost, at a balanced risk and control factors.

Proper analysis of utilization of those procured funds is the job of a financial manager. He is responsible for informing the firm or an individual that whether or not their funds are optimally allocated. To accomplish this task, the financial manager is expected to be knowledgeable, tactful and witty. He should understand the demands and requirement of the individual or the firm and should come up with some strategically rationalized plan so that the latter one can enjoy optimally.


**Financial Management Example-1:**
You are planning to take a business loan to purchase a new space for your business office. – Here it is advisable to take a real estate advisor and you need to check whether the valuation after 20 years or more will be higher than renting it or not. Also you need to consult financial department whether investing 20% of funds in down payment and taking 80% business loan will give good returns on investment or not. Many times there are cases where, renting can be more economical than purchasing, regardless of whether you're leasing a property, software or renting a vehicle.

**TYPES OF FINANCE**

• There are mainly two type of finance found in the current economy.

**1. Personal finance**
In this finance decisions may involve paying for education, financing durable goods such as real estate and cars, buying insurance, e.g. health and property insurance, investing and saving for retirement. Personal financial decisions may also involve paying for a loan, or debt obligations.

**2. Corporate finance**
It is the task of providing the funds for a corporation's activities. Corporate finance can easily categorized in two category.
A. Short term finance which generally involves balancing risk and profitability, while attempting to maximize an entity's wealth and the value of its stock.

B. Long term funds are provided by ownership equity and long-term credit, often in the form of bonds. The balance between these forms the company's capital structure. Short-term funding or working capital is mostly provided by banks extending a line of credit.

**Types of Financial Management**

**1. Treasury and Capital Budget Management:**
Capital budgeting is the planning procedure used to decide if a company's fixed assets, for example, new plant, new machinery; new research projects are worth of allocating funds through the organization capitalization structure (equity, debt or profit earnings). Numerous formal strategies are utilized in capital budgeting, For example: Profitability index, Payback period, Net present value, Real options valuation, accounting rate of return, internal rate of return, Equivalent annual cost and more. These management teams are likewise accountable for raising funds and investing funds. In the event that an organization merge with another organization or expands, team will facilitate the financial needs for merger or expansion.

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**2. Capital Structure Management:**
In corporate finance, capital structure is the manner in which a company finances through a mix of debt or equity securities. Debt financing comes as bond issues, while equity comes from retained earnings or as a stock. Short-term debt financing, for example, working capital necessities is likewise viewed as a major aspect of the capital structure. Here financial management team is responsible for capital structure of a company's short-term debts, long-term debts, equities, preferred stocks and more. At the point when team refer to capital structure, they are probably considering a company's debt-to-equity ratio, which gives understanding into how healthy organization is financially or how risky organization is financially.

**3. Working Capital Management:**
Working capital management of an organization refers to managing bookkeeping methodology and accounting strategies intended to keep track of current assets, current liabilities, cash flow, inventory turnover ratio, working capital ratio and much more. The

basic role of working capital management is to ensure the organization dependably keeps up adequate liquid cash to meet its short-term debts and operational cost. This is one of the types of financial management where team need to maintain working capital management to smoother company's operational cycle, and also to improve the company's earnings.

## OBJECTIVES OF FINANACIAL MANAGEMENT

Objectives of financial management The objective of financial management are considered usually at two levels –at macro level and micro level. three primary objectives are commonly explained as the Objective of financial management- Maximization of profits Maximization of return Maximization of wealth

**Maximization of profits :**
• Maximization of profits Profit earning is the main aim of every economic activity. Profit maximization simply means maximizing the income of the firm . Economist are of the view that profits can be maximized when the difference of total revenue over total cost is maximum, or in other words total revenue is greater than the total cost.

**Maximization of return :**
• Maximization of return Some authorities on financial management conclude that maximization of return provide a basic guideline by which financial decision should be evaluated .

**Maximization of wealth :**
• Maximization of wealth According to proof Solomon Ezra of stand ford university , the ultimate goal of financial management should be the maximization of the owners wealth. The value of corporate wealth may be interpreted in terms of the value of the company's total assets. The finance should attempt to maximize the value of the enterprise to its shareholders. Value is represented by the market price of the company's common stock

## FUNCTIONS OF FINANCIAL MANAGEMENT

- To Make Finance Availability At Minimum Rate Of Intrest.
- To Help In Deciding Cost, Selling Price Of product.
- To Prepare Annual Budget, For Each Department And Overall For Organization As Whole.
- To Monitor Day To Day Financial Transaction Of Firm.
- To Allocate Funds For New Unit Or Development.
- To Critically Monitor Financial Ratio Of Company.
- To Anticipate Future Capital Requirement Of Business.

**Functions of Financial Management:**
Here we are going to focus on some of the key functions of financial management notes and will discuss in few lines to understand them.

**1. Liquidity Functions:**
Looking for adequate liquidity to hold out the business strategies, each financial manager should perform some primary tasks. Firstly, raising funds, the company gets funding from various source of funds. At different periods some various source of funds is going to be a lot

more desirable. Secondly, forecasting cash flows, your day-to-day businesses need to get that the company to invest their bills easily. This will be mainly one matter of matching funding inflows against cash outflows. That the firm needs to be capable forecast your sources of funds plus timing to cash inflows from clients and use them towards suppliers and lenders payments.

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**2. Capital Requirement Estimation:**

**Finance** manager or supervisor need to make estimation with regards to funds / capital requirement of an organization. This particular depends after profits, expected cost, policies, rules and future programs. Estimations is one of an important functions of financial management. Estimations have to be made in a sufficient manner through which it can improve earning potential of a company.

**3. Capital Composition:**

When the estimation of capital requirement have been completed. Your finance plan with respect to capital structure need to be determined. This involves long-term as well as short-term debt **equity research** and analysis. It will mostly depend after each proportion concerning equity capital, which a company is actually possessing and additional required funds that have to be raised from external parties.


**4. Selecting a Source of Funds:**

To raise additional funds and to be obtained those funds, the best organization has many options. For example:

- Issue of debentures as well as shares.
- Loan to be taken from **financial institutions** or banks.
- Public deposits to be drawn just like at as a type of **bonds**. Choices of factor are determined by general demerits and merits concerning each source of funds and at each stage of company.

**5. Price Control:**

Many large companies possess comprehensive cost-**accounting** systems to monitor expenditure in areas for the company's functions of financial management. Information are fed right into a software system every day. In addition, computer systems are also designed to highlight statistical important facts on tasks and activities to be displayed for a monitor.

**6. Pricing:**

Some of the relevant decisions taken within company include the costs established for the items, services and products. Each philosophy then approach to pricing rules are important elements in company's advertising efforts, brand and then sales. Determination of the appropriate worth is the best joint decision concerning marketing manager provides insight to just how varying worth will likely affect demand within the market and company's competitive position. Each financial supervisor can supply insight about changes in expenditures at different levels of manufacturing and the **revenue** margins necessary to carry on the business successfully.

**7. Capital Investment:**

Finance manager is needed in order to choose allocation of funds entering into profitable ventures to ensure that there is an **investment** protection as well as a regular returns on investment is available. 8. Managing Funds: Funds can be seen as liquid assets of the company. The term funds contains funding held by your company, cash given by a company, funds borrowed by a company and funds gained by acquisitions of preferred stocks and equity stocks. Into the functions of financial management, your financial manager or supervisor acts as one specialized officer of a company. That the manager is responsible for allocating funds and tracking the sufficient funds available for a company to perform its business smoothly.

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**9. Distribution of Income:**

The net revenues decision need to be established simply by finance supervisor. This can be done in two functions of financial management for an organization. Firstly by declaring dividend, It includes determining their rate of dividends along with bonus if any. Second by retaining income, the amount maintains to-be determined that upon expansion, innovation or any diversification plans of an organization.

**10. Financial Control:**

The finance manager not only need to build strategy to raise funds, allocate funds and make use of the funds, but he even need to build techniques and methods to work on financial control of funds. This can be complete thru some techniques just like ratio analysis, financial forecasting, pricing, cost control and much more.

## 4.2 Capital Generation

**CAPITAL**

• Capital Is The Life-Blood Of Business Enterprise.
• Capital In Its Meaning, Covers All The Elements Like Money,Land, Machinery, Materials And Tools Etc. Which AreEssential Factors To Start An Enterprise.

• Capital Is The Measure Of The Amount Of Resources Of An Enteprise.
• Capital Develops Products, Keeps Workers And MachinesAt Work, Encourages Management To Make Progress AndCreate Value.

**TYPES OF CAPITAL**

**1. Fixed Capital:**
For Running An Industry, Two Types Of Capital Are Needed.One
For Purchasing Fixed Assets. Fixed Capital Is Associated WithLong Term Assets.
Fixed Capital Like, Land, Building, Equipments And Machinery, Tools, And Furniture. Etc.

**1. Working or Current Capital:**
Once Fixed Assets Have Been Purchased, The Enterprise NeedTo Meet Its Day To Day Needs And Expenditure. These Working Capital Or Current Capital Such As :
- Purchase Of Raw Material and Supplies.
- Payment Of Employee Wages.
- Advertisement And Selling Expenses.
- Equipment And Plant Maintenance Cost.
- TrnasportationAnd Shipping Exenses.
- Organization Expenses. Etc

**SOURCES OF WORKING CAPITAL**

• There Are Three (3) Types Of Working Capital Requirement:
**1. Long Term Financing Requirement**: In Long Term FinancingFollowing Are The Sources Which Can Tapped By The FinancialManager.
- Loan From Financial Institutions.
- Accepting Public Deposits.
- Issue Of Additional Equity Shares.
- Raising Funds by Internal Financing.

**1. Short Term Financing :**These Sources Include
- Short Term Bank Loans.
- Commercial Papers.
- Cash Credit.
- Overdraft Bills Discount Etc.

**1. Spontaneous Financing**:
- Trade Credit
- Outstanding Expenses.

## 4.3 BUDGET AND BUDGETING

• **Definition:** A **budget** is a financial document used to project future income and expenses. The budgeting process may be carried out by individuals or by companies to estimate whether the person/company can continue to operate with its projected income and expenses.
• A budget may be prepared simply using paper and pencil, or on computer using a spreadsheet program like Excel, or with a financial application like Quicken or QuickBooks.
• The process for preparing a monthly budget includes:

• Listing of all sources of monthly income
• Listing of all required, fixed expenses, like rent/mortgage, utilities, phone, Listing of other possible and variable expenses.
• **Budgeting**
• **Definition:** Establishing a planned level of expenditures, usually at a fairly detailed level. A company may plan and maintain a budget on either an accrual or a cash basis. Business budgeting is one of the most powerful financial tools available to any small-business owner. Put simply, maintaining a good short- and long-range financial plan enables you to control your cash flow instead of having it control you

## 4.3 TYPES OF BUDGETS

• **Types Of Budget**
• Sales Budget
•Production Budget
•Purchase Budget
• Expenditure Budgets
•Cash Budget
• Master Budget
• Zero Base Budget
•Flexible Budget

**• Sales Budget**
• Sales budget is a functional budget. The product wise as well as regional break up of sales estimates are incorporated in the sales budget. The sales budget begins with the previous year actual and incorporates the likely changes.

**• Production Budget**
• The production budget is prepared based on the sales estimate incorporated in the sales budget. The adjustments with respect to the opening and closing stock positions that are policy decisions of the business are then made to prepare the production budget.

**• Purchase Budget**
• The purchase budget is another functional budget that estimates the purchase requirement of materials utilized in the production process. The purchase budget is based on the production budget and the standard material consumption requirement for the production estimates.

**Expenditure Budgets**
• Expenditure budgets may be drafted as fixed / flexible budgets.
• A fixed budget is one which is prepared keeping in mind one level of activity. It is Defined as one which is designed to remain unchanged irrespective of the level of activity attained.
Flexible budgets are prepared where the nature In contrast, flexible budget is one which is designed to change in relation of business is such that it is difficult to predict the demand/sale of goods.
**• Zero Base Budget**
• An illustration of a long term budget is the Zero base budget. Zero Base Budgeting process looks at requirements/ plans a new each year irrespective of project continuity. These are necessarily long term project budget**• Cash Budget**

• A cash budget consolidates all the cash inflows and outflows for the business. The cash budget is also a functional budget. The cash budget helps the business to plan the project purchases as well as to provide for the loan requirements. The cash budgets also help in defining the repayment plans for short and long term loans of the business.

**• Master Budget**
• The overall or master budget summarizes the other functional budgets. Consolidating the functional budgets, an income and expenditure budget and Budgeted balance sheet are prepared. The master budget is usually a one-year Budget expressing the expected asset position and capital and liability positions for The projected year.
• Master Budget – Income Statement
• Particulars January February March Total
• Sales 12000 15000 10000 37000
Less: cost of goods sold 5000 7000 4300 16300
Factory overheads 2000 2000 2000 6000
Administrative overheads 1000 1000 1000 3000
Selling overheads 500 600 400 1500
• Net profit 3500 4400 2300 10200

## 4.4 Accounts

An **account** is a record in an accounting system that tracks the financial activities of a specific asset, liability, equity, revenue, or expense. ... Each individual **account** is stored in the general ledger and used to prepare the financial statements at the end of an accounting period.

**What is Account example?**
In accounting, an **account** is a record in the general ledger that is used to sort and store transactions. For **example**, companies will have a Cash **account** in which to record every transaction that increases or decreases the company's cash.
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**Types Of Bank Accounts**
whether you are a housewife or a college student, a business owner or a business house, a retired professional or Indian living abroad, not having a bank account is unimaginable. Based on the purpose, frequency of transaction, and location of the account-holder, banks offer a bouquet of bank accounts to choose from. Here is a list of some of the **types of bank accounts in India**.

**1. Current account**
A current account is a deposit account for traders, business owners, and entrepreneurs, who need to make and receive payments more often than others. These accounts hold more liquid deposits with no limit on the number of transactions per day. Current accounts allowoverdraft facility, that is withdrawing more than what is currently available in the account. Also, unlike savings accounts, where you earn some interest, these are zero-interest bearing accounts**.** You need to maintain a minimum balance to be able to operate current accounts.

**2. Savings account**

A savings bank account is a regular deposit account, where you earn a minimum rate of interest. Here, the number of transactions you can make each month is capped. Banks offer a variety of Savings Accounts based on the type of depositor, features of the product, age or purpose of holding the account, and so on.

.There are regular savings accounts, savings accounts for children, senior citizens or women, institutional savings accounts, family savings accounts, and so many more.

You have the option to pick from a range of savings products. There are zero-balance savings accounts and also advanced ones with features like auto sweep, debit cards, bill payments and cross-product benefits.

A cross-product benefit is when you have a savings account with a bank and get to avail special offers on opening a second account such as a demat account.

**3. Salary account**

Among the different types of **bank accounts**, your salary account is the one you have opened as per the tie-up between your employer and the bank. This is the account, where salaries of every employee are credited to at the beginning of the pay cycle. Employees can pick their type of salary account based on the features they want. The bank, where you have a salary account, also maintains reimbursement accounts; this is where your allowances and reimbursements are credited to.

**4. Fixed deposit account**

To park your funds and earn a decent rate of interest on it, there are **different types of accounts** like fixed deposits and recurring deposits.

A fixed deposit (FD) account allows you to earn a fixed rate of interest for keeping a certain sum of money locked in for a given time, that is until the FD matures. FDs range between a maturity period of seven days to 10 years. The rate of interest you earn on FDs will vary depending on the tenure of the FD. Generally, you cannot withdraw money from an FD before it matures. Some banks offer a premature withdrawal facility. But in that case, the interest rate you earn is lower.

**5. Recurring deposit account**

A recurring deposit (RD) has a fixed tenure. You need to invest a fixed sum of money in it regularly -- every month or once a quarter -- to earn interest. Unlike FDs, where you need to make a lump sum deposit, the sum you need to invest here is smaller and more frequent. You cannot change the tenure of the RD and the amount to be invested each month or quarter. Even in the case of RDs, you face a penalty in the form of a lower interest rate for premature withdrawal. The maturity period of an RD could range between six months to 10 years.

**6. NRI accounts**

There are **different types of bank accounts** for Indians or Indian-origin people living overseas. These accounts are called overseas accounts. They include two types of savings accounts and fixed deposits -- NRO or non-resident ordinary and NRE or non-resident external accounts. Banks also offer foreign currency non-resident fixed deposit accounts. Let us quickly see the **various types of bank accounts** for NRIs-

**DIFFERENT LIABILITIES:**
• On the other side of the balance sheet are the liabilities. These are the financial Obligations a company owes to outside parties. Like assets, they can be both Current and long-term.
• Long-term liabilities are debts and other non-debt financial obligations, which Are due after a period of at least one year from the date of the balance sheet.
• Current liabilities are the company's liabilities which will come due, or must be Paid, within one year. This is comprised of both shorter term borrowings, such As accounts payables, along with the current portion of longer term borrowing, Such as the latest interest payment on a 10-year loan**.**

## Profit and loss account

• An official quarterly or annual financial document published by a public company, showing earnings,
Expenses and net profit. Net income is determined from this financial report by subtracting total
Expenses from total revenue. The profit and loss statement and the balance sheet are the two major
Financial reports that every public company publishes. The difference between this statement and the
Balance sheet deals with the periods of time that each one represents. The profit and loss statement
Shows transactions over a given period of time (usually quarterly or annually), whereas the balance
Sheet gives snapshot holdings on a specific date. Also called income statement or earnings report.

**What is a profit and loss account?**
•Shows business performance over a specific period of time.
•Records incomings (revenue from sales) and outgoings (cost of sales plus overheads and expenses) to show whether a profit or loss has been made.
•Shows a summary of invoices that have been raised, or sales income that has been generated, including an estimate of work in progress but not yet invoiced.
•Includes purchases made from suppliers for goods or raw materials, and an estimate of cost for goods/raw materials used but not yet paid

**• 1. Annual Accounts**
• Accounts are required to be prepared annually, and may also be prepared for other periods, for example monthly or quarterly.
• A major purpose of preparing accounts is to be able to monitor the progress of the business. Thus accounts may need to be prepared more frequently than once a year if the business is not going to founder. The management needs to monitor the sales and Costs to make sure that the company is paying its way, and hopefully making a profit. If The profits appear to be down on a previous quarter, then action may need to be taken to Find out why this happened, and remedy the situation in the future.

• If the business has already borrowed money from the bank, or is wishing to do so, then The bank will probably want to see the accounts. The bank is lending its money to the Business and wants to be sure that it is a sound investment. If the bank is not happy With the accounts it may choose not to give the business loan facilities, or perhaps Increase its borrowing charges. Furthermore, the bank wants to be certain that the Business is under sound financial management, and that good records are being kept for This purpose.
• The business is required to annually present its accounts to the Inland Revenue for tax purposes. Should any tax due be not paid on time, or incorrectly, the Inland Revenue can choose to fine the business. In addition, companies are required to file their accounts at Companies House, where they are open for public inspection

**• 2. The Profit & Loss Account:**
• The profit and loss account shows the profit that the business makes. This is also known as the "Trading, Profit and Loss Account". It is made up of the following components:
• • Sales
• • Direct Costs
• • Gross Profit
• • Indirect Costs
• • Net Profit
• • Taxation
• • Director's Drawings
• • Investment in Business.
Balance sheet
• Balance Sheet
• What Does Balance Sheet Mean?
A financial statement that summarizes a company's assets, liabilities and shareholders' equity at a specific point in time. These three balance sheet segments give investors an idea as to what the company owns and owes, as well as the amount invested by the shareholders.
The balance sheet must follow the following formula:
Assets = Liabilities + Shareholders' Equity
• A balance sheet, also known as a "statement of financial position", reveals a company's assets, liabilities and owners' equity (net worth). The balance sheet, together with the income statement and cash flow statement, make up the cornerstone of any company's financial statements.
How the balance sheet works
• If you are a shareholder of a company, it is important that you understand how the balance sheet is structured, how to analyze it and how to read it.
• The balance sheet is divided into two parts that, based on the following equation, must equal (or balance out) each other. The main formula behind balance sheets is:
• assets = liabilities + shareholders' equity
This means that assets, or the means used to operate the company, are balanced by a company's financial obligations along with the equity investment brought into the company and its retained earnings.
Assets are what a company uses to operate its business, while its liabilities and equity are two sources that support these assets. Owners' equity, referred to as shareholders' equity in a publicly traded company, is the amount of money initially invested into the company plus any retained earnings, and it represents a source of funding for the

business.
It is important to note, that a balance sheet is a snapshot of the company's financial position at a single point in time.

**• TYPES OF ASSETS :**

**• Current assets**

Current assets have a life span of one year or less, meaning they can be converted easily into cash. Such assets classes are: cash and cash equivalents, accounts receivable and inventory. Cash, the most fundamental of current assets, also includes non-restricted bank accounts and checks.

• Cash equivalents are very safe assets that can be are readily converted into cash such as US Treasuries. Accounts receivable consists of the short-term obligations owed to the company by
its clients. Companies often sell products or services to customers on credit, which then are held in this account until they are paid off by the clients.

• Lastly, inventory represents the raw materials, work-in-progress goods and the company's finished goods. Depending on the company, the exact makeup of the inventory account will differ. For example, a manufacturing firm will carry a large amount of raw materials, while a retail firm caries none. The makeup of a retailers inventory typically consists of goods purchased from manufacturers and wholesalers.

**• Non-current assets**

Non-current assets, are those assets that are not turned into cash easily, expected to be turned into cash within a year and/or have a life-span of over a year. They can refer to tangible assets
such as machinery, computers, buildings and land.

• Non-current assets also can be intangible assets, such as goodwill, patents or copyright. While
these assets are not physical in nature, they are often the resources that can make or break a company - the value of a brand name, for instance, should not be underestimated.

• Depreciation is calculated and deducted from most of these assets, which represents the economic cost of the asset over its useful life.

## 4.5 Taxes

The money that you have to pay to the government so that it can provide public services
It is a charge or burden laid upon persons or the property for the support of a Government. Government decided the rates and the items on which **tax** will be charged, like income **tax**, GST, etc. **Tax** can be defined in very **simple words** as the government's revenue or source of income.

**Taxes in India are of two types**

Be it an individual or any business/organization, all have to pay the respective taxes in various forms. These taxes are further subcategorized into direct and indirect taxes depending on the manner in which they are paid to the taxation authorities. Let us delve deeper into both types of tax in detail:

**Direct Tax**

- The definition of direct tax is hidden in its name which implies that this tax is paid directly to the government by the taxpayer
- The general examples of this type of tax in India are Income Tax and Wealth Tax.
- From the government's perspective, estimating tax earnings from direct taxes is relatively easy as it bears a direct correlation to the income or wealth of the registered taxpayers.

### Indirect Tax

- Indirect taxes are slightly different from direct taxes and the collection method is also a bit different. These taxes are consumption-based that are applied to goods or services when they are bought and sold.
- The indirect tax payment is received by the government from the seller of goods/services.
- The seller, in turn, passes the tax on to the end-user i.e. buyer of the good/service.
- Thus the name indirect tax as the end-user of the good/service does not pay the tax directly to the government.
- Some general examples of indirect tax include sales tax, Goods and Services Tax (GST), Value Added Tax (VAT), etc.

**Proportional Tax**

A proportional tax is an income tax system that levies the same percentage tax to everyone regardless of income. A proportional tax is the same for low, middle, and high-income taxpayers. Proportional taxes are sometimes referred to as flat taxes.

In contrast, a progressive tax or marginal tax system adjusts tax rates progressively by income. Low-income earners are taxed at a lower rate than high-income earners.

**KEY TAKEAWAYS**

- A proportional tax system, also referred to as a flat tax system, assesses the same tax rate on everyone regardless of income or wealth.
- Proportional taxation is intended to create greater equality between marginal tax rates and average tax rates paid.
- Proponents of proportional taxes believe they stimulate the economy by encouraging people to spend more and work more because there is no tax penalty for earning more.

**Example of Proportional Taxes**

In a proportional tax system, all taxpayers are required to pay the same percentage of their income in taxes. For example, if the rate is set at 20%, a taxpayer earning $10,000 pays $2,000 and a taxpayer earning $50,000 pays $10,000. Similarly, a person earning $1 million pay $200,00

**Progressive Tax**

A **progressive tax** is a **tax** in which the **tax** rate increases as the taxable amount increases. The term **progressive** refers to the way the **tax** rate progresses from low to high, with the result that a taxpayer's average **tax** rate is less than the person's marginal **tax** rate.ould
pay $200,00

## Customs duty Tax

**Customs duty** refers to the **tax** imposed on goods when they are transported across international borders. In simple terms, it is the **tax** that is levied on **import** and export of goods. The government uses this **duty** to raise its revenues, safeguard domestic industries, and regulate movement of goods.

'Customs Duty' refers to the tax imposed on the goods when they are transported across the international borders. The objective behind levying customs duty is to safeguard each nation's economy, jobs, environment, residents, etc., by regulating the movement of goods, especially prohibited and restrictive goods, in and out of any country.

## Income tax

**Income tax** is a direct **tax** that a government levies on the **income** of its citizens.

... **Income** does not only **mean** money earned in the form of **salary**. It also includes **income** from house property, profits from business, gains from profession (such as bonus), capital gains **income**, and '**income** from other sources'.

**Income Tax** is a **tax** you pay directly to the government basis your **income** or profit. **Income tax** is collected by the Government of India. **Taxes** are of two types - direct **tax** and indirect **tax**. Direct **tax** is the **tax** paid by you on your **income** directly to the government and is levied on profits and **income**.

Income tax in India is a direct tax on the income or earnings in a financial year. Below are some types of incomes and their taxation rules in India:

- **Income from salary/pension:** This includes basic salary, taxable allowances, perquisites, and profit in lieu of salary, as well as pension received by the person who himself/herself has retired from the service. Incomes from salary and pension are included in the computation of taxable income.
- **Income from business/profession:** This includes actual and presumptive incomes from business and professions that individuals do in their personal capacity and is added to taxable income after adjustment of the deductions allowed.
- **Income from house property:** An income tax assesses can own one or more house properties. These house properties can be self-occupied or rented out or even vacant. This head describes the rules relating to such ownership. The rules under this head describe how rent from one or more house properties is to be treated for the purpose of calculation of taxable income. It also describes how interest on home loan is to be accounted for in the case of self-occupied, rented out and vacant properties. An income tax assessee can claim certain deductions such as municipal taxes and a standard deduction for house maintenance in certain cases. The final net income or loss under this head is then added to or deducted from the income from the other heads.
- **Income from other sources:** This includes incomes like interest from a savings account, fixed deposits (FDs), family pension etc, which are included in the taxable income.

- **Income from Lottery, Betting, and Race Horse etc:** Such incomes are included in the total income, but excluded from taxable income as different tax rates are applicable on these types of income.
- **Capital Gain:** Capital gains arise at the time of selling capital assets like gold, house properties, stocks, securities, mutual fund units etc. Depending on the types of capital assets and the period of holding, gains on the sale of such assets are categorised as short-term and long-term capital gains. Although capital gains are part of income tax, they are not added to taxable income, because except short-term capital gains on the sale of debt funds, other gains are taxed at different rates.

## Service tax

**Service tax** was an indirect **tax** levied by the government on **services** offered by **service** providers. ... **Service tax** was paid to the government in exchange for different **services** received from **service** providers.
The single **GST** subsumed several taxes and levies, which **included** central excise duty, **services tax**, additional customs duty, surcharges, state-level value added **tax** and Octopi. ... **GST** is levied on all transactions such as sale, transfer, purchase, barter, lease, or import of goods and/or **services**.
**Service tax** is a type of indirect **Tax** that you are liable to pay to the government once you consume the taxable **services** offered by different **service** providers such as restaurants, cab **services**, hotels, travel agents, cable providers etc.
Service tax is a tax levied by the government on service providers on certain service transactions, but is actually borne by the customers. It is categorized under Indirect Tax and came into existence under the Finance Act, 1994.

**What is service tax?**
Service tax in India is an important form of indirect tax. The Central Board of Excise and Customs (CBEC) has the responsibility of collecting the levy in different states in India. It is not imposed in the state of Jammu and Kashmir. Currently, the rate is 10%. It is a type of indirect duty levied on particular services that are categorized as taxable services. The responsibility of paying this kind of levy lies on the service provider. This duty can't be levied on services that are not included in the specified list. Over last one or two years, the domain of service tax been broadened to include new services. The goal behind imposing service tax in India is to lower the extent of concentration of taxation on business and industry without compelling the government to find the middle ground on the revenue requirements
**Taxed Services**
Since the time of its inception in 1994-1995, only three services were liable to be taxed. From that time, the Government of India has introduced almost 100 categories under its ambit, which include the following:
Traveling agencies (road. air, and railway services)
Telecommunication
Management consultants
Architects
Credit rating agencies
Colleges, universities, and schools
Broadcasting services (television and radio)
Market research analyst
Authorized service stations
Banking and other financial services

Cargo and shipping
Export import unit
Hospitals and health care providers/services
Telegraph services
Maintenance and repair services
Storage and warehousing services
Retail stores
Franchise owner
Packaging services
Transportation of goods
Cable operators
The Traditional System of Levying Tax

• **First Point Tax** - Avoid cascading effect but Govt. loses its control on last point sales with added value – leakage of revenue due to various tax management in the subsequent sales after First Point.
• **Next Point Tax** (especially for banded goods)-Burden of tax is shifted to the next point
• **Last Point Tax**- Govt. gets revenue on value addition upto last point but loses its control on origin of
Manufacture- possibility for leakage of revenue / escaped taxation – Not popular with Govt.

## Value-added tax (VAT)

A **value-added tax** (**VAT**) is a consumption **tax** placed on a product whenever **value** is **added** at each stage of the supply chain, from production to the point of sale. The amount of **VAT** that the user pays is on the cost of the product, less any of the costs of materials used in the product that have already been taxed.

**Value-added tax** (**VAT**) is a type of indirect **tax** levied on goods and services for **value added** at every point of production or distribution cycle, starting from raw materials and going all the way to the final retail purchase. ... Because the consumer bears the entire **tax**, **VAT** is also a consumption **tax**.

**The main characteristics of value-added tax (VAT) are stated as follows:**

1. The VAT is a form of indirect taxation. It is charged on the value of imports but It is not charged on the value of exports.

It is a comprehensive tax imposed by a standard ratio at a single rate in the whole country, although some countries apply multiple ratios.

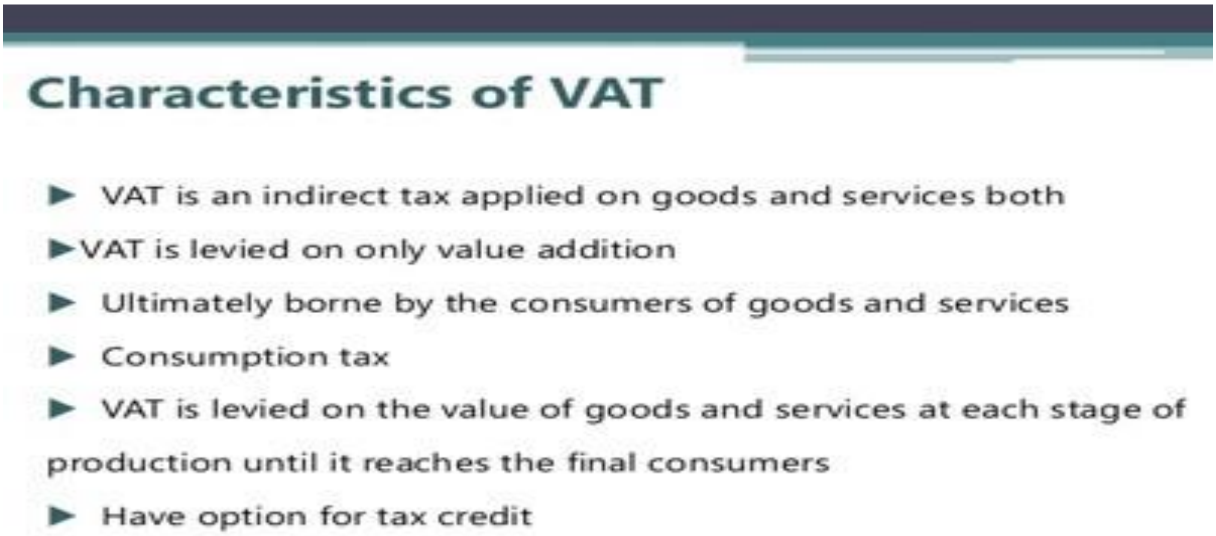
2. The VAT is a broad-based tax as it covers the value added to each commodity by a firm during all stages of production and distribution. It applies to both manufactured goods.

3. A VAT is based on a value-added principle. Value-added can be obtained either by adding payments to factors of production (i.e., wages+rent+interest+profit) or deducting the cost of inputs from sales revenue.

4. It is a substitute for sales tax, hotel tax, contract tax, and entertainment tax. It is a multipoint sales tax that helps set off for tax paid on purchases.

5. It is based on a self-assessment system and provides the facility of tax credit and tax refunds. It is a general tax levied on all goods and services, whether they are manufactured locally or imported.

6. It avoids cascading effect existed in sales tax and contains a catch-up effect. It is a tax that involves the state taking part in its issuance, in the context of its financial policy, to stimulate investment and attract capital.




## Goods and Services Tax

What is **GST** in India? **GST** is known as the Goods and Services **Tax**. It is an indirect **tax** which has replaced many indirect **taxes** in India such as the excise duty, VAT, services **tax**, etc.
Goods and Services **Tax** (**GST**) **GST** subsumed as many as 17 different **indirect taxes** in India like Service **Tax**, Central Excise, State VAT, and more. It is a single, comprehensive, **indirect tax** which is imposed on all the goods and services as per the **tax** slabs laid by the **GST** council.
The goods and services tax (GST) is a value-added tax levied on most goods and services sold for domestic consumption. The GST is paid by consumers, but it is remitted to the government by the businesses selling the goods and services.

KEY TAKEAWAYS

- The goods and services tax (GST) is a tax on goods and services sold domestically for consumption.
- The tax is included in the final price and paid by consumers at point of sale and passed to the government by the seller.
- The GST is a common tax used by the majority of countries globally.
- The GST is usually taxed as a single rate across a nation.

The three types of GST are
CGST or Central Goods and Services Tax,
SGST or State Goods and Services Tax,
IGST or Integrated Goods Services Tax,
UGST or Union Goods and Services Tax.

# Unit No 5 Material management

The 5 M's of production are Men, Machines, Money , Materials and Methods Material mgt. is the planning, directing, controlling and coordinating those activities which are concern with materials and inventory management.
Material Management ensures that the
• Required material are brought in the required quantities,
• At the required time,
• Of the required quality and
• At an acceptable price.

Definition: A process encompassing acquisition, shipping, receiving, evaluation, warehousing and distribution of goods, supplies and equipment Each step is vital

**Advantage of MM** are maximum co-ordination & Optimum expenditure on material.

## Functions/aims of Material Management

1. Planning and control of material
2. Purchasing of material
3. Stock keeping (Inventory) of material
4. Distribution of material to various department
5. Allocation of material
6. Disposal of material

## 5.1 Inventory Management

**Inventory**:
Inventory is a detailed list of all kinds of items (goods) which are necessary to manufacture a product and to maintain the equipment and machinery in good working condition.
Inventory mgt. is a process of maintaining the optimum stock of each inventory item at minimum cost.
• Stocks to ensure uninterrupted supplies
• The idle resources which have future economic value
• Cushion between estimated and actual demand of materials

A scientific system which indicates:
1. What to order
2. When to order
3. How much to order
4. How much to stock

## Inventory Control:

The aim of a sound inventory control system is to secure the best balance between ' too much and too little'
✓ Too much inventory (stock) – carries financial risks

✓ Too little inventory increases the risk of ‘out of stock’ condition which may hamper production activity. It may result in loss of order.

## Classification of Inventories

### Direct Inventories

The inventories which play a direct role in the manufacturing of a product and become an integral part of the finished product are called direct inventories

**1. Raw material –** raw material on which operation will be performed to convert it into the desired (final) product. e.g. steel, wood, rubber, tubes, plates etc.

**2. Semi-finished Material inventory:** It is also called as ‘Work-In-process inventory’. The material which is processed partially and waiting for next process. eg. Half or partly parts which are required to assemble the final product

**3. Finished inventories-** they are the finished goods lying in stock rooms and are ready for dispatch to market. eg. Finished product like mobile phones, a.c, tv etc.

### Indirect inventories

Comprise of stock items that are necessary for the manufacturing of goods but are not a direct component of such goods. They are ancillary goods, which mean we cannot assign them to specific units of the final goods. ... For example, petrol or lubricants used in production are **indirect inventories**.

**Indirect materials** are **materials** that are used in the production process but that are not directly traceable to the product. For **example**, glue, oil, tape, cleaning supplies, etc. are classified as **indirect materials**.

They include lubricants and other items (fro ex. Spare parts) need for proper operations.

## Functions of Inventory management

1. **Improved Productivity and Efficiency:**
   Inventory management software enables us to increase productivity and efficiency by implementing automated daily manual tasks. This will assist you to maximize the growth of your business.
   The software saves uncountable hours and gives the opportunity to print shipping labels, process and dispatch orders, manage stock, create and update the listing on the system.
2. **Avoid Stock-outs and Over-stock:**
   When it comes to maintaining the balance sheet of inventories and its management, it is a difficult and challenging task to handle. Case of less stock leads to stock-out which not only disrupt customer relation but cause a possible loss whereas in case of over-stock its storage creates a problem.
   With inventory management software installed, you can set a limit for re-ordering so that stock when drops it gets automatically re-ordered.
3. **Quality Management:**
   The software has the ability to identify and track issues that can cause delayed shipment or broken packages. Through the already feed data provides guidance to quality management.

4. **Easy Inventory Management:**
   The software makes the process of inventory management a lot easier which saves money and time both. It assists to automate the business processes and guides to make smarter decisions.
5. **Improved Profitability:**
   The software helps to reach the maximum amount for business investment. It uses marketing and production to increase profits. With the software's ability to automatically operate the business in terms of management of inventory possibility of fulfilling tasks efficiently and accurately, increases.
   It can be in any terms from managing stocks to updating lists on all channels. Then the processing orders will turn to reduce expenses and maximize profitability.
6. **Planned Management:**
   You can identify the possibilities of opening multiple stock storehouses located near the customers' location. This will increase efficiency and improve service levels.
7. **Balanced Supply and Demand:**
   When it comes to delivery, time is the focus point. Delivery should be given at the exact time that also with the least pay amount and excess of features.
8. **Inventory Reports:**
   The software is meant to generate automated reports. You can get any report such as a low stock report, inventory validation report, inventory forecast report.
9. **Inventory Tracking:**
   Inventory tracking is the most beneficial function and feature of inventory management software. The software keeps the track of unlimited serial numbers from when the inventory is received until the time it is issued.

## Objective of Inventory Control

1. Procurement of inventory of right quantity and right quality.
2. Procurement of material at an economical rate.
3. Establishing safe, suitable storage location

## Advantages of proper and efficient Inventory control

1. Supply of good quality material at right time
2. Reducing cost of production
3. No shortage and no excess of inventory.
4. Efficient utilization of storage space.

# 5.2ABC analysis (Always Better Control)

ABC Analysis also referred to as ABC Classification**,** is an integral part of material management. It is an inventory categorization method, which classifies the inventory primarily into three distinct categories based on the revenue generation. ABC inventory helps business entrepreneurs and stock owners identify the essential products in the stock and prioritize their management based on the value. The inventory analysis is based on the Pareto Principle.

The Pareto Principle is a popular economic theory, discovered by renowned Italian economist Vilfredo Pareto. Pareto believed that optimum economic growth occurs only due to a small part of the economy. It means that the relation between the input and output is always unequal.

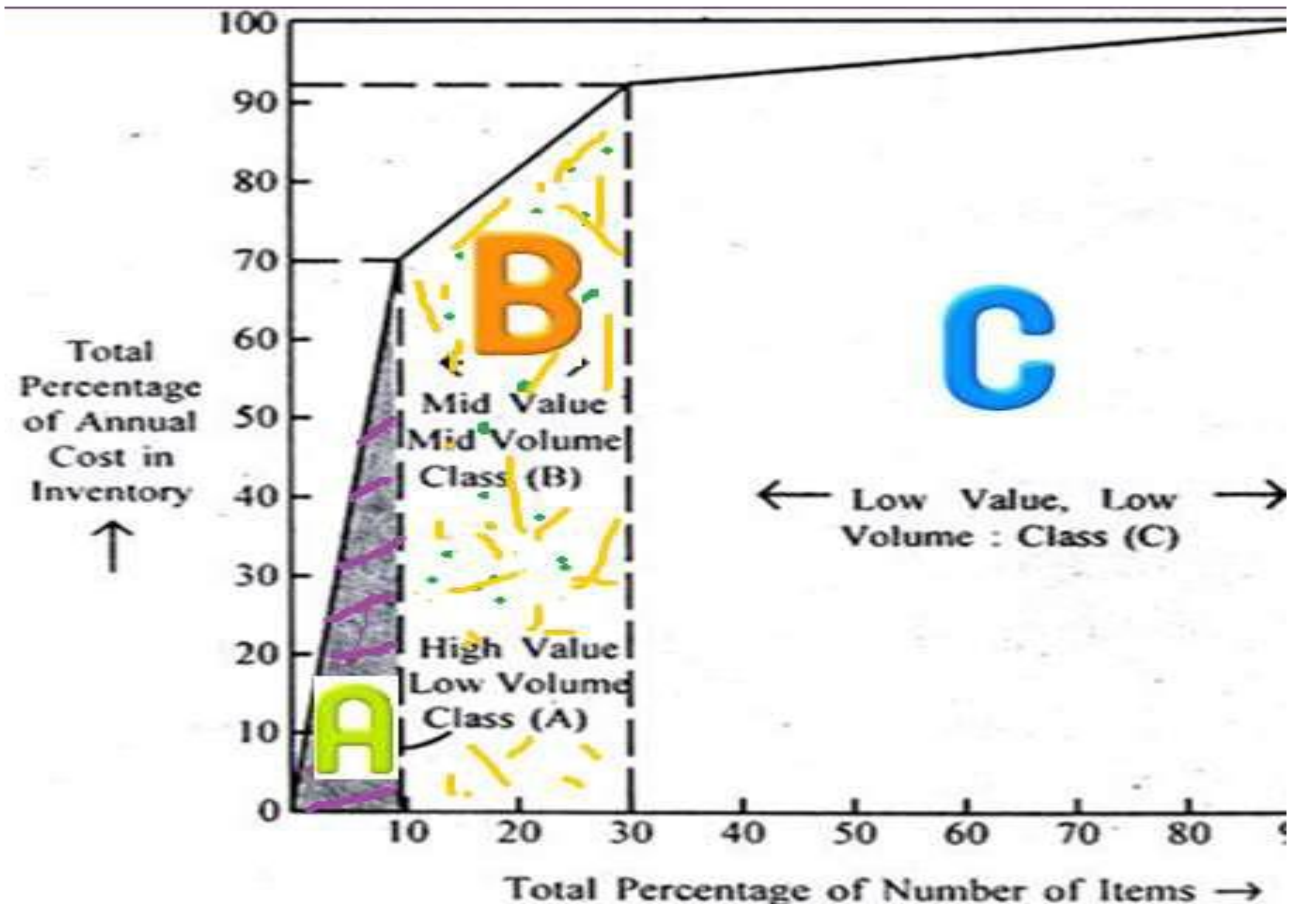
Pareto Principle states that 80% of the sales volume gets generated from the top 20% of the items. It says that in any group, there are significant few and insignificant many. It is also known as the 80/20 rule.

ABC analysis is one of imp. Technique which is based on **grading** the items according to the **importance of material.** In inventory control, this technique helps to analyze the distribution of any characteristic by **money value** of importance in order to determine its importance.

All the items of organization divided into **3 categories** on
The basis of the money value of importance of material.

**1. High value cost material – A (Less Consumption)**
**2. Medium value materials- B (Medium Consumption)**
**3. Low value materials- C (High Consumption)**

| Category | % of total number of items | % of total consumption cost |
|---|---|---|
| A | less than 10% | 70 to 80 % |
| B | 10 to 20% | 15 to 25 % |
| C | 70 to 80% | less than 10% |




**Major Applications of ABC Analysis** The Manufacturing SectorABC Inventory Analysis helps manufacturers to improve the inventory replenishment schedule. It allows managers to categorize stock items based on the total annual cost. Also, ABC Analysis becomes mandatory if the organization plans to integrate the Kabana to manage the workflows.

**Supply Chain and Warehouse**

The supply chain and warehouses use ABC Inventory Classification mainly for the stock count cycles. For instance, items placed in category A have to be counted quarterly. B class items need a bi-annual counting. On the other hand, C category products get the most liberty. They are calculated on an annual basis, once in a year.

**Retail and E-commerce**

The retail and the e-commerce industry usually choose ABC Management for customer segmentation. It helps retailers and e-commerce owners to pinpoint their most valuable customers. ABC Analysis is performed using key metrics such as sales revenue, buying potential, and contribution margin. The retailers can create a chart based on the metrics and then rank their customers in A, B, and C categories accordingly.

**Logistics Industry**

The logistics industry is also reaping the benefits of ABC Analysis. Here ABC management plays a pivotal role in controlling the inventory. The products are classified according to their importance based on different criteria such as sales ratio, profit margin, and cost of transportation, etc.

**ADVANTAGES OF ABC ANALYSIS**

1. It ensures a closer and a more strict control over such items, which are having a sizable investment in there.
2. It releases working capital, which would otherwise have been locked up for a more profitable channel of investment.
3. It reduces inventory-carrying cost.
4. It enables the relaxation of control for the 'C' items and thus makes it possible for a sufficient buffer stock to be created.
5. It enables the maintenance of high inventory turn over rate.

## 5.3Economic Order Quantity (EOQ)

The Economic Order Quantity is the order quantity that minimizes total holding and ordering costs for the year.
Or
The EOQ is the amount of inventory ordered at one time for the purposes of minimizes annual inventory cost.
Or
The size of order that minimize the total inventory cost is called EOQ.
Economic order quantity (EOQ) is the ideal order quantity a company should purchase to minimize inventory costs such as holding costs, shortage costs, and order costs. This production-scheduling model was developed in 1913 by Ford W. Harris and has been refined over time.
**EOQ objectives is to**

✓ Minimize the ordering cost

✓ Minimize carrying (holding) cost

✓ Minimize total cost of production.


$$EOQ = \sqrt{\frac{2 \times \text{Annual Consumption} \times \text{Ordering Cost}}{\text{Storage(holding)cost per unit}}}$$

Ordering cost = cost of placing single order
Holding cost = cost of hold one unit inventory in a year.
Ex: Calculate the EOQ if annual demand of the product is 5000 unit. The ordering cost is Rs.30 per unit and holding cost is Rs.6 per unit per annual.
Sol: Annual Consumption = 5000 unit, Ordering cost=Rs.30 , Holding cost per unit=Rs.6 ,**Ans: 224 units**

**Example of Economic Order Quantity (EOQ)**

EOQ considers the timing of reordering, the cost incurred to place an order, and the costs to store merchandise. If a company is constantly placing small orders to maintain a specific inventory level, the ordering costs are higher, along with the need for additional storage space.

For example, consider a retail clothing shop that carries a line of men's shirts. The shop sells 1,000 shirts each year. It costs the company $5 per year to hold a single shirt in inventory, and the fixed cost to place an order is $2.

**Disadvantages of Using Economic Order Quantity (EOQ)**

The basis for the EOQ formula assumes that consumer demand is constant. The calculation also assumes that both ordering and holding costs remain constant. These assumptions make it difficult, if not impossible; to account for unpredictable business events, such as changing consumer demand, seasonal changes in inventory costs, lost sales revenue due to inventory shortages, or purchase discounts a company might get for buying inventory in larger quantities.

## Buffer Stocks

Buffer stock is an additionally stored volume of goods which is kept to meet any sudden future demand or supply fluctuations. It is a backup stock, which retains some kind of buffer to protect in case of uncertain future. Buffer stock is kept as an extra backup to prepare for any uncertain business situations.

Buffer stock is also known as strategic stock or safety stock or buffer inventory. It is an important

## Importance of Buffer Stock

Buffer stock may be found at all stages of the supply chain, and is intended to reduce the occurrence or severity of stock-out situations and thus provide better line continuity and/ or customer service. Buffer stock is used in production or other inventory situations to ensure that exceptional or unpredictable shortages or demands can be met with some degree of certainty. Safety stock is generally held when there is uncertainty in the demand level or lead time for the product. The amount of buffer stock a business chooses to maintain regularly can dramatically affect their operations. Too much stock can result in high inventory carrying costs. Too less stock can cause repeated occurrences of stock-outs. Hence, businesses need to maintain a fine balance and decide on the amount of buffer inventory to be held.

**Definition of Buffer Stock Scheme**

A buffer stock scheme is a government plan to stabilise prices in volatile markets. This requires intervention in buying and selling.

Prices for agricultural products are often volatile because:

- Supply can vary due to the weather.
- Demand is inelastic
- Supply is fixed in the short term
- Buffer stock schemes aim to:
- Stabilize prices
- Ensure the supply of food
- Prevent farmers/producers going out of business because of a drop in prices.

**Advantages of buffer stocks**

1. Stable prices help maintain farmers incomes. A rapid drop in prices can make farmers go out of business, which leads to structural unemployment.
2. Price stability encourages more investment in agriculture.
3. Farming can have positive externalities e.g. helps rural communities. A drop in price could cause a negative multiplier effect within rural areas.
4. Target prices help prevent excess prices for consumers and help reduce food inflation. This might be important for households living in poverty, who may struggle to pay high prices during years of shortage.

5. It helps to maintain food supplies and avoid shortages.
6. It is possible the government could make a profit from a buffer stock scheme. If it buys during a glut and sells during a shortage, it can make a profit.

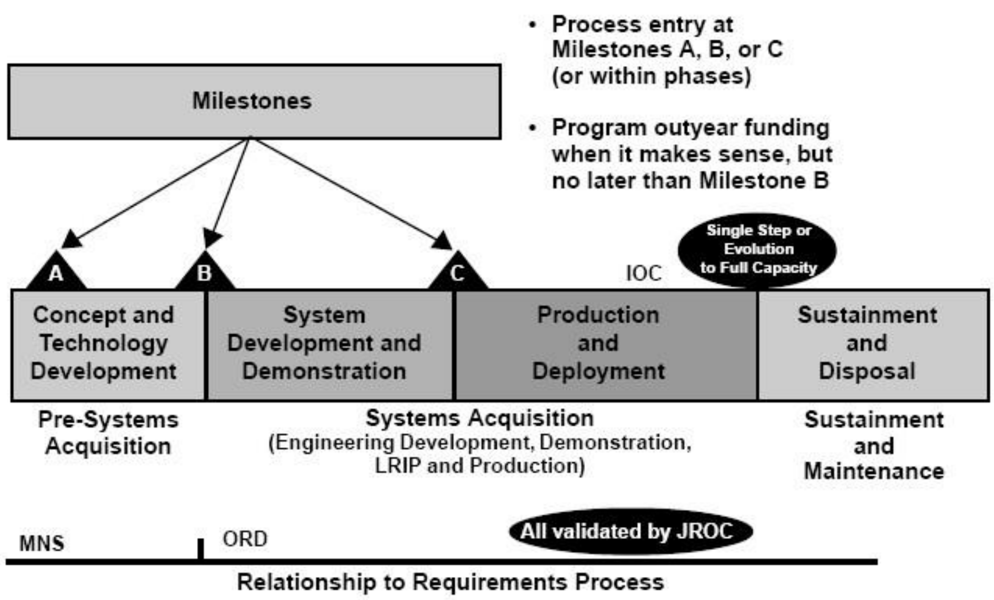
**Disadvantages of Buffer Stock**

1. In case of shorter shelf life, the products can get damaged and be rendered useless.

2. Additional overhead costs in purchasing and storing this stock.

# 5.4 Purchasing (Purchase Management):

can be defined as procurement of raw material, machinery, parts, goods needed for production and maintenance department**.**

The process allows for a given system to enter the process at any of the development phases. For example, a system using unproven technology would enter at the beginning stages of the process and would proceed through a lengthy period of technology maturation, while a system based on mature and proven technologies might enter directly into engineering development or, conceivably, even production. The process itself includes four phases of development:[1]

- Concept and Technology Development: is intended to explore alternative concepts based on assessments of operational needs, technology readiness, risk, and affordability.
- Concept and Technology Development phase begins with concept exploration. During this stage, concept studies are undertaken to define alternative concepts and to provide information about capability and risk that would permit an objective comparison of competing concepts.
- System Development and Demonstration phase. This phase could be entered directly as a result of a technological opportunity and urgent user need, as well as having come through concept and technology development.
- The last, and longest, phase is the Sustainment and Disposal phase of the program. During this phase all necessary activities are accomplished to maintain and sustain the system in the field in the most cost-effective manner possible.

## Importance of Purchasing

The purchasing process is of importance because it is used to identify user requirements, effectively and efficiently and evaluate the need ,identify suppliers, ensure the payment occur promptly and drive continuous improvement. Buying of inventory is usually driven by the purchasing department

The key objectives of purchasing department are:

1. Support operational requirements - It includes the basic requirements like buy products at right price, from the right source, at right quantity and quality.

2. Supply base management- One of the most important objectives of purchasing function is the selection development maintenance of supply, a process commonly known as Supply base management.

3. Develop strong Relationship with other functional groups

4. Support organization goals and objectives that comply with purchasing management

## Responsibilities of Purchasing Department

Some of the key responsibilities & duties are:

1. Evaluate and select suppliers: The most important duty of purchasing is to evaluate and right suppliers. It is important to avoid "maverick buying and selling -a situation that occurs when sellers contact and attempt to sell directly to end users

2. Review specifications: The right to question allows purchasing to review specifications where required. The right to question material specifications also helps avoid developing material specifications that only a users favorite supplier can satisfy.

3. Act as the primary contact with suppliers: Purchasing must act as the primary contact with suppliers, but that other function should be able to interact directly with suppliers as needed. involving multiple people enables the communication process between internal customers, purchasing, sale and suppliers internal functions to be more efficient and accurate

## Steps in purchasing

1. **Requisition or Order** (receiving purchase requirement by any department in need of material and send recognition letter to the inventory team.)
**2. Selection of supplier** ( Tender/quotation from different vendors are invited and after comparing, finalized the best one by considering different parameters like cost, quality, reputation of vendor)
**3. Issue Purchase order** to vendor/Supplier: In PO the details about product specification, quality and date mentioned.
**4. Follow up with suppler** for updating the status of your order.
**5. Receiving Goods**: Once good received physically verified against the details provided in the PO.
**6. Inspection and testing**: overall dimensions, specification, material are tested.
**7. Storage and record keeping** ( entering the goods by adding barcode and placed inwarehouse)
**8. Paymen**t issued to supplier by cash or check.

## 5.5 Smart Manufacturing:

### Brief introduction

The smart manufacturing the latest new generation manufacturing machine used in different industries for manufacturing purposes. Smart manufacturing is implement in different industrial sectors for the increased output of the industry. With the help of smart manufacturing, different tasks of the industry are done automatically. The automation of a factory as per the new technologies can be also termed as the smart manufacturing technique. Computers are mostly use in smart manufacturing procedures to control the automatic operations of a factory or a unit of a factory. Smart manufacturing is also refer to as computer-integrated manufacturing which results in rapid design change, high-level adaptability, flexible workforce training, and digital information technology.
By implementing smart manufacturing in the industrial sector several benefits can be accomplish such as supply chain optimization, fast changes for the demanded production level, efficient recyclability and efficient production.
According to the smart manufacturing industry, a smart industry should have a multi-scale simulation, multi-scale dynamic modeling, interoperable system, good cyber security, networked sensors, and intelligent automation.  An industry comprising of all the above-mentioned parameters can be consider as a smart industry possessing smart manufacturing capability.

## Industry 4.0

In this next phase of the industrial revolution, measurement technology plays a crucial role for quality-conscious organizations on the road to Industry 4.0. With the fusion of production technology and the Internet of Things (IoT), measurement technology requires strong connectivity and the capability to capture quality data faster, better and more flexibly and transfer it to networked devices and systems. It is truly the framework for increasing process efficiency and realizing bottom-line benefits in the smart factory. And, it not only pertains to on-line measurements but also includes the integration of at-line and off-line gauging technologies.


**Connectivity, Communication and Control**

To be Industry 4.0 ready means that production technology must be interoperable with other systems that speak the same industry protocols over a common Ethernet infrastructure. Smart factories require the utilization of advance-prediction tools, so that data can be systematically processed into information that allows operators to make the right decisions. Smart gauges or sensors provide industry-standard connectivity via common communication protocols, and built-in web server support provides mobile connectivity for smart diagnostics and smart service.

## Material Resource Planning (MRP)

**MRP** is a computer based **production planning** and **inventory control system.**

- *It provides the information about when to order and how much to order*
- **Inputs of MRP**
- **Master Production Schedule**
- **Bill of material**
- **Inventory Records**

Output of MRP – when to Buy. How much to buy, purchase orders and reports**.**

Materials Requirement Planning (MRP) is a technique for determining the quantity and timing for the acquisition of dependent demand items needed to satisfy master production schedule requirements."

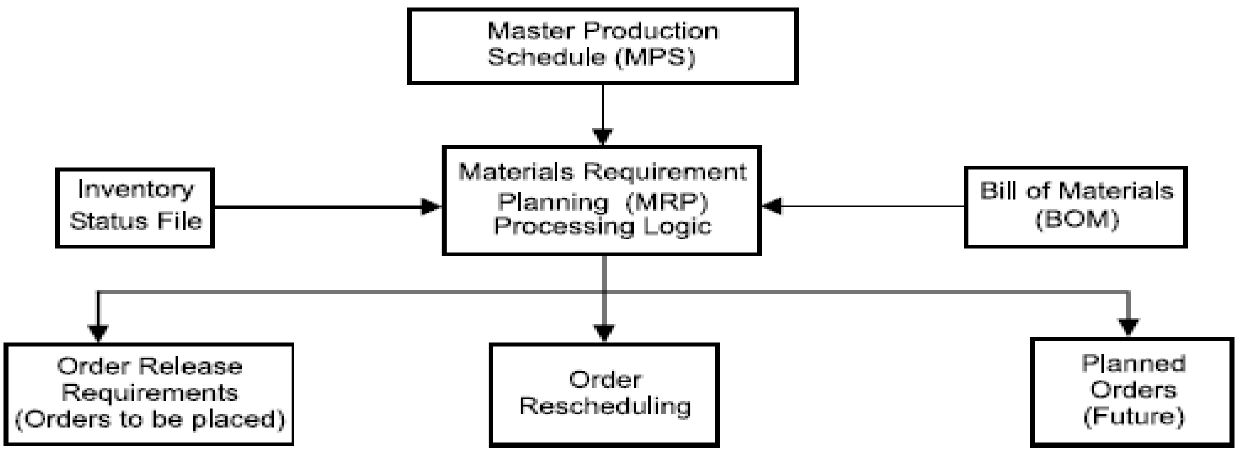
**Objectives of MRP**

1. **Inventory reduction:** MRP determines how many components are required when they are required in order to meet the master schedule. It helps to procure the materials/ components as and when needed and thus avoid excessive build up of inventory.
2. **Reduction in the manufacturing and delivery lead times*:*** MRP identifies materials and component quantities, timings when they are needed, availabilities and procurements and actions required to meet delivery deadlines. MRP helps to avoid delays in production and priorities production activities by putting due dates on customer job order.

3. **Realistic delivery commitments*:*** By using MRP, production can give marketing timely information about likely delivery times to prospective customers.
4. **Increased efficiency:**
   MRP provides a close coordination among various work centers and hence help to achieve uninterrupted flow of materials through the production line. This increases the efficiency of production system.

**MRP System**

The inputs to the MRP system are: (1) A master production schedule, (2) An inventory status file and (3) Bill of materials (BOM). Using these three information sources, the MRP processing logic (computer programme) provides three kinds of information (output) for each product component: order release requirements, order rescheduling and planned orders.




1. **MASTER PRODUCTION SCHEDULE (MPS)**
   MPS is a series of time phased quantities for each item that a company produces, indicating how many are to be produced and when. MPS is initially developed from firm customer orders or from forecasts of demand before MRP system begins to operate. The MRP system whatever the master schedule demands and translates MPS end items into specific component requirements. Many systems make a simulated trial run to determine whether the proposed master can be satisfied.
2. **INVENTORY STATUS FILE**
   Every inventory item being planned must have an inventory status file which gives complete and up to date information on the on-hand quantities, gross requirements, scheduled receipts and planned order releases for an item. It also includes planning information such as lot sizes, lead times, safety stock levels and scrap allowances.
3. **BILL OF MATERIALS (BOM)**
   BOM identifies how each end product is manufactured, specifying all subcomponents items, their sequence of build up, their quantity in each finished unit and the work centers performing the build up sequence. This information is obtained from product design documents, workflow analysis and other standard manufacturing information.

**Advantages of materials requirements planning (MRP)**

- Aids with maintaining minimum inventory levels

- If you have minimum inventory levels, materials planning will also reduce associated costs
- Material tracking becomes much easier and ensures that economic order quantity is achieved for all lot orders
- Material planning smooths out capacity utilization and allocates correct time to products as per demand forecast

**Disadvantages of materials requirements planning (MRP)**

- Material planning is entirely dependent on inputs it receives from other system departments. If input information is not correct than output for material planning will also be incorrect
- Material planning requires maintenance of robust database with all information pertaining inventory records, production schedule, etc, without which output again would be incorrect
- Material planning system requires proper training for end users, as to get maximum out of the system
- Material resource planning system requires substantial investment out of time and capital

## ERP (Enterprise Resource Planning)

ERP is a kind of software system that helps you run your entire business, including processes in finance, manufacturing, supply chain, services, procurement, and more.
Enterprise resource planning (ERP) is defined as the ability to deliver an integrated suite of business applications. ERP tools share a common process and data model, covering broad and deep operational end-to-end processes, such as those found in finance, HR, distribution, manufacturing, service and the supply chain.
ERP applications automate and support a range of administrative and operational business processes across multiple industries, including line of business, customer-facing, administrative and the asset management aspects of an enterprise. ERP deployments are complex and expensive endeavors, and some organizations struggle to define the business benefits.
Look for business benefits in four areas: a catalyst for business innovation, a platform for business process efficiency, a vehicle for process standardization, and IT cost savings. Most enterprises focus on the last two areas, because they are the easiest to quantify; however, the first two areas often have the most significant impact on the enterprise.
ERP is an integrated information system that serves all departments.
ERP is a theoretical Concept. It is computerized software or application available SAP, Oracle, JD Edward, PeopleSoft, Taller.
SAP ER product popular for material management.

**Advantages of ERP:**

1. Complete visibility into all process in the organization
2. Improves information access and mgt. throughout the enterprise.
3. ERP reduces paper cost and greater accuracy of information
4. Same software can be used in whole organization
5. Centralized data storage.


**Internet of Things (IOT)**

### what is the Internet of Things?

"The **Internet of Things** (**IoT**) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction."

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data. Thanks to the arrival of super-cheap computer chips and the ubiquity of wireless networks, it's possible to turn anything, from something as small as a pill to something as big as an aeroplane, into a part of the IoT. Connecting up all these different objects and adding sensors to them adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate real-time data without involving a human being. The Internet of Things is making the fabric of the world around us more smarter and more responsive, merging the digital and physical universes.

### What are the types of IoT

1. LPWANs. **Low** Power Wide Area Networks (LPWANs) are the new phenomenon in IoT. ...
2. Cellular (3G/4G/5G) ...
3. **Zigbee** and Other Mesh Protocols. ...
4. **Bluetooth** and BLE. ...
5. **Wi-Fi**. ...


**IoT Benefits**
Several benefits are offered by the IoT to an organisation.

- Help in monitoring the overall business processes.

- Help in improving the experience of the customer.

- Save time and money.

- Productivity of the employee will increase.

- Adapt and integrate business models.

- Business decisions can be made better by IoT.

- Revenue generation can also be increased.

- IoT encourages companies to rethink the ways they approach their business, industries, markets and can also improve their strategies.

**Disadvantage of IoT**
- As several in formations will be shared by different devices so, the potential of hacker to hack data or to steal confidential information will increase.

- Enterprisers have to deal with millions of IoT devices and so collecting and managing data will be difficult task.

- If there is any virus in the system then all the connected devices will also become corrupted.

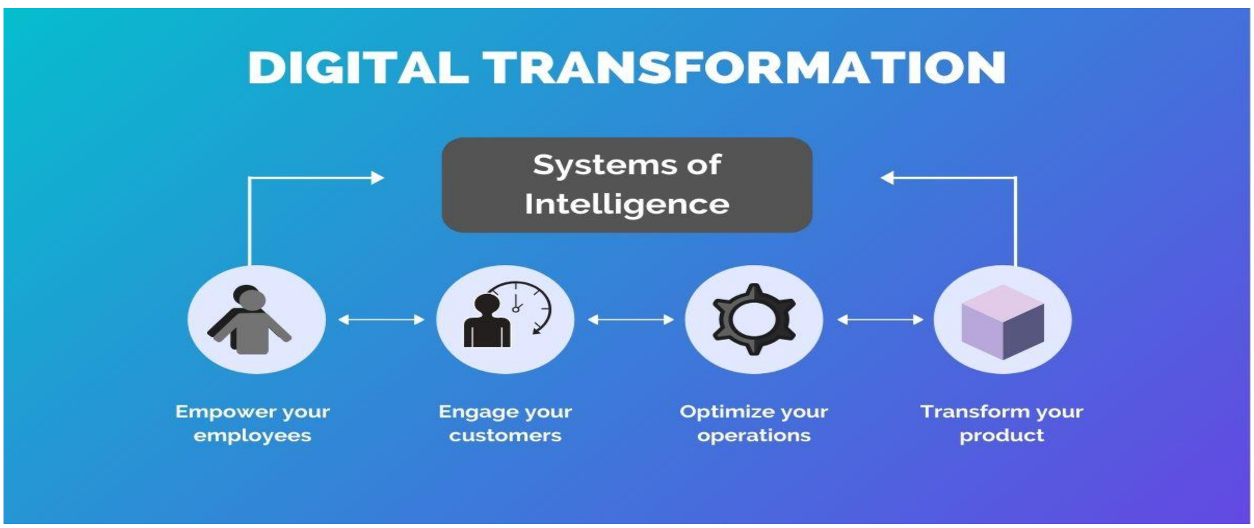
## What is Digital Transformation?

In layman terms, digital transformation (DT or DX) means using technology to create differentiating ways of doing business to drive growth in new and existing markets.

The definition of digital transformation can be different for every organization because every business is unique. So, we have collected a spread of definitions to help you find one that applies best to your needs.


**What are the Benefits of Digital Transformation?**

With the digitization of society, you'd feel the increasing importance of digital transformation. As an entrepreneur, you may take on digital transformation for several reasons.




**1. Transforming Customer Experience**

At the heart of digital is customer experience. Many companies are increasingly aware of this, with 92% of leaders developing sophisticated digital transformation strategies to enhance the consumer experience.

### 2. More Data-based Insights

When you go digital, you can track metrics and analyze the data that you capture during your digital marketing efforts.

Using data-driven insights can help to understand customers better, and also rethink business strategies, assisting with better decision-making, paving ways to a higher ROI.

### 3. Greater Collaboration Across Departments

DT offers an excellent opportunity for unity throughout the organization as leaders build it on digital congruence.

When you find everyone aligned to a common purpose, you'll find a smooth and seamless transition.

# Unit 3 – Materials Management & Inventory Control

# OBJECTIVES:

- After studying this unit, students shall be able to:

1) Identify the functions of material management;
2) Understand the duties of purchase manager;
3) Explain the purchasing cycle;
4) Identify the duties of storekeeper;
5) Understand the need of inventory control;
6) Derive the formula for EOQ;
7) Understand the importance of ABC analysis;

# Material Management:

- Material management is important because almost 70% of the capital is invested in materials.
- Material whether in the form of raw material or semi-finished goods are converted into a final product when it goes to the production department.
- Material management is defined as ***"planning, organizing, directing, controlling and co-ordinating all those activities which are concerned with flow of materials into an organisation".***

## OBJECTIVES/FUNCTIONS OF MATERIAL MANAGEMENT:

1. Material planning.
2. Procurement or purchasing of material.
3. Receiving or warehousing.
4. Storage and store administration.
5. Inventory control.
6. Standardization, simplification and value analysis.
7. External transportation and material handling.
8. Disposal of scrap, surplus and obsolete materials.

## PURCHASING DEPARTMENT:

- Purchasing implies procuring materials, supplies, machinery and services needed for production and maintenance of concern.

## ACTIVITIES/DUTIES/FUNCTIONS OF PURCHASING DEPARTMENT:

- Purchasing manager is the in-charge of purchasing department.
- He is responsible for overall efficient operation of the department.
- Purchasing manager has several assistants who help him in purchasing raw material.
- One assistant purchases electrical goods, another purchases raw material and third person purchases plant equipments.

## PURCHASE MANAGER, HENCE, PERFORMS FOLLOWING DUTIES IN PURCHASING DEPARTMENT:

1. Keep record of materials.
2. Keep record of vendors.
3. Contact the right vendor.
4. Prepare and analyze quotations and tenders.
5. Place purchase orders and get constant feedback of purchase orders from vendors.
6. Inspect the material received from vendors.
7. Get information from all departments related to the material they need.
8. Make sure that there is no shortage of material.
9. Have knowledge of new materials introduced in market.
10. Look after payment of vendors at right time.

# BUYING/ PURCHASING METHODS OR TECHNIQUES:

a) Quotations buying
b) Tender buying

# QUOTATIONS BUYING :

- In spot quotation method, the buyer can go to the market, collect minimum three quotations from different suppliers, take a spot decision and pay cash to suitable vendor and buy the vendor.
- Quotations to selected vendors: A few suitable & reliable vendors are written letters to send the price and other details for a particular material.
- A quotation form is used for calling the quotations from vendors. (Quotation form is shown in the figure).
- After getting replies from vendors, the quotations are opened and a comparative statement is prepared.
- Comparative statement helps in studying and comparing different quotations at a glance and a quick decision can be taken as with whom to place the order.

QUOTATION FORM

From........................ Date.......................................

To...........................

Dear sir,

Please submit your quotations for materials listed below so it reaches office at latest on______ at_______. Please send full details, specifications, pamphlets, etc along with quotations. Please note terms and conditions below

1. Please mention on top of envelope Enquiry No...... &Date on which due.....
2. Submit quotations in duplicate.
3. Price each item separately
4. If material is not available and you are sending similar material on behalf of that then please send details of that material.
5. Quotations should be valid forat least one month from date of opening.
6. Tax on each material should be listed separately
7. We have a right to accept or reject quotations on each item separately or as a whole.
8. Quotations should be sent in sealed covers.

Quotations will be opened on....at...... in the office.

| Sr no | Description | Quantity | Unit | Price | Discount | Total net price |
|---|---|---|---|---|---|---|
| | | | | | | |



Your's Faithfully

Store purchase officer

## COMPARATIVE STATEMENT

Section.................................................. Departement................................

Enquiry letter no...................................... Dated...........................................

Code no..................................................

Date of opening quotations.......................

Comparative statement is prepared by...... Checked by...................................

| Sr.No | Description of material | Quantity to be purchased | Supplier 1 | Supplier 2 | Supplier 3 |
|---|---|---|---|---|---|
| | | | RATES | | |
| | | | ____________ | ____________ | ____________ |
| | | | ____________ | ____________ | ____________ |
| | | | ____________ | ____________ | ____________ |
| | | | TERMS & CONDITIONS | | |
| | | | 1. ............ | 1. ............ | 1. ............ |
| | | | 2. ............ | 2. ............ | 2. ............ |
| | | | 3. ............ | 3. ............ | 3. ............ |
| | | | 4. ............ | 4. ............ | 4. ............ |

Terms & conditions:-
1. Delivery date
2. Place of delivery
3. Terms of payment
4. Taxes
5. Packing & forwarding charges

## TENDER BUYING:

- Government departments use this method of buying.
- A tender is quotations in form of written letter or a published document (in newspapers).
- The aim is to find the price for purchasing certain material.
- **Types of Tenders:**
  1) Single Tender
  2) Open Tender
  3) Closed or Limited tender
  4) Global Tenders

# (1) SINGLE TENDER:

- Tender which is invited from one supplier only.
- Single tender is invited while purchasing standard items, high quality items, ‘C’ class items such as clips, pins, pencils, etc.
- Single tender is normally called when items are to be purchased urgently.

# (2) Open tender:

- Open tender is also called as press tender is published in Newspaper, Trade Journals etc, for procuring materials of desired specifications.
- It is open to everybody; any vendor can send the quotations.
- Example of open tender i.e. N.I.T (Notice for inviting Tenders) is given below.

HEADQUATERS SOUTHERN COMMAND

PUNE-411001

OPEN TENDER NOTICE

1. Headquaters southern command is interested in purchase of "Bullet Proof Jacket" during financial year 2009-10.

2. Details of items, Qualitative requirement specifications and terms/conditions are available in Tender foms.

3. Interested firms/dealers can obtain tender forms by depositing Rs500 (non refundable) by way of demand draft from Nationalised Bank in favour of Secretary, Southern Command Pune. Tenders can be collected between 9:30hrs to 13:30hrs on any working day at earliest but within 14days from date of publication. Tenders can also collected by Registered post with Rs 60/- Postal stamps.

Chairman
Tender purchase committee
HQ Southern command
Pune-411001.

**(3) Closed tender or limited tender:**

- In this, tender is invited from limited suppliers who are approved suppliers from a list.
- (Quotation to selected vendor & Quotation form shown above is an example of closed tender).

**(4) Global Tender:**

- For global tenders advertisement is given in newspapers and trade journals of home country as well as foreign country.

# Distinguish between centralized and decentralized purchasing:

| Centralized purchasing | Decentralized Purchasing |
|---|---|
| 1) Due to adjustment of all items in a budget, sometimes the specific requirement of different branches is avoided. | 1) Specific requirement of different branches is fulfilled because of separate purchases done at departmental level. |
| 1) Numerous purchases in bulk amount. | 1) Numerous purchases in small quantities. |
| 1) More discounts, bargaining can be done | 1) Less discount |
| 1) Delay in delivery of materials | 1) No delay in receiving items. |
| 1) Time consuming process | 1) Less time consuming process |
| 1) Paperwork is not tedious. | 1) The entry of small order of materials (paperwork) in document is very tedious. |

# Procedure for purchase of material: (Purchasing cycle):

1) **Recognition of need:**
2) **Selection of source of supply (VENDORS):**
3) **Inviting quotations:**
4) **Analysis of quotations:**
5) **Issuing the purchase order and follow up:**
6) **Receipt and inspection:**
7) **Approval of payment:**

## 1) Recognition of need:

- If any department needs any specific material, it informs purchasing department.
- For this purpose, the department either sends request for material through Purchase requisition form or through Bill of materials.

PATEL STEELS CO. LTD
M12 TARAPUR MIDC-MAHARASHTRA

**PURCHASE REQUISITION**

Department: Requisition No: Date:

| Sr. No | Description of material | Code No | Quantity | Unit price | Quantity in stock |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
| | | | | | |

..........................
Storekeeper

(For use by Purchase Department)
Checked by..........................
Approved by.......................

**2) Selection of source of supply (VENDORS):**

- Purchase department prepares a list of suppliers (vendors).
- The information about vendors can be obtained from trade directories, trade journals, suggestions from people in business circle, exhibitions, Catalogues, etc.

**3) Inviting quotations:**

- Quotations (either by quotation form or tenders) are invited from vendors.

**4) Analysis of quotations:**

- After receiving a number of quotations, purchase officer opens all the quotations.
- Next step is to prepare the comparative statement, which helps in studying and comparing different quotations and hence selecting the right vendor.

## 5) Issuing the purchase order and follow up:

- After selecting the right vendor, a purchase order is dispatched to him.
- Purchase order is a legal document send to the vendor and this is a legal authority given to the vendor to provide the materials to the purchasing organisation.

PURCHASE ORDER

PATEL STEELS
MUMBAI

To.................
.................

Order No.....

Please enter our order for the following materials or services and note instructions given below

Manager
PURCHASING DEPARTMENT

| Item No | Quantity | Description | Price | |
|---|---|---|---|---|
| | | | Each | Total |
| | | | | |

1. Number of this order must appear on your invoice.
2. Please return attached acknowledgement of this order and state the delivery date.
3. Mail invoices, etc on date of shipment.
4. Only, invoices covered by a signed purchase order will be processed.
5. Packing slip must accompany each shipment.
6. All materials shall be recieved subject to buyer's inspection and rejection.
7. An order may be cancelled if not fullfilled within a reasonable time.

## 6) Receipt and inspection:

- After placing the order, the purchase department maintains contact with the vendor in order to get information related to the progress of order and find out the delivery date of materials.
- Received material is inspected and compared with the purchase order in order to find discrepancies, i.e. variations in quantity etc.
- Discrepancies found if any during inspection as regards the quantity or quality of the received material should be informed to supplier.

## 7) Approval of payment:

- Once the material is checked and it is ensured that correct material is supplied and correct discount is supplied at agreed prices, payment is made tot the vendor for the value of goods received.

# STORES MANAGEMENT:

- *"Store keeping is function of receiving, storing and issuing of materials, protecting them from damage and unnecessary wastage."*
- **Functions of Stores Department & Duties of storekeeper:**
  1) Receive materials and check them.
  2) Place the items at correct place so that they are easily available whenever required.
  3) Maintain record of materials along with their costs.
  4) Keep upto date record of materials issued, received and balance in stock.
  5) Keep stores clean.
  6) Prevent theft, wastage and deterioration etc.

1. Financial planning deals with

A) Preparations of financial statement

B) Planning for Capital Issues

C) Preparing budgets

D) All of the above

Ans D

2. ______is concerned with procurement, allocation and control of financial resources of a firm.

A) Financial Management

B) Material Management

C) Personnel Management

D) Operation Management

Ans A

3 The company have to generate value able financial reports by compiling financial data from every department of company which includes production, Accounts, Sales, Purchase, personal, Product development and design. which of the following module shall execute this task.

A) Financial Module

B) H. R. Module

C) Production module

D) Purchase module

Ans A

4 Capital required by a company to purchase building for starting the company is called as

A) Working capital

B) Fixed capital

C) Loan

D) Dept

Ans B

5 Fixed capital is also called as

A) Tight capital

**B) Blocked capital**

C) Working capital

D) Current capital

Ans B

6 _______ can be defined as goods or cash used (invested) to generate income from business or property (that can give income)

A) Finance

**B) Capital**

C) Budget

D) VAT

Ans B

7. The capital invested in assets which cannot be easily converted into money is called:

**A) Fixed capital**

B) Rquity capital

C) Working capital

D) None of the above

Ans A

8 . Even through permanent working capital is working capital but it's nature is ______ for every year or month.

A) Temporary

B) Permanent

C) Variable

D) Increasing basis

Ans D

9 Fixed capital is required for

A. Land

B. Equipment and machinery

C. Building

D. All

Ans D

10 Sources of working capital

A. Land

B. Dividends

C. Long term borrowings

D. B & C

Ans D

11 The sum that every shareholder gets is known as________

A) Amount

B) Dividend

C) Shares

D) Capital

Ans B

12 Which of the following is a false statement?

A) Capital is required to start the business

B) Capital is required to run the business

C) Capital is required to expand the business

D) Capital is required to sell the business

Ans D

13 Capital required by a company to purchase building for staring the company is called as.

A) Working Capital

**B) Fixed captital**

C) Laon

D) Debt

Ans B

14 Variance report is the difference between outcome of the company

A) Material cost and labor cost

**B) Planned budget and actual budget**

C) Cash budget and fixed budget

D) Purchased budget and overhead budget

Ans B

15.________ is prepared to co-ordinate between various budget

**A) Master budget**

B) Sales budget

C) Production budget

D) Material budget

Ans A

16.______ department floats enquiries and processes quotations

A) Sales budget

**B) Purchase**

C) Production

D) Inventory

Ans B

17 Net profit is computed in the

A) Profit and loss account

B) Balance sheet

C) Trial balance

D) Trading account

Answer: A

18 Which of these best explains fixed assets?

A) Are bought to be used in the business

B) Are expensive items bought for the business

C) Are items which will not wear out quickly

D) Are of long life and are not purchased specifically for resale

Answer: D

19 The charges of placing commodities into a saleable condition should be charged to

A) Trading account

B) P & L a/c

C) Balance Sheet

D) None of the above

Answer: B

20 At the balance sheet date, the balance on the Accumulated Provision for Depreciation Account is

A) Transferred to Depreciation Account

B) Transferred to the Asset Account

C) Transferred to Profit and Loss Account

D) Simply deducted from the asset in the Balance Sheet

Answer: D

21 Business is said to be in a profit when

A) Expenditure exceeds income

B) Income exceeds expenditure

C) Income exceeds liability

D) Assets exceed expenditure

Answer: B

22 What does the term “credit” mean in business?

A) It depends upon items

B) Provides benefits

C) It has no effect on business

D) Receiving benefits

Answer: D

23 When a Liability is decreased or reduced, it is registered on the

A) Debit side or left side of the account

B) Credit side or right side of the account

C) Debit side or right side of the account

D) Credit side or left side of the account

Answer: A

24 When there is an increase in capital by an amount, it is registered on the

A) Credit or right side of the account

B) Debit or left side of the account

C) Credit or left side of the account

D) Debit or right side of the account

Answer: A

25 Which option gives a review report on the firm’s financial status at a specified date?

A) Income & Expenditure Account

B) Balance Sheet

C) Cash Flow Statement

D) Profit & Loss Account

Answer: B

26 Inventories, cash and equivalents, and accounts receivables are listed as

A) Earnings on Income Statement

B) Payments on Income Statement

C) Assets on the Balance Sheet

D) Liabilities on the Balance Sheet

Answer: C

27 Which of the following is not a current asset?

A) Supplies

B) Land

C) Accounts Receivable

D) Prepaid Insurance

Answer: B

28The Accounting equation is Asset = Liabilities +................

A) Capital

B) Current Asset

C) Total Expense

D) Equity

Answer: D

29 Net Incomes = Income -.............

A) Profit

B) Losses

C) Expenses

D) Revenue

Answer: C

30. Assets - liability =?

A) Profit

B) Working Capital

C) Capital

D) Long term Liability

Answer: C

31 The Accounting equation shows on a Company?

A) Trial Balance

B) Cost Sheet

C) Final Account

D) Balance Sheet

Answer: D

32 A Master budget consist

A) Sale Budget

B) Production Budget

C) Material Budget

D) All of the above

Answer: D

33 Which Financial statement displays the revenue and expense of a company for a period of time?

A) Income Statement

B) Balance sheet

C) Cash flow statement

D) Statement of Stockholder's Equity

Answer: A

34 VAT and sales tax falls under __________
A) Indirect tax
B) Service tax
C) Direct tax
D) All of the above

Answer: A

35 Value added tax (VAT) is a tax on?
A) An employee earning
B) The organization profits
C) The investment earnings
D) Good and services

Answer: D

36 Internal source/s of finance is/are:
A) Deferred taxation
B) Shares
C) Debentures
D) All of the above

Answer: D

37 Indirect tax includes-

A) Excise Duty Custom Duty and VAT

B) Income tax

C) Wealth tax

D) Gift tax

Answer: A

38 Income tax and property tax falls under
A) Indirect Tax
B) Service Tax

C) Direct Tax

D) All of the above

Answer: C

39 Income tax and property tax falls under
A) Indirect tax
B) Service tax
C) Direct tax
D) All of the above

Answer: C

40_______ is the type of indirect tax levied on goods imported into india as well as on goods exported from India
A) Income tax
B) Customs duty
C)Wealth tax
D) Gift tax

Answer: B

41 What is the full form of GST?

A) Goods and Supply Tax

B) Goods and Services Tax

C) General Sales Tax

D) Government Sales Tax

Answer: B

42 Which of the following "tax" is levied at every stage of production?

(A) VAT

(B) Income tax

(C) Custom duty

(D) None of the above

Ans. A

43 Which of the following is indirect tax?

(A) Income tax

(B) Wealth tax

(C) Corporation tax

(D) Sales tax

Ans. D

44 Which of the following tax will be abolished by the Goods and Services Tax.

(A) Property tax

(B) Corporation tax

(C) VAT

(D) All of the above

Ans. C

45 If 'Tata Company' imports a product from abroad, then which tax will be levied on it?

(A) VAT

(B) Custom duty

(C) Income tax

(D) Corporation tax

Ans. B

46 Which of the following is not imposed by the Central Government?

(A) Agricultural tax

(B) Corporation tax

(C) Custom duty

(D) Sales tax

Ans. A

47 Income tax is the most important source of revenue in India. Income tax is

a) Direct and proportional

b) Indirect and proportional

c) Direct and progressive

d) Indirect and progressive

Answer : c

48 Consider the following taxes:

1. Corporation tax
2. Customs duty
3. Wealth tax
4. Excise duty

Which of the above is/are indirect taxes?

a) 1 only

b) 2 and 4

c) 1 and 3

d) 1, 2, and 3

Answer: b

49 The company have to generate valuable financial reports by compiling financial data from every department of company which includes Production, Accounts, Sales, Purchase, Personnel, Product development and design.
Which of the following module shall execute this taska?
a. Financial module.
b. H.R. module.
c. Production module.
d. Purchase module.

Answer: a

50 Financial planning deals with:

A) Preparation of financial statement
B) Planning for capital issues
C) Preparing budgets
D) All of above

Answer: D

51__________is concerned with procurement, allocation and control of financial resources of a firm.
A) Financial management
B) Material management
C) Personnel management

D) Operation management

Answer: A

52 Which of the following comes under the title of “sources of fixed capitals”?
a. Shares of equities.
b. Preferences shares and deferred shares.
c. Public deposits and debentures.
d. All of above

Answer: d

53 ___________ can be defined as goods or cashed used (invested) to generate income from business or property (that can give income).
a. Finance.
b. Capital.
c. Budget.
d. VAT

Answer: b

54 In finance, “working capital” means the same thing as
a. Total assets
b. Fixed assets
c. Current assets
d. Current assets minus current liabilities

Answer: d

55 fixed capital is required for

A) land

B) Equipment and machinery

C) Building

D) All

Answer: D

56 The planning process is used to prepare ______ in an organization.
A) Advancement
B) Technologies
C) Discoveries
D) Budgets

Answer: D

57 Which is input to MRP?
A) Current forecasting
B) Bill of material
C) On hand inventory
D) All of the above

Answer: D

58 Which is part of material management

A) Inventory Management

B) Marketing Management

C) Both A & B

D) None

Answer: A

59 Which of the followings are the aims of material management ?
A) Continuity of supply
B) Low payroll cost
C) Higher inventory turn over
D) All of the above

Answer: A

60 Inventory management is part of:
A) Product management
B) Marketing management
C) Material management
D) Sales management

Answer: C

61 Too little Inventory increases the risc of:
A) **Out of stock condition**
B) More stock
C) Theft
D) Can't Predict

Answer: A

62 _____Determine quality and timing for material planning
A) **EOQ**
B) ERP
C) SAP
D) MRP

Answer: A

63 The ________ provide the information about when to order and how much to order.
A) MRP
B) ERP
**C) EOQ**
D) Inventory

Answer: C

64 While on a long tour, which are the itmes we take most care of? Certainly, it is the jewerly and the cash ….. this could be an analogy to :
A) EOQ
**B) ABC Analysis**
C) Minimum batch demand
D) None

Answer: B

65 Which of the following is advantages of ABC Analysis ____________.
**A) ABC analysis results in reduction of annual inventory cost.**
B) ABC analysis does not give importance which are critical for production.
C) Cannot be used if some of the items are scarce and not readily available.
D) All

Answer: A

66 Even through permanent working capital is working capital but it's nature is ______ for every year or month.
A) Temporary
B) Permanent
C) Variable
**D) Increasing basis**

Answer: D

67 List the module of ERP
A. Human resources
B. Purchase
C. Finance and accounting
**D. All of the above**

Answer: D

68 ________ can be defined as an integrated information system that serves all departments within an enterprise.
A) MRP
B) MPR
**C) ERP**
D) EPR

Answer: C

69 "A" type of items has ______ importance due to consumption

A) 10-20%
B) 15-25%
C) 40-50%
**D) 70-80%**

Answer: D

70 Pareto's law is related to ________ placement theory.
A. Item stratification
B. Special consideration
C. Family grouping
**D. Inventory stratification**

Answer: D

71 **The** objective of maximising ______ conflicts with minimising _______ in inventory.
**A. Purchase, investment**
B. Production, cost-efficiency
C. Profit, negative cash flow
D. Storage capacity, loss

Answer: A

72 Reorder point = ______ + ______

A. Lead time demand, safety stock
B. Forecasted daily unit sale, lead time
C. Reorder point, lead time demand
D. Safety level of stock, demand per day

Answer: A

73 Inventory carrying costs consists of _______ and ______.
A. Shipping cost, storage cost
B. Handling cost, storage space cost
C. Vendor cost, physical management cost
D. Storage cost, physical management cost

Answer: D

74 Identify the two components that make up the EOQ equation.
A. Order cost, setup cost
B. Quality cost, setup cost
C. Annual usage, carrying cost
D. Quality cost, annual usage

Answer: C

75 Which of the following is not an inventory?

a. Machines
b. Raw material
c. Finished products
d. Consumable tools

(Ans:a)

76 The cost of insurance and taxes are included in

a. Cost of ordering
b. Set up cost
c. Inventory carrying cost
d. Cost of shortages

(Ans:c)

77 Buffer stock' is the level of stock

a. Half of the actual stock
b. At which the ordering process should start
c. Minimum stock level below which actual stock should not fall
d. Maximum stock in inventory

(Ans:c)

78 Re-ordering level is calculated as

a. Maximum consumption rate x Maximum re-order period
b. Minimum consumption rate x Minimum re-order period
c. Maximum consumption rate x Minimum re-order period
d. Minimum consumption rate x Maximum re-order period

(Ans:a)

79 The order cost per order of an inventory is Rs. 400 with an annual carrying cost of Rs. 10 per unit. The Economic Order Quantity (EOQ) for an annual demand of 2000 units is

a. 400
b. 440
c. 480
d. 500

(Ans:a)

80 Which of the following statements about ABC analysis is false?

a. ABC analysis is based on the presumption that controlling the few most important items produces the vast majority of inventory savings.

b. In ABC analysis, "A" Items are tightly controlled, have accurate records, and receive regular review by major decision makers.

c. ABC analysis is based on the presumption that all items must be tightly controlled to produce important cost savings.

d. In ABC analysis, "C" Items have minimal records, periodic review, and simple controls

Ans. C

81 ABC analysis deals with_______________?

A. analysis of process chart

B. flow of material

C. ordering schedule of job

D. controlling inventory costs money

E. all of the above

Ans. E

82 Which is not a part of 5R's of buying?

a. Right Quality

b. Right Quantity

c. Right Source

d None of the above

Ans. D

83 __________ also called part lists or building lists is the document generated at the design stage.

a. MRP (Material Requirement Planning)

b. BOM (Bill of Materials)

c. MPS (Master Production Schedule)

d. None of the above

Ans. B

84 The first activity of Purchasing cycle is ____________

a. Communicating requirement to the purchase

b. Source Selection and development

c. Recognizing the need for procurement

d. Inspection of goods

Ans. C

85 ________ is the task of buying goods of the right quality, in the right quantities, at the right time and at the right price.

a. Supplying

b. Purchasing

c. Scrutinizing

d. None of the above

Ans. B

86Which of the following is the way in which an IoT device is associated with data?

A)Internet

B) Cloud
C) Automata
D) Network

Ans. B

87 What is the full form of the LPWAN?

A) Low Protocol Wide Area Network
B) Low Power Wide Area Network
C) Long Protocol Wide Area Network
D) D)Long Power Wide Area Network

Ans. B

88 What is the main purpose of WoT (Web of Things) in the IoT?

A) Improve the usability and interoperability
B) Reduce the security
C) Complex the development
D) Increase the cost

Ans. B

## 5.4 MEANING AND EXAMPLES OF TAXES

*Need of Taxation*

Taxation is required to cover Government expenditure such as the cost of :

(*i*) Navy, Army, and Air Force for the defence of the country from external aggression.

(*ii*) Police for the maintenance of low and order.

(*iii*) Judicial centres for the administration of justice.

(*iv*) Prisons for the reformation of the offenders.

(*v*) The asylums for the poor and incapable.

(*vi*) The schools and colleges for providing education to the people.

(*vii*) The hospitals and dispensaries for the preservation of health.

(*viii*) The railways, rod, harbours, canals, post and telegraphs for expediting the industrial and commercial progress of the country.

For the successful discharge of these essential functions, the country secures annually a large amount of money from taxation and various other sources of revenue. Taxation thus, plays an important role in the economic development of the country.

A tax is a compulsory contribution levied on the wealth of an individual, institution or corporation by the Government of a country.

The purposes of taxation are to raise funds for public purposes, to prohibit or regulate certain activities, and to equalize the distribution of wealth by reducing the higher incomes in order to provide social services.

### 5.4.1 Excise Tax

Excise duties means a tax on home produced goods, either in the process of their manufacture, or before their sale to consumers. Being a tax on goods, its burden lies on the consumers regardless of their income.

Excise duties may be

- Union Excise Duty
- State Excise Duty

***Union Excise Duty.*** It constitutes the more important source of income of the Central Government. The share of the Union Excise Duty in the total tax revenue is nearly 44 percent. These duties are levied on commodities produced within the country *e.g.*, sugar, matches, vegetable products, tobacco, kerosene, spirits, tea, coffee, cloth, tyres etc. Most of these duties were levied during the war to make up the loss of revenue from custom. Excise duties are playing an increasingly role in central finance.

*State Excise Duty.* The state also levies and collects excise duties on alcoholic liquors, narcotic drugs, hemp, opium, and other intoxicants. Excise revenue include the licence fee for the sale of imported liquor and licences for bottling it or other similar operations. It also includes the duty on country spirit and fermented liquors whose manufacture is carried out in distilleries.

*Export Duties.* Export duties are levied on the export commodities from a country.

## .4.2 Service Tax

Service tax is a tax imposed by the government on service providers, but actually born by the customers. The service providers pays the tax and recovers it from the customers.

Service tax is charged to the individual on cash basis, and to companies on accrual basis. This tax is payable only when the value of services provided in a financial year is more than ₹ 10 lakhs. This tax is not applicable in the state of Jammu & Kashmir.

It is charged on all services except the services in the negative list of services. The current rate is 12.36% on gross value of the service.

If the value of services provided during a financial year is less than ₹ 10 lakh, it is optional for the service provider to pay service tax or not. But in case he has received the service tax from the service recipient, he would be required to deposit it with the government.

As per clause (34) of section 65B of the Finance Act, 1994 the term "Negative list" means the services which are listed in section 66D.

### ervice Tax Records

The assessee should maintain the record in accordance with the various laws in force from time to time. The record includes computerized data. Record maintained as such shall be acceptable to Central Excise Officer Every assessee is required to furnish to the Central Excise Officer at the time of filing his return, a list of all accounts maintained by the assessee in relation to service tax.

## 4.3 Income Tax

Income tax was first imposed by William Pitt in 1799 and from that time income tax has become the most important direct tax.

Income tax is charged on annual incomes of individuals as well as companies. Income below a certain minimum value are exempted from income tax and as the income increases, the rate of charging the tax also increases. Income tax is deducted from the salary and collected at the source by the employer who then deposits all the collection with the Government. Income tax rates are modified from time to time.

The progressive principle in assessment is secured by exempting income below a certain minimum level and by charging higher rates of taxation of larger incomes.

The receipt from income tax is divided between the union and the state government on the percentages laid down by the finance commission.

The 1939 income tax act introduced the adaption of 'Slab system' instead of the step system. Under the slab system the rate of taxation becomes gradual and thus, jumps at crucial points are avoided.

Income tax is most

- equitable
- economical
- productive and
- elastic source of revenue

### 5.4.4 Value Added Tax (VAT)

VAT (Value Added Tax) is a multistage tax system for collection of sales tax. The system considers levy of tax on the sales at each stage. It considers allowing of set off of tax paid on purchases. Thus, under this system, tax is getting paid on the value addition in the hands of each intermediatory vendor. Ths process covers whole chain of distribution, *i.e.*, from manufacturers till retailers.

Prior to 1.4.2005, the system for levy of tax in Maharashtra and in many states in India was, in general single point tax system. As a consequence to national consensus for introduction of VAT, the earlier Bombay Sales Tax Act, 1959 is replaced by Maharashtra Value Added Tax Act, 2002. The act has come into force with effect from 1.4.2005. Only the important features of this act are mentioned here.

***Registration.*** Section 3 of the act provides for turnover limits for liability to pay tax as well as for registration. The registration number is referred to as VAT TIN (Tax payer's Identification Number) under the VAT system. The limits for registration are as under :

Threshold Turnover Limit

| *S.No.* | *Category of Dealer* | *Total turnover of sale to exceed* | *Turnover of sale or purchase of taxable goods* |
|---|---|---|---|
| 1. | Importer | ₹ 1,00,000 | Not less than ₹ 10,000 |
| 2. | Others (including manufacturer, reseller, liquor dealer, works contractors, lessors etc.) | ₹ 50,000 | Not less than ₹ 10,000 |
| 3. | Voluntary registration | NA | NA |

The dealer who is liable to pay tax is required to apply for registration under the Act within 30 days from the date on which prescribed limit of turnover exceeds. In case of change in ownership or constitution, an application of new registration certificate (TIN Certificate) is to be made with 30 days from the date of such change. In case of death of a dealer, an application for new registration for transfer or succession of business can be made within 60 days from the death of dealer.

The application for registration (VAT TIN) is to be made in Form No. 101 and in Form A for C.S.T.TIN. Specified documents are required to be submitted along with the application. Payment of registration fees of ₹ 500 or ₹ 5,000 (for voluntary registration) and deposit of ₹ 25,000 for VAT TIN and ₹ 25 for C.S.T. TIN is required to be made in challan No. 210.

***Schedules and Rate of Tax.*** All the goods are classified under Schedules A to E.

- ***Schedule A.*** It covers goods, which are generally necessities of life. Goods covered by schedule A are free from tax. For example, agricultural implements, cattle feed, books, bread, fresh vegetables, milk, sugar, fabrics, plain water etc.
- ***Schedule B.*** It covers jewellery, diamonds and precious stones. Goods covered by schedule B – are subject to tax at 1%.
- ***Schedule C.*** It covers items of daily use or raw material items like drugs, readymade garments, edible oil, utensil, iron and steel goods, non-ferrous metals, IT products, oil seeds, paper, ink, chemicals, sweet, metals, farsan, industrial inputs, packing materials etc. These goods are subject to tax at 4%.
- ***Schedule D.*** It covers liquor which is subject to 20% tax. It also covers various types of motor spirits that are subject to tax from 4 to 34%.
- ***Schedule E.*** All items which are not covered in any of the above schedules are automatically covered in residuary Schedule E. Goods covered by Schedule E are subject to tax at 12.5%.

***Set off (Input Tax Credit).*** Set off is the backbone of the VAT system. Section 48 of the Act provides for grant of set off (also referred to as input tax credit) to any registered dealer in respect of any sales tax paid on his purchase subject to conditions provided in the rules made in this behalf by the State Government. Rules 51 to 54 of the MVAT Rules 2005, provide the grant of set off.

### 5.4.5 Custom Duty

Custom duty is a tax charged by Government on imports and exports of goods. Goods includes

- Vessels, aircrafts and vehicles
- Stores

- Baggage
- Currency and negotiable instruments and
- Any other kind of movable property

## Objectives of Custom Duties

- Restricting Imports for conserving foreign exchange.
- Prohibiting illegal imports and illegal exports of goods.
- Regulating export
- Co-ordinating legal provisions with other laws dealing with foreign exchange (such as Foreign Trade Act).
- Source of revenue for the union Government it constitutes around 30% of tax revenue.

In 1962, Indian Custom Act was introduced that all the Central Government to collect taxes under the name Custom Duty.

## Modes of Imposing Custom Duty

There are *three* modes of imposing Custom Duty :

1. ***Specific Duties.*** Specific custom duty is a tax imposed on each and every unit of a commodity imported or exported. For example, ₹ 10 on each metre of cloth imported or ₹ 500 on each computer set imported. In this case value of commodity is not taken into consideration.
2. ***Advalorem Duties.*** It is the duty imposed on the total value of a commodity imported or exported. It is charged as a percentage of the total value of the goods. For example, 10% value of computer sets imported. In this case physical units of commodity are not taken into consideration.
3. ***Compound Duties.*** Compound custom duty is the combination of specific and advolarem custom duties. In this case, the quantities as well as the value of the commodity are taken into consideration while computing the custom duty. For example, 5% of F.O.B. value plus 1 rupee per metre cloth imported.

## Exercises

1. Define Financial Management. Describe the functions of financial management.
2. What is financial management ? What are its objectives ?
3. Define capital. State its importance in business enterprise.
4. Differentiate between 'Fixed Capital' and 'Working Capital' with suitable example.

# Unit no 6 Sales, Marketing Management& Project Management

## 6.1 Sales Management

**Sales - Definition**

A sale is the pinnacle activity involved in selling products or services in return for money or other compensation. It is an act of completion of a commercial activity. - Sales is everything that you do to close the sale and get a signed agreement or contract.

• Sales management is attainment of an organization's sales goals in an effective & efficient manner through planning, staffing, training, leading & controlling organizational resources. Revenue, sales, and sources of funds fuel organizations and the management of that process is the most important function. Objectives of Sale

Objectives of Sales Function.

• To achieve Sales Targets

• To achieve Market share targets

• To manage dealer network

• To organize sales training

• To handle customer complaints

• To manage Sales promotion campaigns

• To effectively cover market

Sales Management…

• Managing Sales Force

• Offering Sales Training

• Managing Channel partners

• Managing Direct sales

• Managing Sales Promotion

• Managing Sales Territories

• Managing Sales Targets

Before, anything else you need to know what sales management is and how it works. There are two main parts to managing your sales team. The first is the person-management, making sure everyone knows what they are doing and what is expected of them. The second is keeping track of sales that have been made.

To keep everyone on track, you need to set goals and targets, that the team can aim for. In addition, a to-do list or diary should be used to make sure each team member does what is needed at the right time.

This might be making calls, sending messages, or attending meetings in person. Sales meetings are often one of the most difficult aspects to manage as they can take place at the customer's location. The salesperson must get there on time, have all the information they need with them, and potentially get away in time to get to their next meeting.

Comparatively, it is quite straightforward to keep track of sales. This is because sales will be recorded on a centralized system with the option of easily running reports. If the sales are too low in a particular period, you can offer encouragement and solutions as necessary.

## Functions of sales management

There are various ways in which sales management helps a business to streamline their sales process and increase their ROI. You can refer to these ways as individual functions of sales management. Let us take a look at how this works.

### Previous Performance and Setting Targets

One of the functions of sales management is to ensure that targets are reached, but targets that are set too high will never be reached. By running reports on sales figures over a period of time, especially those produced by current members of the sales team, you'll be able to calculate the most sensible and achievable target for individuals and the team as a whole.

Of course, previous performance does not always indicate how anyone will currently perform. There may have been changes in the products that are available or the locations that your sales team serves. You need to factor in those differences when you are setting targets.

### Managing the Sales Process

At any given time, there could be a large number of potential customers working their way through your company's sales process. Another function of sales management is to make sure that each lead is dealt with promptly and correctly.

Identifying the best leads is a key factor in increasing the sales figures for the business. Converting those who are ready to buy into full paying customers is easier than getting the person who only has a passing interest to part with their cash.

Improving process efficiency

This leads to improving the efficiency of the sales process. Finding the best leads is a step that is near the end of the process. But, optimizing and improving the process as a whole will bring more good leads through more quickly.

The flow through the sales process should be constant. From newly interested people to fully qualified leads that are ready to buy, and the more you can automate it, the better.

Instead of having to worry about every little detail, using a software solution to automate particular tasks will make everything run much more smoothly. Say, a customer lands on your website and has shown an interest in a particular product. Ideally, you might have a whole team (or a certain salesperson) dedicated to that one product. By assigning the care of that customer to the right team or salesperson, their needs will be better met. And, the likelihood of a sale increases dramatically.

In the same way, sending out an automated email with similar or related products on will help build a relationship and create interest for the customer. To do this manually may take some time. But once configured, such a system does not need to be interacted with again by the sales team.

Monitor salespeople's performance

As mentioned earlier, the production of reports is essential to see how the business has progressed over time. An aspect of sales management that should not be overlooked is team leadership. Basing your actions on the cold hard facts presented by current and historical reports will enable you to get the best out of your team.

Congratulate those who deserve it and encourage and re-train those who are struggling. If there's still no hope for the underperformers after giving them a fair chance, it may be that sales is not the field they will excel in.

Sales Manager Responsibilities:

- Managing organizational sales by developing a business plan that covers sales, revenue, and expense controls.
- Meeting planned sales goals.
- Setting individual sales targets with the sales team.
- Tracking sales goals and reporting results as necessary.
- Overseeing the activities and performance of the sales team.

- Coordinating with marketing on lead generation.
- The ongoing training of your salespeople.
- Developing your sales team through motivation, counseling, and product knowledge education.
- Promoting the organization and products.
- Understand our ideal customers and how they relate to our products.

## 6.2 Marketing Management

The process of planning and executing the conception, pricing, promotion and distribution of ideas, goods and services to create exchanges that satisfy individual and organizational goals

Marketing – Definition • Marketing is the process associated with promotion for sale goods or services. It is considered a "social and managerial process by which individuals and groups obtain what they need and want through creating and exchanging products and values with others." It is an integrated process through which companies create value for customers and build strong customer relationships in order to capture value from customers in return. • Marketing is used to create the customer, to keep the customer and to satisfy the customer. With the customer as the focus of its activities, it can be concluded that marketing management is one of the major components of business management. The evolution of marketing was caused due to mature markets and overcapacities in the last decades. Companies then shifted the focus from production more to the customer in order to stay profitable.

| Sales | Marketing |
|---|---|
| • Sales starts with seller & is preoccupied all the time with the needs of the seller | • Marketing starts with the buyer and focuses constantly on the needs of the buyer |
| • Emphasizes on saleable surplus available with the company | • Emphasizes on identification of market opportunity |
| • Seeks to convert products in to cash | • Seeks to convert customer needs in to products |
| • Views business as – goods producing process | • Views business as – a customer satisfying process |
| • Sales views the customer as the last link in the business | • Marketing views the customer as the very purpose of business |

The sales and marketing relationship

• Marketing and sales are very different, but have the same goal.

• Marketing improves the selling environment and plays a very important role in sales.

• The marketing department's goal is to increase the number of interactions between potential customers and company, which includes the sales team using promotional techniques such as advertising, sales promotion, publicity, and public relations, creating new sales channels, or creating new products (new product development), among other things.

Functions of Marketing

Gathering and Analyzing Market Information

Primary function to identify the needs of the customers
• Most important to take decisions for the successful marketing of goods and services
• Analyze opportunities and threats as well as strengths and weakness of the organisation
• With technological explosion, it has become easier to collect necessary information through interactive portals

Marketing planning

• Develop appropriate marketing plans covering various important aspects to achieve organizational objective
• Also to include level of production, promotion of products, specifying action Programmes

Product designing & development

• A good design makes the product attractive to the consumer
• It also improves performance of the product and gives a competitive edge in the market
• Hence decision regarding the design and development of the product is very crucial for a marketing manager

Standardisation & grading

• Standardisation refers to producing goods as per pre-determined specifications.
• Helps in achieving uniformity and consistency in the output.
• Reduces the need for inspection, testing and evaluation from the consumer's perspective
• Grading is the process of classification of products into different groups
• This is done where products are not produced as per pre-determined specifications eg; agricultural products
• It helps in realising higher price for higher quality products

Packaging & labelling

• Both are considered as pillars of modern day marketing tools
• **Packaging** wraps the product and **labelling** forms the information printed on
he package.
• Packaging not only protects the product but also used as a promotional tool
• Quality of the product is also assessed by looking at the package and label

Branding

• Important decision area for marketing – to sell in the generic name (fan pen etc.) or specific brand name (usha, reynolds)
• Helps in creating product differentiation
• **Branding strategy** – each product a separate brand name (Lux, Surf etc., ) or same brand
name for all products of a company (philips, samsung etc.,)

Customer support services

• Includes after sales services, handling customer complaints, procuring credit Services, maintenance services, technical services & consumer information
• Aim at providing maximum customer satisfaction the key to marketing successes
• Effective in bringing repeated sales and developing brand loyalty

Pricing of product

• Amount of money a customer has to pay to obtain the product or service
• Most important factor deciding the success of failure
• Demand is directly related to the price of the product
• Important decisions marketer has to take are:- pricing objective, pricing strategy, determining and changing the price

Promotion

• Providing information to the customers regarding the product and its features; persuading them to buy the product
• Four important tools – personal selling, advertising, publicity and sales promotion
• Marketer has to decide on the combination of the promotional tools and budget thereon.

Physical distribution

• Two major areas – choice of marketing intermediaries and selection of physical movement of the product

• Marketer has to decide on – inventory levels, storage and warehousing & transportation of goods from the place of production to the end user

Transportation

• End users of products are wide spread and geographically separated
• Various factors to be considered before deciding the mode of transportation:- nature of the product, cost and location of target market

Storage and warehousing

• There is a time gap between production and procurement of goods due to irregular demand or supply
• To maintain smooth flow & supply of the products and also to protect against contingencies proper storage is needed
• Storage is performed by different intermediaries

Market research  Market research is the process of determining the viability of a new service or product through research conducted directly with potential customers. Market research allows a company to discover the target market and get opinions and other feedback from consumers about their interest in the product or service.

Market research is defined as the process of evaluating the feasibility of a new product or service, through research conducted directly with potential consumers. This method allows organizations or businesses to discover their target market, collect and document opinions and make informed decisions.

Market research can be conducted directly by organizations or companies or can be outsourced to agencies which have expertise in this process.

The process of market research can be done through deploying surveys, interacting with a group of people also known as sample, conducting interviews and other similar processes.

Primary purpose of conducting market research is to understand or examine the market associated with a particular product or service, to decide how the audience will react to a product or service. The information obtained from conducting market research can be used to tailor marketing/ advertising activities or to determine what are the feature priorities/service requirement (if any) of consumers.

Three key objectives of market research

A market research project may usually have 3 different types of objectives.

1. **Administrative**: Help a company or business development, through proper planning, organization, and both human and material resources control, and thus satisfy all specific needs within the market, at the right time.
2. **Social**: Satisfy customer's specific needs through a required product or service. The product or service should comply with the requirements and preferences of a customer when it's consumed.
3. **Economical**: Determine the economical degree of success or failure a company can have while being new to the market, or otherwise introducing new products or services, and thus providing certainty to all actions to be implemented.

Why is market research important?

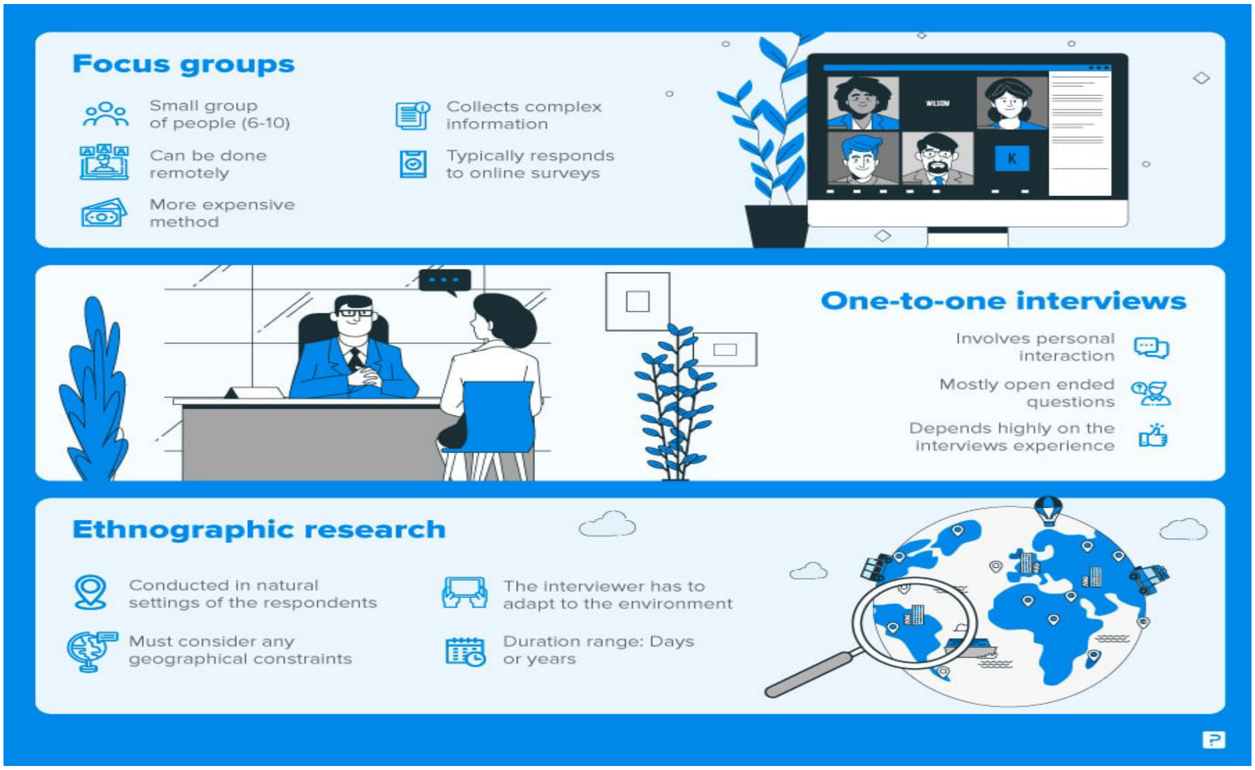
Conducting research is one of the best ways of achieving customer satisfaction, reducing customer churn and elevating business. Here are the reasons why market research is important and should be considered in any business:

- **Valuable information:** It provides information and opportunities about the value of existing and new products, thus, helping businesses plan and strategize accordingly.
- **Customer-centric:** It helps to determine what the customers need and want. Marketing is customer-centric and understanding the customers and their needs will help businesses design products or services that best suit them.
- **Forecasts:** By understanding the needs of customers, businesses can also forecast their production and sales. Market research also helps in determining optimum inventory stock.
- **Competitive advantage:** To stay ahead of competitors market research is a vital tool to carry out comparative studies. Businesses can devise business strategies that can help them stay ahead of their competitors.
-

  Types of Market Research
  - **1. Primary Market Research** (A combination of both Qualitative and Quantitative Research): Primary market research is a process, where organizations or businesses get in touch with the end consumers or employ a third party to carry out relevant studies to collect data. The data collected can be qualitative data (non-numerical data) or quantitative data (numerical or statistical data).

  - While conducting primary market research, one can gather two types of information: Exploratory and Specific. Exploratory research is open ended, where a problem is explored by asking open ended questions in a detailed interview format usually with a small group of people also known as sample. Here the sample size is restricted to 6-10 members. Specific research, on the other hand, is more pinpointed and is used to solve the problems that are identified by exploratory research.

  - As mentioned earlier primary market research is a combination of qualitative market research and quantitative market research. Qualitative market research study involves semi-structured or unstructured data collected through some of the commonly used qualitative research methods like




Focus groups: Focus group is one of the commonly used qualitative research methods. Focus group is a small group of people (6-10) who typically respond to online surveys sent to them. The best part about focus group is the information can be collected remotely, can be done without personally interacting with the group members. However, this is a more expensive method as it is used to collect complex information.

One-to-one interview: As the name suggests this method involves personal interaction in the form of an interview, where the researcher asks a series of questions to collect information or data from the respondents. The questions are mostly open ended questions and asked in a way to facilitate responses. This method is heavily dependent on the ability and experience of the interviewer to ask questions that evoke responses.

Ethnographic research: This type of in-depth research is conducted in the natural settings of the respondents. This method requires the interviewer to adapt himself/herself to the natural environment of the respondents which could be a city or a remote village. Geographical constraints can be a hindering factor in conducting this kind of research. Ethnographic research can last from a few days to a few years.

2. Secondary Market Research: Secondary research uses information that is organized by outside source like government agencies, media, chambers of commerce etc. This information is published in newspaper, magazines, books, company website, free

government and nongovernment agencies and so on. Secondary source makes use of the following:

Public sources: Public sources like library are an awesome way of gathering free information. Government libraries usually offer services free of cost and a researcher can document available information.

Commercial sources: Commercial source although reliable are expensive. Local newspapers, magazines, journal, television media are great commercial sources to collect information.

Educational Institutions: Although not a very popular source of collecting information, most universities and educational institutions are a rich source of information as many research projects are carried out there than any business sector.

## 6.3 Advertising

Is a means of communication with the users of a product or service. Advertisements are messages paid for by those who send them and are intended to inform or influence people who receive them

Examples of above the line advertising are TV, radio, & newspaper advertisements. Below the line advertising include conversion focused activities which are directed towards a specific target group. Examples of below the line advertising are billboards, sponsorships, in-store advertising, etc.

Newspaper. Newspaper advertising can promote your business to a wide range of customers. ...
Magazine. Advertising in a specialist magazine can reach your target market quickly and easily. ...
Radio. ...
Television. ...
Directories. ...
Outdoor and transit. ...
Direct mail, catalogues and leaflets. ...
Online.

Concept

• Any paid form of non personal presentation & promotion of ideas, goods or services by an identified sponsor

Features:

• Paid form: marketer has to bear the cost of communication

• Impersonal method: no direct face to face contact with the prospective buyer

• Identified sponsor: advertising is done by an identified individual or company who bears the cost

Objective of advertising

To increase sales    To educate consumer    Entry in new market

Create new customers    To overcome competition

Role of Advertising

| | |
|---|---|
| Creates Demand | By making people aware of new products and new uses of existing products |
| Educates customer | • By providing useful information about the product<br>• Also educates on the new product development and new features of the existing product |
| Enhances consumer confidence | • As consumers feel more assured and confident about the product advertised |
| Creates organizational image | • Through advertisement, people come to know about how organization stands for the society |
| Facilitates introduction of new products | • Communicating the positive features of the newly introduced product |
| Creates customer loyalty | • Through repeated communication, creates customer loyalty |

Advertising agency types

- Full-service **advertising agency**. A full-service **advertising agency** is just what it sounds like: an **agency** that does anything and everything for their client. ...
- Digital **advertising agency**. ...
- Traditional **advertising agency**. ...
- Social media **advertising agency**. ...
- **Creative** boutique. ...

- Media buying agencies.

6.4 Project management

Project management is the process of leading the work of a team to achieve goals and meet success criteria at a specified time. The primary challenge of project management is to achieve all of the project goals within the given constraints.

Project management is the process of leading the work of a team to achieve all project goals within the given constraints. This information is usually described in project documentation, created at the beginning of the development process. The primary constraints are scope, time, and budget.

Developed by the Project Management Institute (PMI), the five phases of project management include conception and initiation, planning, execution, performance/monitoring, and project close.

KEY TAKEAWAYS

- On a very basic level, project management includes the planning, initiation, execution, monitoring, and closing of a project.
- Many different types of project management methodologies and techniques exist, including traditional, waterfall, agile, and lean.
- Project management is used across industries and is an important part of the success of construction, engineering, and IT companies.

Network Analysis

Network technique is a technique for planning, scheduling (programming) and controlling the progress of projects. This is very useful for projects which are complex in nature or where activities are subject to considerable degree of uncertainty in performance time.

This technique provides an effective management, determines the project duration more accurately, identifies the activities which are critical at different stages of project completion to enable to pay more attention on these activities, analyze the scheduling at regular interval for taking corrective action well in advance, facilitates in optimistic resources utilization, helps management for taking timely and better decisions for effective monitoring and control during execution of the project.

List of network analysis techniques

- Method CPM (Critical Path Method)
- CCM (Critical Chain Method)

- PERT **Method** (Program Evaluation and Review **Technique**)
- GERT **Method** (Graphical Evaluation and Review **Technique**)
- P.E.P Programme Evaluation Procedure.
- M.A.P Manpower Allocation Procedure.

Objective Network Analysis

1. Powerful tool of planning, scheduling and control.

2. Shows the inter-relationships of the activities of a project or a programme.

3. Minimizes total cost where the cost of delays and cost of resources required to carry out the tasks can be measured.

4. Minimize total time where required e.g. in maintenance of production-line machinery in a factory.

5. Minimization of idle resources.

6. Minimize production delays.

7. To provide systematic approach in planning and scheduling.

8. Follow an integrated approach and bring about better coordination between the de¬partments.

9. Focuses attention on critical activities of the project.

10. Provides up-to-date status information.

Advantages of Network Technique:

1. Detailed and thoughtful planning provides better analysis and logical thinking.

2. Identifies the critical activities and focus them to provide greater managerial atten¬tion.

3. Network technique enables to forecast project duration more accurately.

4. It is a powerful tool for optimization of resources by using the concept of slack.

5. It provides a scientific basis for monitoring, review and control, to evaluate effect of slippages.

6. It helps in taking decision;

(i) To over-come delays,

(ii) To crashing programme,

(iii) Optimising resources, and

(iv) On other corrective actions.

7. It helps in getting better co-ordination amongst related fields.

8. It is an effective management tool through a common and simple language, providing common understanding.

Limitations of Network Techniques:

(i) Network technique is simply a tool to help the management; hence its effectiveness depends on how well it is used by the management.

(ii) Its accuracy depends on the estimation of the data used in the network.

(iii) It is useful only if it is updated regularly and decisions for corrective actions are taken timely.

Terminology in network analysis

Network: A Network is symbolic representation of essential characteristics of the project.

Activity

Any individual operation, which utilizes resources and has a beginning and an end is called an activity. An arrow is used to depict an activity with its head indicating the direction of progress in the project. It is of four types:

a) Predecessor activity: activity that must be completed immediately prior to the start of another activity.
b) Successor activity: activity which cannot be started until one or more of other activities are completed but immediately succeed them are called successor

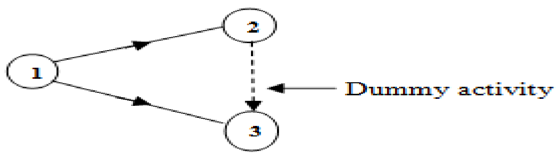
activity.

c) **Concurrent:** Activity which can be accomplished concurrently is known as concurrent activity. An activity can be predecessor or successor to an event or it may be concurrent with the one or more of the other activities.

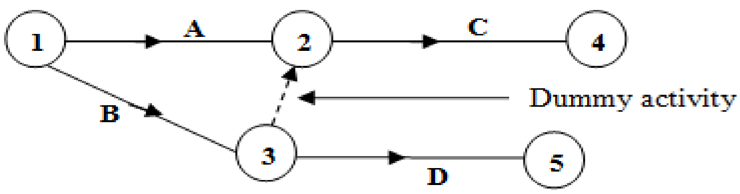
d) **Dummy activity:** An activity which does not consume any kind of resources but merely depicts the technological dependence is called a dummy activity. Dummy activity is inserted in a network to classify the activity pattern in the following situations:

   i) To make activities with common starting and finishing points distinguishable.

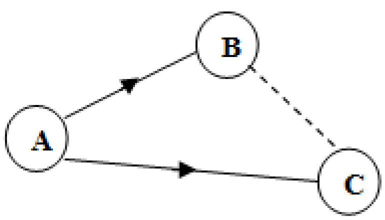
   ii) To identify and maintain the proper precedence relationship between activities those are not connected by events.




Let�s consider a situation where A and B are concurrent activities and activity D is dependent on B and C is dependent on both A and B. Such a situation can be handled by use of dummy activity.



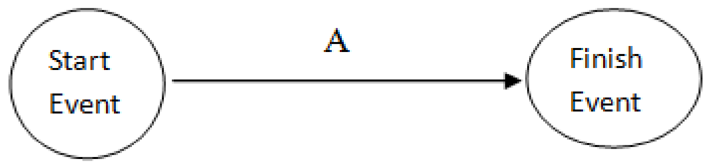

When two or more activities are exactly parallel such that they would start at the same node (event) and finish at the same node. A dummy would be inserted between the end of one of the activities and the common finishing node.




This is to ensure that each activity has a unique description when refer to by its start and finish node number. Dummy are often used to improve the layout of network. When they may not strictly necessary to represents the logic involved. This often happens at the start or finish of a network where a number of activities either start from a certain point or converge to particular point.

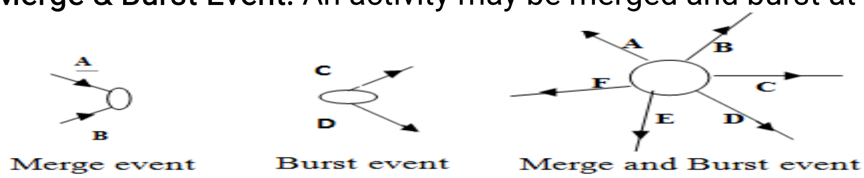
Event

The beginning and end points of an activity are called events or nodes or connector. This is usually represented by circle in a network.




Here, A is known as the activity.
The events can be further classified into three categories:

a) **Merge Event**: When two or more activities come from an event it is known as merge event.
b) **Burst Event**: When more than one activity leaves an event is known as burst event.
c) **Merge & Burst Event**: An activity may be merged and burst at the same time.

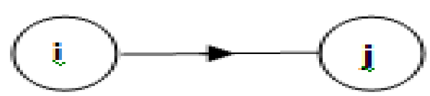



**Difference between event and activity**

An event is that particular instant of time at which some specific part of project is to be achieved while an activity is the actual performance of a task. An activity requires time and resources for its completion. Events are generally described by such words as complete, start, issue, approves, taste etc. while the word like design, process, test, develop, prepare etc. shows that a work is being accomplished and thus represent activity. While drawing networks, it is assumed that

a) The movement is from left to right and
b) Head event has a number higher than the tail event.

Thus the activity (i-j) always means that job which begins at event (i) is completed at event (j).




Network representation is based on the following two axioms.

a) An event is not said to be complete until all the activities flowing into it are completed.
b) No subsequent activities can begin until its tail event is reached or completed.

**Earliest Event Time (ETi)**: is the earliest time at which the event corresponding to node (i) can occur.

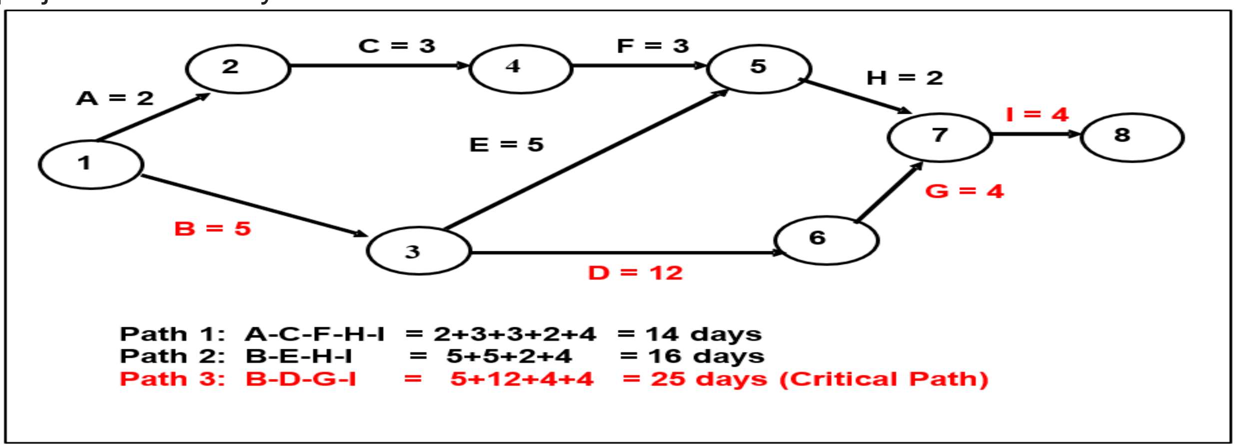
**Latest Event Time (LTi)**: is the latest time at which the event corresponding to node (i) can occur without delaying the completion of the project.

**Total Float (TFij) of activity (i, j)**: (i < j) is the amount by which the starting time of activity (i, j) can be delayed beyond its possible starting time without delaying the completion of the project.

The critical path is computed in two parts: For the starting event, we set the time at zero,
ESo = 0. Let the duration of activity (i, j) be denoted by dij (i < j).
Earliest time formula: max [ETi, ETi + dij] For the terminal node we set the latest event time equal to the earliest time,
i.e. LTT = ETT, and compute Latest time formula: min [LTi, LTi − dij]
The final calculation is the total float (TFij) for activity (i, j) FLOAT =|ET − LT|

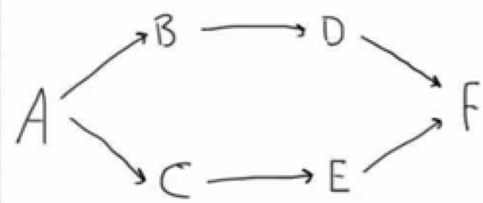
Duration Duration is the estimated or actual time required to complete a task or an activity.

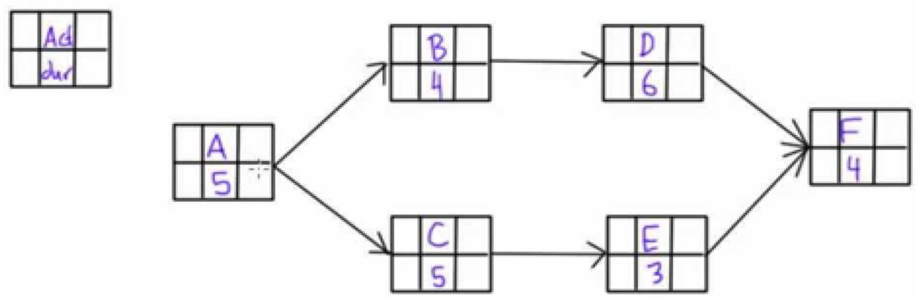
Critical Path
In project management, the **critical path** is the longest sequence of tasks that must be completed to successfully conclude a project, from start to finish. The tasks on the **critical path** are known as **critical** activities because if they're delayed, the whole project will be delayed.




Network diagram

| Activity | Predecessor | Duration |
|---|---|---|
| A | - | 5 |
| B | A | 4 |
| C | A | 5 |
| D | B | 6 |
| E | C | 3 |
| F | D,E | 4 |




Critical Path Method

**In project management, the critical path is the longest sequence of tasks that must be completed to successfully conclude a project, from start to finish.** The tasks on the critical path are known as critical activities because if they're delayed, the whole project will be delayed. By identifying the critical path, you can determine the total duration of a project.

Calculating the critical path is key during the planning phase because the critical path identifies important deadlines and the activities which must be completed on time. Once a critical path is determined, you'll have a clear picture of the project's actual schedule.

The critical path method (CPM) is used in project management to create project schedules and helps project managers create a timeline for the project. The critical path method includes:

- Identifying every task necessary to complete the project and the dependencies between them
- Estimating the duration of the project tasks
- Calculating the critical path based on the tasks' duration and dependencies to identify the critical activities
- Focusing on planning, scheduling and controlling critical activities

- Setting project milestones and deliverables

- Setting stakeholder expectations related to deadlines

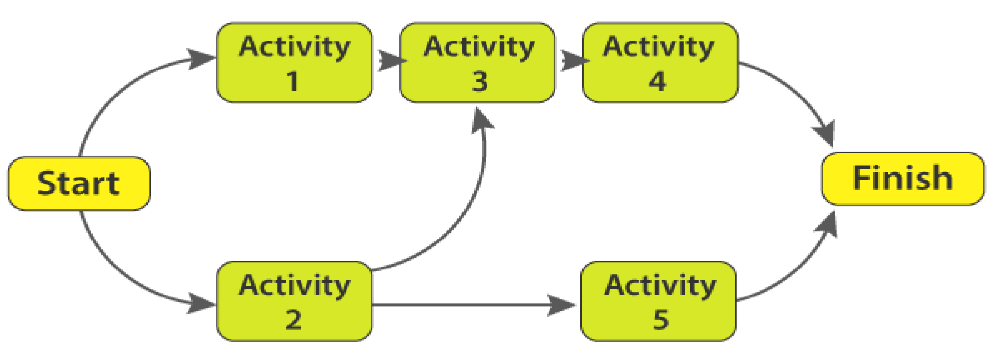
Characteristics of Critical Path Method (CPM)

CPM uses activity oriented network.
Duration of activity may be estimated with a fair degree of accuracy.
It is used extensively in construction projects.
CPM is the management of repetitive projects.
The deterministic concept is used.
CPM can control both time and cost when planning.
Identifies the critical and non-critical activities of the project so that we can focus more on the critical activities and complete the project on time.
Crashing is a compression technique applied to CPM, to shorten the project duration, along with least additional cost.
CPM is used to compute the earliest and latest possible start time for each activity.
In CPM, cost optimization is given prime importance. The time for the completion of the project depends upon cost optimization. The cost is not directly proportioned to time. Thus, the cost is the controlling factor.

Advantages of CPM
- Provides an outline for long term coordination and planning of a project
- Recognizes critical activities
- Easy to plan, schedule and control project
- It improves productivity
- Manages the resource needed

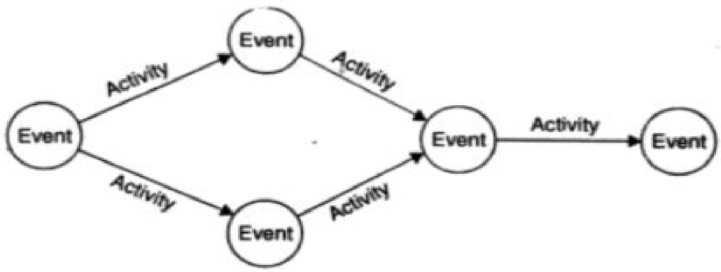
Disadvantages of CPM
- For beginners its difficult to understand
- Software too expensive
- Sometimes, to structure CPM is too time-consuming
- It cannot control and form the schedule of a person involved in the project
- Allocation of resources cannot be monitored properly

CPM Example



Program (Project) Evaluation and Review Technique (PERT)
Program (Project) Evaluation and Review Technique (PERT) is an activity to understand the planning, arranging, scheduling, coordinating and governing of a project. This program helps to understand the technique of a study taken to complete a project, identify the least and minimum time taken to complete the whole project. PERT was developed in the 1950s, with the aim of the cost and time of a project.
This is called programmable Evaluation and review techniques.
This deals with problem of uncertain activities. The statistical analysis to apply in order to estimate or determine time of each activity concerning the project used

PERT (Program Evaluation Review Technique) and CPM (Critical Path Method) are one of the modern network tools of project management. An entire project can be broken down to distinct and well-defined jobs or tasks or activities.




An event constitutes the beginning or the end of such an activity. A network is defined as the flow diagram that constitutes activities and events, that are controlled logically and sequentially. In the network diagram, an activity is represented by arrows and an event is represented using circles.

3-time estimates. Namely are:
to: The most optimistic time
tp: The most pessimistic time
tl: The most likely time
Optimistic estimate: the time the activity would take if things did go well.
Pessimistic estimate: the time the activity would take if things did not go well.
Most likely estimate: the consensus best estimate of the activity's duration

**PERT (Program Evaluation Review Technique)** network diagram is used to model a project's activities and their relationships as a network. It was developed to take account of the uncertainty surrounding estimates of task durations. The difference between the CPM and the PERT methods is that the CPM uses a single estimate for the duration of each task, whereas the PERT method uses 3 estimates. These 3 estimates include:

- **Optimistic (a)**
- **Most Likely (m)**
- **Pessimistic (b)**

These 3 estimates are combined to calculate the $t_e$ values. The formula is depicted below:

$$te = \frac{a + 4m + b}{6}$$

After the $t_e$ values are calculated, the standard deviation **(s)** can be calculated using the following formula:

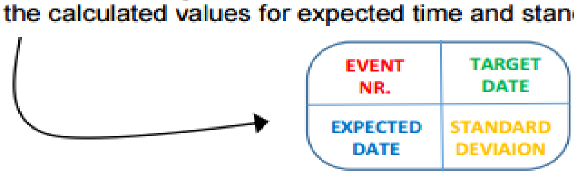
$$s = \frac{b - a}{6}$$

The next step is to calculate the **z - value**. The formula to calculate the z value is depicted below:

$$z = \frac{T - te}{s}$$

Remember that the **T value is the target date** of the specific project and the **z value is calculated on the last activity.**

**The PERT event labelling convention** adopted here indicates event number and its target date along with the calculated values for expected time and standard deviation.




Methodology of PERT:
The PERT involves following steps:

1. The project is broken down into different activities systematically.

2. Activities are arranged in logical sequence.

3. The network diagram is drawn.

4. Events and activities are numbered in the network diagram.

5. Using optimistic, pessimistic and normal time, the expected time is calculated.

6. Standard deviation and variance for each activity is calculated.

7. Earliest starting time (EST) and latest finishing time (LFT) are calculated.

8. Expected time, EST and LFT are marked on the net¬work diagram.

9. Slack is calculated.

10. Critical paths are identified and marked on the network diagram.

11. Length of critical path or the total project duration is found out.

Advantages of PERT:

1. PERT forces the management to plan carefully and study how the various parts fit into the whole project.

2. PERT enables the business managers to predict time and cost of the project in advance.

3. PERT is a forward-looking control device for manage¬ment. PERT calls attention on the timely completion of the project and avoids delay.

4. PERT enables the determination of the probabilities concerning the time by which activity and project would be completed.

5. PERT suggests areas for increasing efficiency and reducing cost.

6. It provides up-to-date information of the project pro¬gramme so that the necessary steps may be taken to minimize the delays and interruptions.

7. PERT assists in coordinating the different parts of the total projects.

Limitations of PERT:

1. In PERT, it is assumed that all the activities involved in the project are known in advance. In projects like research and development (R and D), it is not possible to list out all the activities in advance.

2. The assumption that a project can be sub-divided into a set of predictable and independent, activities may not hold true always.

3. PERT emphasizes only on time and not the costs.

4. PERT is based on time estimates and there may be error in estimating time.

5. For active control of a project, PERT requires frequent updating and revising of calculations. It is an expansive and time consuming exercise, which requires highly trained personnel.

| | PERT | CPM |
|---|---|---|
| Abbreviation | PERT – Project Evaluation and Review Technique | CPM – Critical Path Method |
| What does It Mean? | PERT – PERT is a popular project management technique that is applicable when the time required to finish a project is not certain | CPM – CPM is a statistical algorithm which has a certain start and end time for a project |
| Model Type | PERT – PERT is a probabilistic model | CPM – CPM is a deterministic model |
| Focus | PERT – The main focus of PERT is to minimize the time required for completion of the project | CPM – The main focus of CPM is on a trade-off between cost and time, with a major emphasis on cost-cutting. |
| Orientation type | PERT – PERT is an event-oriented technique | CPM – CPM is an activity-oriented technique |

Simple numerical on CPM

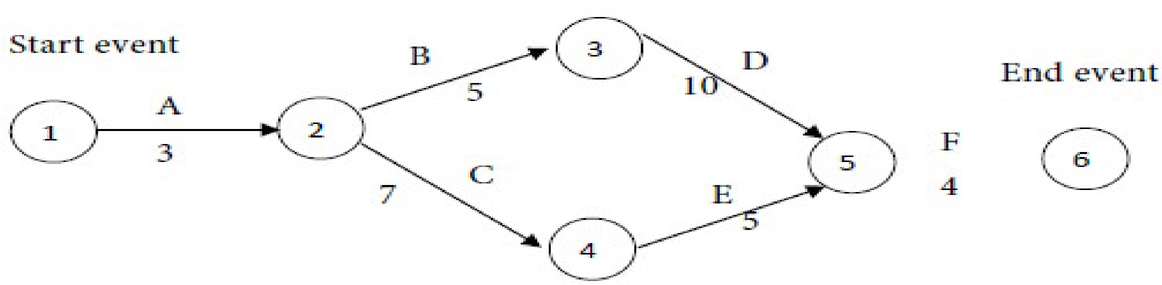
1) The following details are available regarding a project:

| Activity | Predecessor Activity | Duration (Weeks) |
| --- | --- | --- |
| A | - | 3 |
| B | A | 5 |
| C | A | 7 |
| D | B | 10 |
| E | C | 5 |
| F | D,E | 4 |

Determine the critical path, the critical activities and the project completion time.

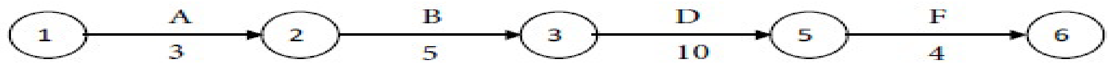
Solution

first let us construct the network diagram for the given project. We mark the time estimates along the arrows representing the activities. We obtain the following diagram:



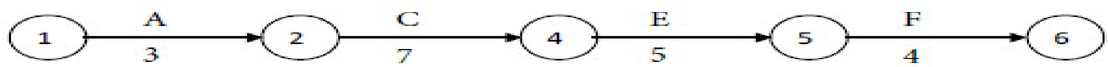

Consider the paths, beginning with the start node and stopping with the end node. There are two such paths for the given project. They are as follows:

**Path I**




with a time of $3 + 5 + 10 + 4 = 22$ weeks.

**Path II**




with a time of $3 + 7 + 5 + 4 = 19$ weeks.

Compare the times for the two paths. Maximum of {22,19} = 22. We see that path I has the maximum time of 22 weeks. Therefore, path I is the critical path. The critical activities are A, B, D and F. The project completion time is 22 weeks.
We notice that C and E are non- critical activities.

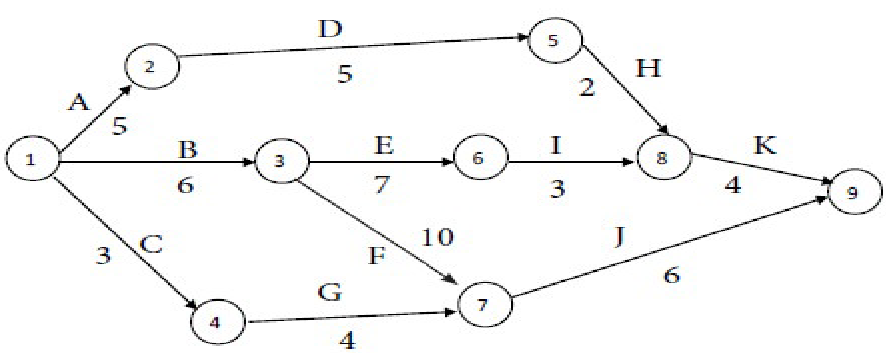
Time for path I - Time for path II = 22- 19 = 3 weeks.

Therefore, together the non- critical activities can be delayed upto a maximum of 3 weeks, without delaying the completion of the whole project.

2) Draw the network diagram and determine the critical path for the following project:

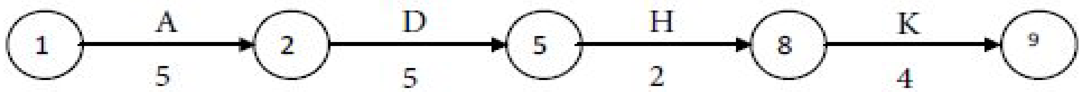
| Activity | Time estimate (Weeks) |
|---|---|
| 1- 2 | 5 |
| 1- 3 | 6 |
| 1- 4 | 3 |
| 2 -5 | 5 |
| 3 -6 | 7 |
| 3 -7 | 10 |
| 4 -7 | 4 |
| 5 -8 | 2 |
| 6 -8 | 5 |
| 7 -9 | 6 |
| 8 -9 | 4 |

We have the following network diagram for the project:



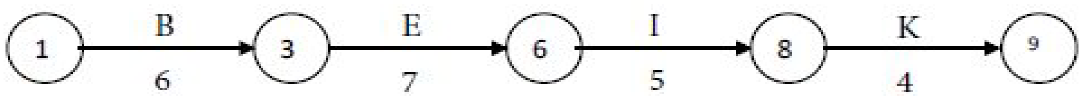

Solution
we assert that there are 4 paths, beginning with the start node of 1 and terminating at the end node of 9. They are as follows:

**Path I**



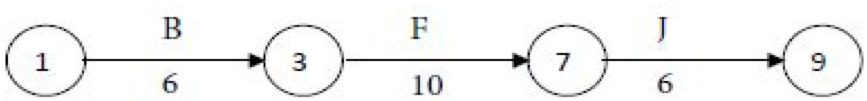

Time for the path = 5 + 5 + 2 + 4 = 16 weeks.

**Path II**




Time for the path = 6 + 7 + 5 + 4 = 22 weeks.

**Path III**

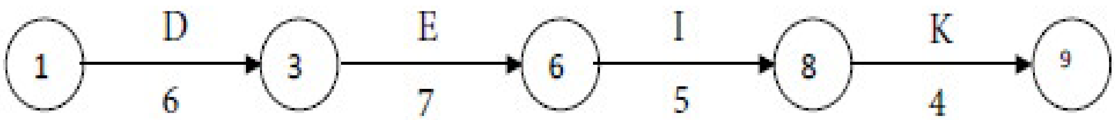



Time for the path = 6 + 10 + 6 = 16 weeks.

**Path IV**


Time for the path = 3 + 4 + 6 = 13 weeks.

Compare the times for the four paths. Maximum of {16, 22, 16, 13} = 22. We see that the following path has the maximum time and so it is the critical pa



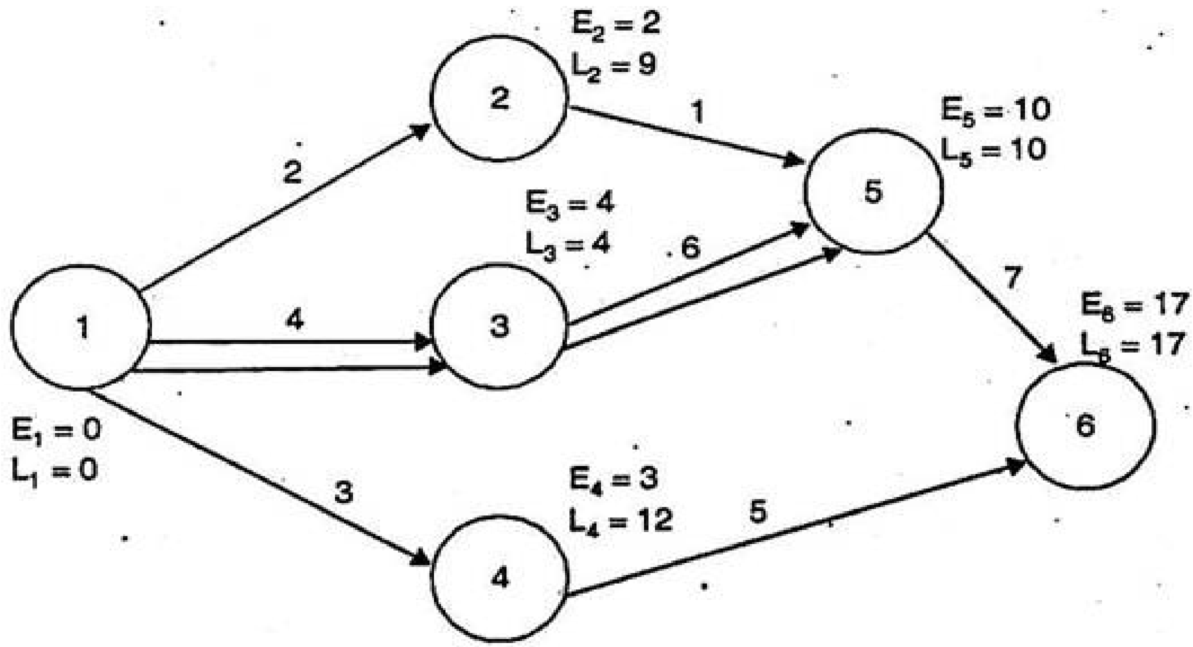

The critical activities are B, E, I and K. The non-critical activities are A, C, D, F, G, H and J. The project completion time is 22 weeks.

Simple numerical on PERT

| *Activity* | | *Estimated duration in weeks* | | |
|---|---|---|---|---|
| *i* | *j* | *Optimistic* | *Most likely* | *Pessimestic* |
| 1 | 2 | 1 | 1 | 7 |
| 1 | 3 | 1 | 4 | 7 |
| 1 | 4 | 2 | 2 | 8 |
| 2 | 5 | 1 | 1 | 1 |
| 3 | 5 | 2 | 5 | 14 |
| 4 | 6 | 2 | 5 | 8 |
| 5 | 6 | 3 | 6 | 15 |

E- Values and L- values are calculated on the basis of expected time are as follows:

| *Forward pass method* | *Backward pass method* |
|---|---|
| $E_1 = 0$ | $L_6 = E_6 = 0$ |
| $E_2 = E_1 + t_{1-2} = 0 + 2 = 2.$ | $L_5 = L_6 - t_{5-6} = 17 - 7 = 10$ |
| $E_3 = E_1 + t_{1-3} = 0 + 4 = 4$ | $L_4 = L_6 - t_{4-6} = 17 - 5 = 12$ |
| $E_4 = E_1 + t_{1-4} = 0 + 3 = 3$ | $L_3 = L_5 - t_{3-5} = 10 - 6 = 4$ |
| $E_5 = \max[E_2 + t_{2-5} ; E_3 + t_{3-5}]$ | $L_2 = L_5 - t_{2-5} - 10 - 1 = 9$ |
| $= \max[2+1 ; 4+6] = 10$ | $L_1 = \min[L_2 - t_{1-2} ; L_3 - t_{1-3} ; L_4 - t_{1-4}]$ |
| $E_6 = \max[E_5 + t_{5-6}, E_4 + t_{4-6}]$ | $= \min[9-2 ; 4-4 ; 12-3] = 0$ |
| $= \max(10+7 ; 3+5) = 17$ | |




Critical path for the above network 1-3-5-6 shown by double lines; along with E- values and L-values are same.
Expect project length will be = 4 + 6+ 7 = 17 weeks.

# FINANCIAL MANAGEMENT

## MEANING OF FINANACE OBECTIVES AND FUNCTIONS

# FINANCE AND ITS DEFINITION

- In general term finance means management of money for your expenses.
- In broad term finance is the science of funds management. Finance includes saving money and often includes lending money.
- The general areas of finance are business finance, personal finance, and public finance.
- Finance is also a money budget management. The field of finance deals with how money is spent and budgeted. It also deals the concepts of time, money and risk and how they are interrelated.
- Finance is used by individuals as personal finance, by governments as public finance, by businesses as corporate finance, as well as by a wide variety of organizations including schools and non-profit organizations. Finance is the need of the today world economy.

- **FINANCE :**
- **FINANCE is the life-blood of business. Without finance neither any business can be started nor successfully run . Finance is needed to promote or establish business, acquire fixed assets, make necessary investigations, develop product keep man and machines at work, encourage management to make progress and create values.**

**FINANCIAL MANAGEMENT :**

- **FINANCIAL MANAGEMENT is one of the functional area of management. It refer to that part of the management activity which is concerned with the planning and controlling of firms financial resources.**

# TYPES OF FINANCE

- There are mainly two type of finance found in the current economy.

  **1. Personal finance**
  In this finance decisions may involve paying for education, financing durable goods such as real estate and cars, buying insurance, e.g. health and property insurance, investing and saving for retirement. Personal financial decisions may also involve paying for a loan, or debt obligations.

  **2. Corporate finance**
  It is the task of providing the funds for a corporation's activities. Corporate finance can easily categorized in two category.

A. Short term finance which generally involves balancing risk and profitability, while attempting to maximize an entity's wealth and the value of its stock.

B. Long term funds are provided by ownership equity and long-term credit, often in the form of bonds. The balance between these forms the company's capital structure. Short-term funding or working capital is mostly provided by banks extending a line of credit.

# OBJECTIVES OF FINANACIAL MANAGEMENT

- **Objectives of financial management :**
- **Objectives of financial management The objective of financial management are considered usually at two levels –at macro level and micro level. three primary objectives are commonly explained as the Objective of financial management- Maximization of profits Maximization of return Maximization of wealth**

**Maximization of profits :**

- **Maximization of profits Profit earning is the main aim of every economic activity. Profit maximization simply means maximizing the income of the firm . Economist are of the view that profits can be maximized when the difference of total revenue over total cost is maximum, or in other words total revenue is greater than the total cost.**

**Maximization of return :**

- **Maximization of return Some authorities on financial management conclude that maximization of return provide a basic guideline by which financial decision should be evaluated .**

**Maximization of wealth :**

- **Maximization of wealth According to proof Solomon Ezra of stand ford university , the ultimate goal of financial management should be the maximization of the owners wealth. The value of corporate wealth may be interpreted in terms of the value of the company’s total assets. The finance should attempt to maximize the value of the enterprise to its shareholders. Value is represented by the market price of the company’s common stock.**

# FUNCTIONS OF FINANCIAL MANAGEMENT

- TO SEARCH FOR SOURCES OF FINANCE.
- TO MAKE FINANCE AVAILABILITY AT MINIMUM RATE OF INTREST.
- TO HELP IN DECIDING COST, SELLING PRICE OFPRODUCT.
- TO PREPARE ANNUAL BUDGET, FOR EACH DEPARTMENT AND OVERALL FOR ORGANIZATION AS WHOLE.
- TO MONITOR DAY TO DAY FINANCIAL TRANSACTION OF FIRM.
- TO ALLOCATE FUNDS FOR NEW UNIT OR DEVELOPMENT.
- TO CRITICALLY MONITOR FINANCIAL RATIO OF COMPANY.
- TO ANTICIPATE FUTURE CAPITAL REQUIREMENT OF BUSINESS.
- TO HELP MANAGEMENT IN RESOLVING THE ISSUES RELATED TO WAGE REVISION, BONUS, PENALTY, FINE etc.

# CAPITAL

- CAPITL IS THE LIFE-BLOOD OF BUSINESS ENTERPRISE.
- CAPITAL IN ITS MEANING, COVERS ALL THE ELEMENTS LIKE MONEY, LAND, MACHINERY, MATERIALS AND TOOLS etc. WHICH ARE ESSENTIAL FACTORS TO START AN ENTERPRISE.
- CAPITAL IS THE MEASURE OF THE AMOUNT OF RESOURCES OF AN ENTEPRISE.
- CAPITAL DEVELOPS PRODUCTS, KEEPS WORKERS AND MACHINES AT WORK, ENCOURAGES MANAGEMENT TO MAKE PROGRESS AND CREATE VALUE.

# TYPES OF CAPITAL

1. ***FIXED CAPITAL :***

FOR RUNNING AN INDUSTRY, TWO TYPES OF CAPITAL ARE NEEDED.ONE FOR PURCHASING FIXED ASSETS. FIXED CAPITAL IS ASSOCIATED WITH LONG TERM ASSETS.

FIXED CAPITAL LIKE, LAND, BUILDING, EQUIPMENTS AND MACHINERY, TOOLS, AND FURNITURE. Etc.

1. ***WORKING OR CURRENT CAPITAL :***

ONCE FIXED ASSETS HAVE BEEN PURCHASED, THE ENTERPRISE NEED TO MEET ITS DAY TO DAY NEEDS AND EXPENDITURE. THESE WORKING CAPITAL OR CURRENT CAITAL SUCH AS :

- PURCHASE OF RAW MATERIAL AND SUPPLIES.
- PAYMENT OF EMPLOYEE WAGES.
- ADVERTISEMENT AND SELLING EXPENSES.
- EQUIPMENT AND PLANT MAINTAINANCE COST.
- TRNASPORTATION AND SHIPPING EXENSES.
- ORGANIZATION EXPENSES. Etc.

# SOURCES OF WORKING CAPITAL

- THERE ARE THREE (3) TYPES OF WORKING CAPITAL REQUIREMENT :

1. **LONG TERM FINANCING REQUIREMENT :** IN LONG TERM FINANCING FOLLOWING ARE THE SOURCES WHICH CAN TAPPED BY THE FINANCIAL MANAGER.

- ➢ LOAN FROM FINANCIAL INSTITUTIONS.
- ➢ ACCEPTING PUBLIC DEPOSITS.
- ➢ ISSUE OF ADDITIONAL EQUITY SHARES.
- ➢ RAISING FUNDS BY INTERNAL FINANCING.

1. **SHORT TERM FINANCING :** THESE SOURCES INCLUDE

- ➢ SHORT TERM BANK LOANS.
- ➢ COMMERCIAL PAPERS.
- ➢ CASH CREDIT.
- ➢ OVERDRAFT BILLS DISCOUNT etc.

1. **SPONTANEOUS FINANCING :**

- ➢ TRADE CREDIT
- ➢ OUTSTANDING EXPENSES.

# BUDGET AND BUDGETING

- **Definition:** A **budget** is a financial document used to project future income and expenses. The budgeting process may be carried out by individuals or by companies to estimate whether the person/company can continue to operate with its projected income and expenses.
- A budget may be prepared simply using paper and pencil, or on computer using a spreadsheet program like Excel, or with a financial application like Quicken or QuickBooks.
- The process for preparing a monthly budget includes:

- Listing of all sources of monthly income

- Listing of all required, fixed expenses, like rent/mortgage, utilities, phone, Listing of other possible and variable expenses.

- **Budgeting**
- **Definition:** Establishing a planned level of expenditures, usually at a fairly detailed level. A company may plan and maintain a budget on either an accrual or a cash basis. Business budgeting is one of the most powerful financial tools available to any small-business owner. Put simply, maintaining a good short- and long-range financial plan enables you to control your cash flow instead of having it control you.

# TYPES OF BUDGETS

- **Types Of Budget**
- •Sales Budget
  •Production Budget
  •Purchase Budget
  • Expenditure Budgets
  •Cash Budget
  • Master Budget
  • Zero Base Budget
  •Flexible Budget

- **Sales Budget**
- Sales budget is a functional budget. The product wise as well as regional break up of sales estimates are incorporated in the sales budget. The sales budget begins with the previous year actual and incorporates the likely changes.

- **Production Budget**
- The production budget is prepared based on the sales estimate incorporated in the sales budget. The adjustments with respect to the opening and closing stock positions that are policy decisions of the business are then made to prepare the production budget.

- **Purchase Budget**
- The purchase budget is another functional budget that estimates the purchase requirement of materials utilized in the production process. The purchase budget is based on the production budget and the standard material consumption requirement for the production estimates.

**Expenditure Budgets**

- Expenditure budgets may be drafted as fixed / flexible budgets.
- A fixed budget is one which is prepared keeping in mind one level of activity. It is defined as one which is designed to remain unchanged irrespective of the level of activity attained.
  Flexible budgets are prepared where the nature In contrast, flexible budget is one which is designed to change in relation of business is such that it is difficult to predict the demand/sale of goods.

- **Zero Base Budget**
- An illustration of a long term budget is the Zero base budget. Zero Base Budgeting process looks at requirements/ plans a new each year irrespective of project continuity. These are necessarily long term project budgets

- **Cash Budget**
- A cash budget consolidates all the cash inflows and outflows for the business. The cash budget is also a functional budget. The cash budget helps the business to plan the project purchases as well as to provide for the loan requirements. The cash budgets also help in defining the repayment plans for short and long term loans of the business.
- **Master Budget**
- The overall or master budget summarizes the other functional budgets. Consolidating the functional budgets, an income and expenditure budget and budgeted balance sheet are prepared. The master budget is usually a one-year budget expressing the expected asset position and capital and liability positions for the projected year.
- Master Budget – Income Statement

| Particulars | January | February | March | Total |
|---|---|---|---|---|
| Sales | 12000 | 15000 | 10000 | 37000 |
| Less: cost of goods sold | 5000 | 7000 | 4300 | 16300 |
| Factory overheads | 2000 | 2000 | 2000 | 6000 |
| Administrative overheads | 1000 | 1000 | 1000 | 3000 |
| Selling overheads | 500 | 600 | 400 | 1500 |
| Net profit | 3500 | 4400 | 2300 | 10200 |

# Balance sheet

- **Balance Sheet**
- **What Does *Balance Sheet* Mean?**
  A financial statement that summarizes a company's assets, liabilities and shareholders' equity at a specific point in time. These three balance sheet segments give investors an idea as to what the company owns and owes, as well as the amount invested by the shareholders.

  The balance sheet must follow the following formula:

  Assets = Liabilities + Shareholders' Equity

- A balance sheet, also known as a "statement of financial position", reveals a company's assets, liabilities and owners' equity (net worth). The balance sheet, together with the income statement and cash flow statement, make up the cornerstone of any company's financial statements.

## How the balance sheet works

- If you are a shareholder of a company, it is important that you understand how the balance sheet is structured, how to analyze it and how to read it.
- The balance sheet is divided into two parts that, based on the following equation, must equal (or balance out) each other. The main formula behind balance sheets is:
- assets = liabilities + shareholders' equity

This means that assets, or the means used to operate the company, are balanced by a company's financial obligations along with the equity investment brought into the company and its retained earnings.

Assets are what a company uses to operate its business, while its liabilities and equity are two sources that support these assets. Owners' equity, referred to as shareholders' equity in a publicly traded company, is the amount of money initially invested into the company plus any retained earnings, and it represents a source of funding for the business.

It is important to note, that a balance sheet is a snapshot of the company's financial position at a single point in time.

| | Notes | 2007 $'000 | 2006 $'000 |
|---|---|---|---|
| **ASSETS** | | | |
| **Financial Assets** | | | |
| Cash | 6A | 49,088 | 28,713 |
| Receivables | 6B | 498,365 | 377,026 |
| *Total Financial Assets* | | 547,453 | 405,739 |
| **Non-Financial Assets** | | | |
| Land and buildings | 7A,C | 1,706,653 | 1,517,193 |
| Infrastructure, plant and equipment | 7B,C | 94,549 | 75,184 |
| Assets held for sale | 7D | 14,485 | 1,409 |
| Intangibles | 7E | 8,892 | 12,706 |
| Inventories | 7F | 16,396 | 20,467 |
| Other non-financial assets | 7G | 21,174 | 21,320 |
| *Total Non-Financial Assets* | | 1,862,149 | 1,648,279 |
| **Total Assets** | | 2,409,602 | 2,054,018 |
| **LIABILITIES** | | | |
| **Payables** | | | |
| Suppliers | 8A | 78,387 | 52,527 |
| Other payables | 8B | 11,053 | 7,823 |
| *Total Payables* | | 89,440 | 60,350 |
| **Interest Bearing Liabilities** | | | |
| Leases | 9A | 2,214 | 2,918 |
| *Total Interest Bearing Liabilities* | | 2,214 | 2,918 |
| **Provisions** | | | |
| Employees | 10A | 110,403 | 105,611 |
| Other provisions | 10B | 8,485 | 7,985 |
| *Total Provisions* | | 118,888 | 113,596 |
| **Total Liabilities** | | 210,542 | 176,864 |
| ***NET ASSETS*** | | 2,199,060 | 1,877,154 |
| **EQUITY** | | | |
| Contributed equity | | 1,491,462 | 1,385,519 |
| Reserves | | 365,169 | 257,560 |
| Retained surpluses / (accumulated deficit) | | 342,429 | 234,075 |
| ***TOTAL EQUITY*** | | 2,199,060 | 1,877,154 |
| **Current assets** | | 594,066 | 438,730 |
| **Non-current assets** | | 1,815,536 | 1,615,288 |
| **Current liabilities** | | 194,584 | 161,011 |
| **Non-current liabilities** | | 15,958 | 15,853 |

The above statement should be read in conjunction with the accompanying notes.

# Signature Oaks Homeowners Assn
## Balance Sheet - Classified
As Of 12/31/2006

| | | |
|---|---|---|
| **Asset** | | |
| **Current Asset** | | |
| Cash In Bank - Checking | $1,350.79 | |
| Cash In Bank - Savings | $5,170.22 | |
| **Total Current Asset:** | | $6,521.01 |
| **Total Asset:** | | $6,521.01 |
| **Equity** | | |
| **Equity** | | |
| Members Equity | $5,112.43 | |
| **Total Equity:** | | $5,112.43 |
| **Profit / (Loss)** | | |
| For Reporting Period | $1,408.58 | |
| **Total Profit / (Loss):** | | $1,408.58 |
| **Total Equity:** | | $6,521.01 |
| **Total Liability and Equity:** | | **$6,521.01** |

- **TYPES OF ASSETS :**
- **Current assets**
  Current assets have a life span of one year or less, meaning they can be converted easily into cash. Such assets classes are: cash and cash equivalents, accounts receivable and inventory. Cash, the most fundamental of current assets, also includes non-restricted bank accounts and checks.
- Cash equivalents are very safe assets that can be are readily converted into cash such as US Treasuries. Accounts receivable consists of the short-term obligations owed to the company by its clients. Companies often sell products or services to customers on credit, which then are held in this account until they are paid off by the clients.
- Lastly, inventory represents the raw materials, work-in-progress goods and the company's finished goods. Depending on the company, the exact makeup of the inventory account will differ. For example, a manufacturing firm will carry a large amount of raw materials, while a retail firm caries none. The makeup of a retailers inventory typically consists of goods purchased from manufacturers and wholesalers.
- **Non-current assets**
  Non-current assets, are those assets that are not turned into cash easily, expected to be turned into cash within a year and/or have a life-span of over a year. They can refer to tangible assets such as machinery, computers, buildings and land.
- Non-current assets also can be intangible assets, such as goodwill, patents or copyright. While these assets are not physical in nature, they are often the resources that can make or break a company - the value of a brand name, for instance, should not be underestimated.
- Depreciation is calculated and deducted from most of these assets, which represents the economic cost of the asset over its useful life.

# LIABILITIES

**DIFFERENT LIABILITIES :**

- **On the other side of the balance sheet are the liabilities. These are the financial obligations a company owes to outside parties. Like assets, they can be both current and long-term.**

- **Long-term liabilities are debts and other non-debt financial obligations, which are due after a period of at least one year from the date of the balance sheet.**

- **Current liabilities are the company's liabilities which will come due, or must be paid, within one year. This is comprised of both shorter term borrowings, such as accounts payables, along with the current portion of longer term borrowing, such as the latest interest payment on a 10-year loan.**

# Profit and loss account

- An official quarterly or annual financial document published by a public company, showing earnings, expenses, and net profit. Net income is determined from this financial report by subtracting total expenses from total revenue. The profit and loss statement and the balance sheet are the two major financial reports that every public company publishes. The difference between this statement and the balance sheet deals with the periods of time that each one represents. The profit and loss statement shows transactions over a given period of time (usually quarterly or annually), whereas the balance sheet gives a snapshot holdings on a specific date. also called income statement or earnings report.

## What is a profit and loss account :

•Shows business performance over a specific period of time.

•Records incomings (revenue from sales) and outgoings (cost of sales plus overheads and expenses) to show whether a profit or loss has been made.

•Shows a summary of invoices that have been raised, or sales income that has been generated, including an estimate of work in progress but not yet invoiced.

•Includes purchases made from suppliers for goods or raw materials, and an estimate of cost for goods/raw materials used but not yet paid.

- **1. Annual Accounts**
- **Accounts are required to be prepared annually, and may also be prepared for other periods, for example monthly or quarterly.**

- **A major purpose of preparing accounts is to be able to monitor the progress of the business. Thus accounts may need to be prepared more frequently than once a year if the business is not going to founder. The management needs to monitor the sales and costs to make sure that the company is paying its way, and hopefully making a profit. If the profits appear to be down on a previous quarter, then action may need to be taken to find out why this happened, and remedy the situation in the future.**

- **If the business has already borrowed money from the bank, or is wishing to do so, then the bank will probably want to see the accounts. The bank is lending its money to the business, and wants to be sure that it is a sound investment. If the bank is not happy with the accounts it may choose not to give the business loan facilities, or perhaps increase its borrowing charges. Furthermore, the bank wants to be certain that the business is under sound financial management, and that good records are being kept for this purpose.**

- **The business is required to annually present its accounts to the Inland Revenue for tax purposes. Should any tax due be not paid on time, or incorrectly, the Inland Revenue can choose to fine the business. In addition, companies are required to file their accounts at Companies House, where they are open for public inspection.**

- **2. The Profit & Loss Account:**
- **The profit and loss account shows the profit that the business makes. This is also known as the "Trading, Profit and Loss Account". It is made up of the following components:**
- **• Sales**
- **• Direct Costs**
- **• Gross Profit**
- **• Indirect Costs**
- **• Net Profit**
- **• Taxation**
- **• Director's Drawings**
- **• Investment in Business.**

A profit and loss sheet will usually look something like this:

| | |
|---|---|
| Income | £ 50,000 |
| less discounts and allowances | (5,000) |
| Net income | =45,000 |
| Less direct costs (cost of sales) | (20,000) |
| Gross profit | =25,000 |
| Less indirect costs (fixed overheads) | (7,000) |
| Operating profit | =18,000 |
| Plus other income | 2,000 |
| Less other expenses | (1,000) |
| Profit before tax | 19,000 |
| Less tax | (8,000) |
| Net profit (or net loss) | =11,000 |

**Example 1:**
From the following balances extracted from the books of X & Co., **prepare a trading and profit and loss account** and **balance sheet** on 31st December, 1991.

| | $ | | $ |
|---|---|---|---|
| Stock on 1st January | 11,000 | Returns outwards | 500 |
| Bills receivables | 4,500 | Trade expenses | 200 |
| Purchases | 39,000 | Office fixtures | 1,000 |
| Wages | 2,800 | Cash in hand | 500 |
| Insurance | 700 | Cash at bank | 4,750 |
| Sundry debtors | 30,000 | Tent and taxes | 1,100 |
| Carriage inwards | 800 | Carriage outwards | 1,450 |
| Commission (Dr.) | 800 | Sales | 60,000 |
| Interest on capital | 700 | Bills payable | 3,000 |
| Stationary | 450 | Creditors | 19,650 |
| Returns inwards | 1,300 | Capital | 17,900The stock on 21st December, 1991 was valued at $25,000. |

**Solution:**

**X & Co.**
**Trading and Profit and Loss Account**
**For the year ended 31st December, 1991**

| | | | | | |
|---|---|---|---|---|---|
| To Opening stock | | 11,000 | By Sales | 60,000 | |
| To Purchases | 39,000 | | Less returns i/w | 1,300 | |
| Less returns o/w | 500 | | | | 58,700 |
| | | 38,500 | By Closing stock | | 25,000 |
| To Carriage inwards | | 800 | | | |
| To Wages | | 2,800 | | | |
| To Gross profit c/d | | 30,600 | | | |
| | | | | | |
| | | 83,700 | | | 83,700 |
| | | | | | |
| To Stationary | | 450 | By Gross profit b/d | | 30,600 |
| To Rent and rates | | 1,100 | | | |
| To Carriage outwards | | 1,450 | | | |
| To Insurance | | 700 | | | |
| To Trade expenses | | 200 | | | |
| To Commission | | 800 | | | |
| To Interest on capital | | 700 | | | |
| To Net profit transferred to capital a/c | | 25,200 | | | |

**X & Co.**
**Balance Sheet**
**As at 31st December, 1991**

| Liabilities | | $ | Assets | $ |
|---|---|---|---|---|
| Creditors | | 19,650 | Cash in hand | 500 |
| Bills payable | | 3,000 | Cash at bank | 4,750 |
| Capital | 17,900 | | Sundry debtors | 30,000 |
| Add Net profit | 25,200 | | Bill receivable | 4,500 |
| | | 43,100 | Stock | 25,000 |
| | | | Office equipment | 1,000 |
| | | | | |
| | | 65,750 | | 65,750 |
| | | | | |

EXAMPLE FOR PROFIT AND LOSS ACCOUNT

| | | |
|---|---|---|
| **ASSETS** | | |
| *Current Assets:* | | |
| Cash | 13,000 | |
| Sundry debtors | 10,000 | |
| Bills receivable | 8,500 | |
| Stock on Dec. 31, 19 .. | 10,000 | |
| Investment | 5,000 | |
| | | |
| Total Current Assets | | 46,500 |
| Fixed Assets: | | |
| Buildings | 50,000 | |
| Plant and Machinery | 15,500 | |
| Furniture and fittings | 10,000 | |
| | | |
| Total Fixed Assets | | 75,500 |
| | | |
| Total Assets | | 122,000 |
| | | |
| | | |
| **LIABILITIES:** | | |
| *Current Liabilities:* | | |

# TYPES OF TAXES

Direct Tax
Indirect Tax
Flat Tax
Consumption Tax
Income Tax
Sales Tax
Excise Tax
Wealth Tax
Transfer Tax
Poll Tax
Payroll Tax
Dividend Tax
Fuel Tax
Social Security Tax
Self Employment Tax
Federal Income Tax
Deposit Interest Retention Tax
Estate Tax

## Taxes in India are of two types

Direct Tax and Indirect Tax.

Direct Tax, like
income tax, wealth tax, etc. are those whose burden falls directly on the taxpayer.

Indirect taxes, like
service tax, VAT, etc. can be passed on to a third party.

Income Tax is all income other than agricultural income levied and collected by the central government and shared with the states.

According to Income Tax Act 1961, every person, who is an assesse and whose total income exceeds the maximum exemption limit, shall be chargeable to the income tax at the rate or rates prescribed in the finance act. Such income tax shall be paid on the total income of the previous year in the relevant assessment year.

The total income of an individual is determined on the basis of his residential status in India.

# What is service tax?

Service tax in India is an important form of indirect tax. The Central Board of Excise and Customs (CBEC) has the responsibility of collecting the levy in different states in India. It is not imposed in the state of Jammu and Kashmir. Currently, the rate is 10%.

It is a type of indirect duty levied on particular services that are categorized as taxable services. The responsibility of paying this kind of levy lies on the service provider. This duty can't be levied on services that are not included in the specified list. Over last one or two years, the domain of service tax been broadened to include new services.

The goal behind imposing service tax in India is to lower the extent of concentration of taxation on business and industry without compelling the government to find the middle ground on the revenue requirements.

## Taxed Services

Since the time of its inception in 1994-1995, only three services were liable to be taxed. From that time, the Government of India has introduced almost 100 categories under its ambit, which include the following:

Traveling agencies (road. air, and railway services)
Telecommunication
Management consultants
Architects
Credit rating agencies
Colleges, universities, and schools
Broadcasting services (television and radio)
Market research analyst
Authorized service stations
Banking and other financial services
Cargo and shipping
Export import unit
Hospitals and health care providers/services
Telegraph services
Maintenance and repair services
Storage and warehousing services
Retail stores
Franchise owner
Packaging services
Transportation of goods
Cable operators

Airport services
Beauty parlors
Event managements
Real estate agents
Dry cleaning services
Insurance underwriting agencies
Consultants of different services
Passport services
Stock brokers
Legal advising units
Immigration services
Customer service units
Chartered accountant firms
Tourist services
Technical support advising firms
Electronic and electrical service stations
Automobile service stations
Membership of clubs and association
Human resource services
Survey and exploration of minerals
Share and stock transfer agent
Internet telephony services
Cost accountant
Transport of goods by air
Security agencies
Pager services
Health clubs
Ship management services
Custom house agent
Port services
Containers by rail
General insurance services
Postal services

# VALUE ADDED TAX

# WHY THERE IS A CONCEPT OF VAT:

- No way different from LST with respect to the fundamentals
- Method of levy differs in the two system

The traditional system of levying tax-

FIRST POINT TAX - NEXT POINT TAX

LAST POINT TAX - MULTIPOINT TAX

# The Traditional System of Levying Tax

- **First Point Tax** - Avoid cascading effect but Govt. loses its control on last point sales with added value - leakage of revenue due to various tax management in the subsequent sales after First Point.

- **Next Point Tax** (especially for banded goods)- Burden of tax is shifted to the next point

- **Last Point Tax-** Govt. gets revenue on value addition upto last point but loses its control on origin of manufacture- possibility for leakage of revenue / escaped taxation – Not popular with Govt.

## The existing system of levying tax
Contd.

**Multipoint Tax**- The Govt. keeps control on overall sales but cost increases due to cascading nature of taxation

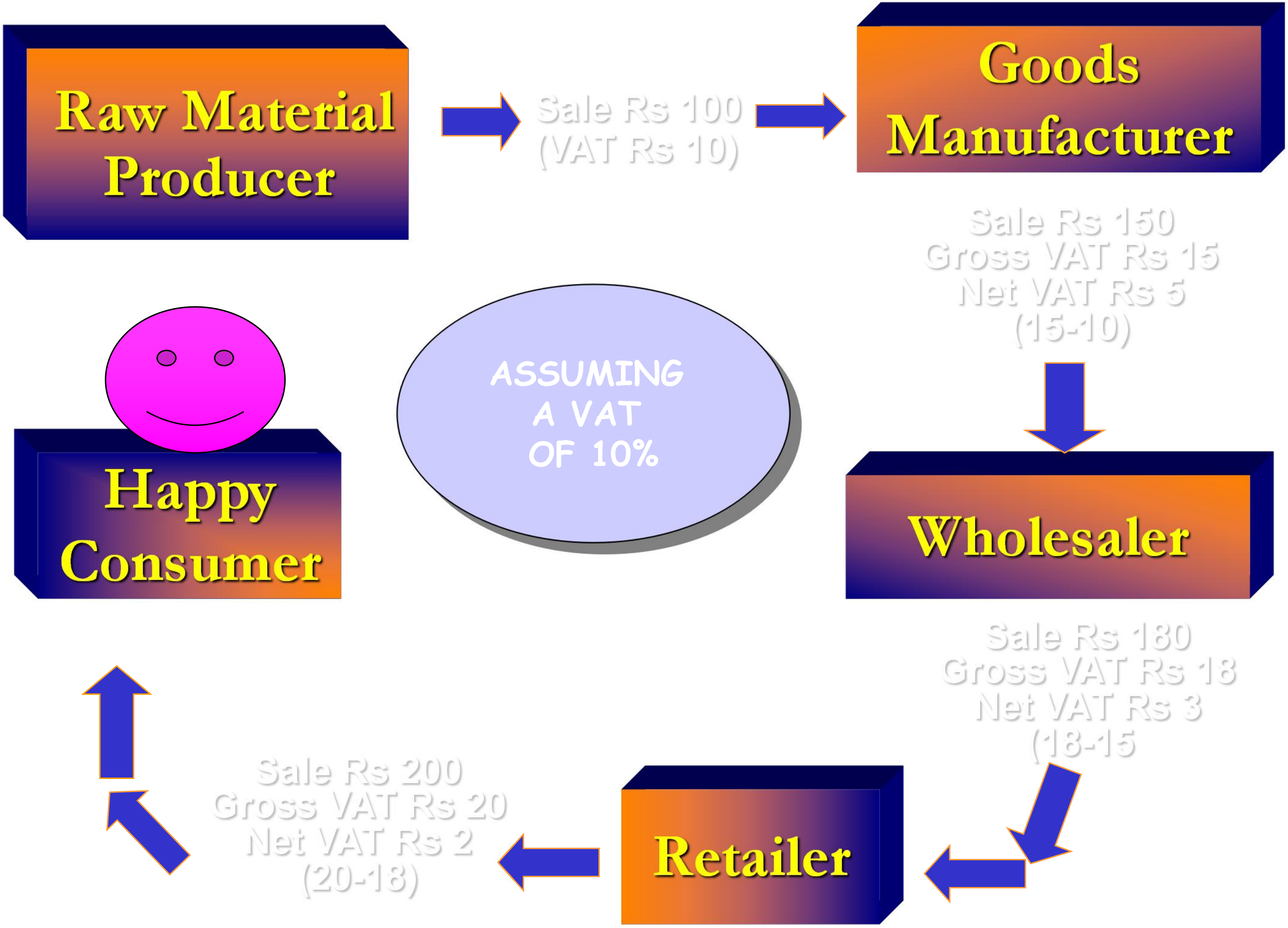
**VAT is a solution to overcome all the above problems and acceptable both to the Assessor (Govt.) and the Assessee (Dealer)**

# MEANING OF VAT

- **VAT in common man's language**
  - **“is a tax levied on the value added to any product or service AT EVERY STAGE”**
  - **Destination based tax system**
  - **Sales to Registered Dealer by a Registered Dealer**
  - **Provision for input tax credit tax Credit paid at the previous point of purchase.**
  - **The tax paid by a registered dealer is netted.**
  - **Tax is ultimately borne by the consumer**

# UNDERSTANDING VAT

**How VAT would work is best illustrated hereafter which indicates that everybody becomes happier under VAT regime with multi-point taxation but with lesser tax burden.**


Raw Material Producer
Sale Rs 100
(VAT Rs 10)
Goods Manufacturer
Sale Rs 150
Gross VAT Rs 15
Net VAT Rs 5
(15-10)
ASSUMING
A VAT
OF 10%
Happy Consumer
Wholesaler
Sale Rs 180
Gross VAT Rs 18
Net VAT Rs 3
(18-15
Sale Rs 200
Gross VAT Rs 20
Net VAT Rs 2
(20-18)
Retailer

# TAX RATE UNDER VAT

essential commodities, capital goods, basic inputs and declared goods >> 4%- PRINTING INK COVERED UNDER 4%

- agricultural products and sea goods >> 0%
- gold >> 1%
- cigarettes, liquor, petrol, diesel >> 20%
- Floor rate of 12.5% (Revenue Neutral Rate)

# ULTIMATE OBJECT OF VAT IS NOW FULFILLED

MAKES INDIA SINGLE ECONOMY

TRANSPARENCY

INCREASED TAX BASE

COMPETITIVE PRICES

VAT RESULTS

NO CASCADING EFFECT

REWARDS PRODUCTIVITY

NO REVENUE LEAKAGE

NEUTRALITY IN INDIRECT TAXES

## QUESTIONS

Q 1. STATE VARIOUS TYPES OF TAXES. EXPLAIN THE “CUSTOM DUTY”.

Q 2. WHAT IS BALANCE SHEET ? DRAW ITD TYPICAL FORMAT SHOWING MAJOR COMPONENTS.

Q 3. COMPARE FIXED CAPITAL AND WORKING CAPITAL. STATE THE VARIOUS SOURCES OF RAISING WORKING CAPITAL.

Q 4. STATE THE OBJECTIVES OF FINANCIAL MANAGEMENT.

Q 5. ENLIST SOURCES OF RAISING FIXED CAPITAL.

Q 6. DRAW TYPICAL FORMAT OF FINANCIAL STATEMENTS, SHOWING THEIR MAIN COMONENTS;

a) BALANCE SHEET b) PROFIT AND LOSS ACCOUNT c) LEDGER

Q 7. EXPLAIN IMPORTANCE OF INCOME TAX AND SERVICE TAX

Q 8. WHAT DO YOU MEAN BY BUDGET ? STATE OBJECTIVES OF BUDGETARY CONTROL.

Q 9. EXPLAIN THE TYPES OF CAPITAL.

Q 10. STATE DIFFERENT TYPES OF TAXES. EXPLAIN SEVICE TAX.

Q 11. WHAT ARE THE TYPES OF BUDGET ? EXPLAIN IN BRIEF.

Financial Management deals with ***raising the funds, effective utilization*** *and* ***management of assets.***

***Objective of FM:***

1. ***Profit maximization –*** *purpose of any company is to earn profit.*
2. ***Wealth maximization –*** *increase market value(branding) in market.*
3. ***Maintenance of liquid asset***
4. ***Fair return of shareholder***

**What is Capital**?: ***The term capital refers to the total investment of the company in terms of money and assets***. There are two types of capital.

1. **Fixed capital** : capital needed to purchase for long term like: land, building, machinery
2. **Working capital**: capital need to buy day to day transactions of the business like raw material, wages to workers etc.

FIXED CAPITAL


***Sources of Raising Capital:*** *A company can raise fund through internally and externally. A new company generally may not raise fund internally and they can raise fund externally by issuing share, debentures and loan. An existing company (well established) can raise fund by internally and externally both.*

Types of Sources:

**1. Internal source:** raise fund inside the organization.

- Personal fund : owner invest their own money in company with no interest rate
- Depreciation provisions: Depreciation provisions represent the maintenance of capital stock to replace the existing machinery when it becomes uneconomical to use. It is major source of internally generate fund
- Deferred taxation: use tax money throughout the year and paid all amount at end of financial year.
- Retained equity earning: This implies retaining of earning of shareholder for internal reinvestment

**2 External Source:** raise fund from outside the organization.

**External Source**

| Long term | medium Term | Short Term | Special Institution |
|---|---|---|---|
| more than 3 to 5 years | between 1 and 3 years | Less than 1 year | |
| | | | |
| Bank Loan | Bank Loan | Trade credit | Industrial financial corporation |
| Share | Hire purchase | credit facilities | State financial corporation |
| Debentures | Sale and lease back | | Industrial development corporation |
| Corporate bonds | Equipment leasing | | insurance company |
| Public deposits | | | |

**Shares**: Funds are collected by issuing shares to public.

- Smallest division of the company's capital is known as shares.
- The shares are offered for sale in the open market, i.e. stock market to raise capital for the company.
- The rate on which the shares are offered is known as share price.
- It represents the portion of ownership of the shareholder in the company.
- The shareholders are entitled to the dividend (if any) declared by the company on the shares.

The shares are broadly divided into two major categories:

- **Equity Shares:** The shares which carry voting rights on which the rate of dividend is not fixed. They are irredeemable in nature. In the event of winding up of the company equity, shares are repaid after the payment of all the liabilities.
- **Preference Shares** The shares which do not carry voting rights, but the rate of dividend is fixed. They are redeemable in nature. In the event of winding up of the company, preference shares are repaid before equity shares.

**Debenture**: A **debenture** is a debt instrument used by the companies to raise money for medium to long term at a specified rate of interest. The capital raised by the company is the borrowed capital; that is why the debenture holders are the creditors of the company.

| COMPARISON | SHARES | DEBENTURES |
|---|---|---|
| Meaning | The shares are the owned funds of the company. | The debentures are the borrowed funds of the company. |
| What is it? | Shares represent the capital of the company. | Debentures represent the debt of the company. |
| Holder | The holder of shares is known as shareholder. | The holder of debentures is known as debenture holder. |
| Status of Holders | Owners | Creditors |
| Form of Return | Shareholders get the dividend. | Debenture holders get the interest. |
| Payment of return | Dividend can be paid to shareholders only out of profits. | Interest can be paid to debenture holders even i there is no profit. |
| Voting Rights | The holders of shares have voting rights. | The holders of debentures do not have any voting rights. |
| Conversion | Shares can never be converted into debentures. | Debentures can be converted into shares. |
| Repayment | Shares are repaid after the payment of all the liabilities. | Debentures get priority over shares, and so they are repaid before shares. |

---

**Budgets**: is the financial plan of the next year. Or we can say ***that forecast of company's income and expense for coming year***.

**Budgeting**: is an art of budget making.

Types of Budget:

| | Budgets | |
|---|---|---|
| **Fixed budget** | | **Financial budget** |
| **Variable budget** | | * Production budget |
| | | * Labor budget |
| | | * Sales budget |
| | | * Material and Purchase budget |
| | | * Cash budget |

**Fixed Budget:** certain fixed type of expenditures e.g land, machine, Rand D etc.
**Variable Budget**: due to uncertainly in business, we kept some money to meet that demand.
**Financial budget:** Finance manager collect budget from all department and make master budget from company.

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**Accounts** ( Financial Statement) : i) Profit and Loss Statement ii) balance Sheet

**Profit and Loss account statement**: The *profit & loss statement* summarizes the revenues and expenses generated by the company over the entire reporting period. The profit & loss statement is also known as the income statement,
The basic equation on which a profit & loss statement is based is Revenues – Expenses = Profit.
All companies need to generate revenue to stand in business and market. Revenues are used to pay expenses, interest and taxes.

Profit & Loss Statement for Company XYZ, Inc. *for the year ended December 31, 2016*

| | | |
|---|---|---|
| Total Revenue | 10,00,000 | |
| Cost of Goods Sold | (2,00,000) | ( money get after selling all goods) |
| Gross Profit | 8,00,000 | |

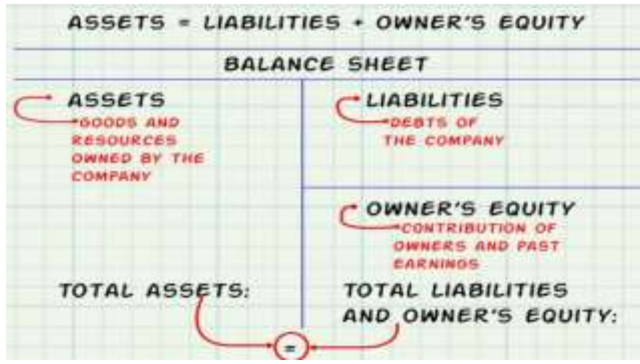
Operating Expenses

| | |
|---|---|
| Salaries | 3,00,000 |
| Rent | 1,00,000 |
| Utilities | 50,000 |
| Depreciation | 50,000 |
| Total Operating Expenses | 5,00,000 |

| | |
|---|---|
| Net Income (operating expense – Profit) = | 3,00,000 |
| Number of Shares Outstanding | 30,000 |
| Earnings Per Share (EPS) | 10.00 |

**Balance Sheet:** A balance sheet is a financial statement that summarizes a company's assets, liabilities and shareholders' equity at a specific point in time. A balance sheet shows financial status (health) of the company at any given item. It has **Assets, liabilities** and **Shareholder** (owners) **equity**
The balance sheet formula is Assets = Liabilities + Shareholders' Equity

The balance sheets has the two side, on left side there is **assets** and right side there is **liabilities plus shareholders' equity**. In Balance sheet both right and left side must balance, hence called **balance sheet**.




**Asset** : Assets are the resources of the business. Assets are the resources that belong to the company. E.g properties, machine, land, cash, patents.
**Liabilities**: A liability is a debt that a company must pay to creditors. Liability represents what the company has to pay others.
Type of Liabilities:
Current Liabilities: Debts which was expected to be settled within 1 year.(e.g short term loan)
Fixed Liabilities: Debts for long term loans are known as Fixed Liabilities.

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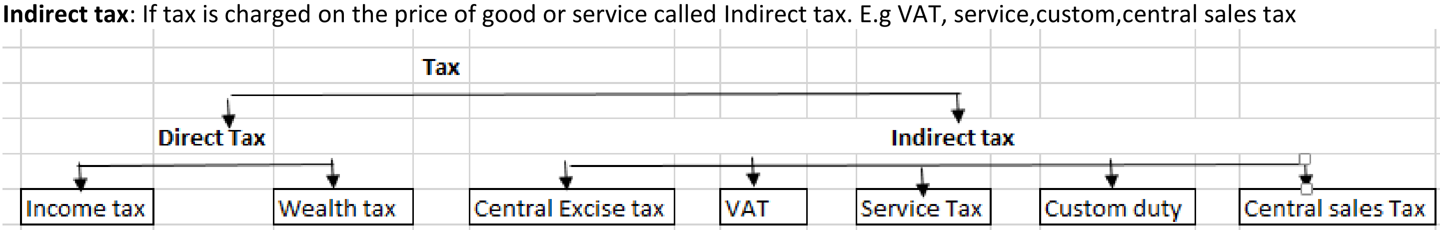
**Introduction of taxes**: tax if fee charged by a government on a product, income or activity. Government use tax money for infrastructure development (rail, roads, bridges ,flyover ,airport, dam, irrigation, education,health, space research satellite etc.)

**Direct tax**: If tax is charged directly on personal or corporate income. e.g income tax and wealth tax
**Indirect tax**: If tax is charged on the price of good or service called Indirect tax. E.g VAT, service,custom,central sales tax




Central Sales Tax (CST) is a tax on sales of goods levied by the Central Government of India. **CST** is applicable only in the case of inter-state sales and not on sales made within the state or import/export of sales.

**VAT**: Tax should be levied on the 'value added' at each stage and not on the gross sale price. Basic difference between VAT and CST is i) VAT is payable only on 'value addition' at each stage where as CST is payable on total value of goods.
ii)VAT is applicable for inside the state where as CST is for between state.
Example 1: "A" in Maharashtra sells and delivers goods to "B" in Gujarat. – Central Sales Tax
Example 2: "X" in Maharashtra delivers goods to "Y" in Maharashtra. – VAT is applicable.

**Custom Duty** : tax imposed by government for the goods which is imported from the other countries.
Custom duties are of two types a)Import duties & b) Export duties

**Service Tax**: Tax payable on services provided by service provider. Ex. Service tax to telephone, insurance, stock.

**Excise tax:** tax payable on goods manufactured or produced in India. Total excise duty is 12.36% ( including Duty rate is 12% , education cess 2% and secondary and higher education cesss of 1% )

# Unit 5: Financial Management

# OBJECTIVES:

- After studying this lesson, student shall be able to:
  1. Explain the meaning, objectives and functions of financial management;
  2. Understand the terms such as Capital, finance, loan, shares and debentures;
  3. Classify various financial ratios;
  4. Compare bookkeeping and accountancy;
  5. Understand the rules of debit and credit for personal, real and nominal accounts;
  6. Explain the process of journalizing and draw journal as per format;

# Financial Management:

- Any business cannot be successful unless there is no money/finance to run the business.
- Hence financial management is defined as ***"a part of management which is concerned with raising funds to run the business."***

# Objectives and Functions of Financial Management:

1. Raising finance and funds.
2. Finding various sources of funds.
3. Investing funds in either fixed assets or current assets.
4. Managing fixed assets.
5. Managing working capital.
6. Control on cash.
7. Keeping record about use of finance.
8. Records about profit and loss of business.
9. Increase profit.

# CAPITAL

- Initially when money is invested in business, it is known as capital.
- To commence any kind of business the first and the foremost requirement of the businessmen is the required amount of capital with him.
- Production without capital is not possible.
- As blood is required to keep heart working, capital is required to start and run the business.
- Capital is needed for purchasing fixed assets, purchasing raw materials and to meet day to day expenses.

# TYPES OF CAPITAL:

- Depending on the purpose of using the capital the capital is classified as
  a) **Fixed capital**
  b) **Working capital.**

# FIXED CAPITAL:

- It is the money required for getting fixed assets such as land, building, equipments, etc. is known as fixed capital.
- Fixed capital cannot be disposed off without breaking the business.
- Some firms need very less fixed capital investment while few of them like manufacturing industries require more fixed capital investment.

# WORKING CAPITAL:

- It is the money required to meet the expenditure for day to day working of the business.
- E.g. Wages of workers, advertising, promotion etc.
- Working capital is the difference between current assets and current liabilities.
- Working capital ensures smooth and efficient business operations without interruptions.

# FINANCE: -

- Finance means money or funds.
- To start the business, business organisations requires capital but to keep the business running the business organisations requires finance and various funds.
- Small scale industries have little problems of finance as compared to large scale industries.
- This is because small scale industries follow either individual ownership or partnership business, while large scale industries comprises of Joint stock company.
- Funds are raised from various sources by business organisations.
- They invest them in either fixed assets or current assets and earn profit out of them for purpose of conducting business operations.

## METHODS OF RAISING CAPITAL:

- **Finance can be raised from -**
  1) Shares
  2) Debentures
  3) Loans from Financial institutions
  4) Deposits
  5) Retained earnings

# SHARES AND ITS TYPES

- A share is a basic unit in which the total requirement of capital is divided.
- Shares are issued for raising funds. Shareholders are paid dividend every year depending upon the performance of industry.
- Shares are classified as:
  1) **Preference shares and**
  2) **Equity shares**
  3) **Deferred shares.**

# Types Of Shares:

1) **Preference shares:**
   - Enjoy first preference in getting dividends, they get fixed dividend and it is not dependent on the profit earned.
   - There is small risk of investing in preference shares.
2) **Equity shares:**
   - Have second claim to receive dividend. Equity share holder enjoys profit earned by company.
   - Also the dividend paid on equity shares is variable, it depends upon profit earned.
   - There is high risk of investing in equity shares.
3) **Deferred shares:**
   - Get last preference in getting dividend.

# DEBENTURES

- A debenture is a loan to the company at fixed rate of interest.
- It is a document which evidences the loan made to the company.
- Company invites public to buy debentures. Profit or no-profit, public will get their interest.
- Debenture holders do not get ownership, they only get the interest.
- Debenture holders are called as the creditors of the company.
- They do not pose any threat to the existing control of the company.

# THE TYPES OF DEBENTURES ARE :

1) **Registered V/s Bearer debentures,**
2) **Secured V/s Unsecured**
3) **Redeemable V/s Non redeemable**
4) **Convertible V/s non convertible.**
   - Debenture holders do not have any control over the affairs of the company.
   - Debenture holder does not enjoy any right of voting, while shareholders are allowed to vote and attend company's meeting.
   - Debentures can be converted into shares as per the terms of issue of debentures.

## LOAN/FINANCE FROM BANK:

- Banks provide capital in the form of loan of required amount and for required period of time.
- Banks are the prime sources of providing financial assistance.
- Bank does not directly provide the loan.
- The bank provides loan against some security.
- The security may be in any form such as mortgage to property (like land, building, machinery) or possession of goods and inventories.
- Finance is not only available in terms of loan but there are facilities like Cash credit also, where each client is sanctioned for one year and can be renewed from year to year.
- This finance provided by bank is utilized by various business organisations to run the business and earn profit out of it.
- The various banks that lend loans are Bank of Baroda, State Bank of India, Bank of Maharashtra etc.
- These are commercial banks unlike of the financial institutions whose purpose is to serve the society.

## FINANCIAL INSTITUTIONS:

- Financial institutions provide industrial finance for economic development of country.
- They are not developed for commercial motive.
- They provide funds at reasonable rate of interest.
- Their main motive is developing small scale sectors.
- These banks provide funds at appropriate rate of interest, i.e. not as high rate of interest as the commercial banks charge.
- They are developed to assist backward areas, small scale sectors, export oriented industries, etc.
- They assist industries like fertilizers, pharmaceuticals, mining, shipping, hotels, generation of electricity, fishing, manufacturing and preservation of goods, etc,

# FINANCIAL INSTITUTIONS:

- Under Indian constitution following financial institutions have been formed:
  1) Industrial development Bank of India (IDBI)
  2) Industrial Finance Corporation of India (IFCI)
  3) State Financial corporation (SFC)
  4) Unit Trust of India (UTI)
  5) Life Insurance Corporation (LIC)
  6) Industrial Credit and Investment Corporation of India (ICICI)

## FINANCIAL RATIOS:

- Financial ratio is a technique for judging the financial strength of a business.
- They provide the following information:
  1) What rate of profit you are earning in the business?
  2) What is the margin of profit?
  3) Would the company be able to pay money due to firm?
  4) How fast the customers pay money to firm? Etc.

# A) LIQUIDITY RATIOS:

- Reflects firm's ability to meet scheduled short-term obligations.
- For the firm to remain alive, it must pay its bills as they become due. Liquidity ratios measure the extent to which the firm can meet its immediate obligations.
- Current ratio (Working capital ratio) is a liquidity ratio:

$$Current\ Raitio = \frac{Current\ Assets}{Current\ Liabilitie\ s}$$

- Current assets include cash, bank balances, marketable securities (like stocks and bonds) accounts receivable and inventory.
- Current liabilities include bank loans, tax to be paid, expenses etc.
- If the value of current ration of high, it indicates that firm is liquid and in good position to meet its current obligations.

# B) LEVERAGE RATIOS:

- Measures the contribution of financing by owners compared with financing provided by the outsiders.
- It indicates to what extent the firm has financed its investments in borrowing.
- Leverage ratios show how much debt the firm has used to finance its investments.

***Debt-equity ratio:***

- Debt includes long term and short term debts in form of mortgages, bills or debentures.
- Equity consists of preference shares, equity shares, capital reserves, retained earnings.

$$Debt - equity\ ratio = \frac{Debt}{Equity} = \frac{Outsider's\ funds}{Shareholder's\ funds}$$

# C) Activity ratios:

- Activity ratios measure how well the firm is managing various classes of assets (like inventory and fixed assets).
- These are called as turnover ratios because they show how rapidly assets are being converted into sales.
- High turnover indicates that assets are managed well by company.
- Fixed assets turnover ratio:

$$Fixed\quad assets\ \ turnover\ = \frac{Sales}{Fixed\quad Assets}$$

- It is sales divided by fixed assets. It measures how well the firm uses its long term assets.
- It indicates the sales per rupee of investment in fixed assets.
- A higher utilization indicates effective utilization of fixed assets such as plant and machinery.

# D) Profitability ratios:

- They indicate the financial result of business.
- It reflects profitability of firm.
- Profit margin describes how well a rupee of sales is squeezed by the firm into profit.

$$P\ rofit \quad magin = \frac{Net \quad Income}{Net \quad Sales}$$

# BOOK KEEPING AND ACCOUNTING:

- ***Book keeping :***
- If a person has to carry on business he has to deal with various business transactions such as receiving or giving cash, purchase or sales of goods, lend or borrow money etc.
- All such transactions need to be recorded simple manner so at any time businessman comes to know status of business.
- Thus, book-keeping is a scientific method of recording day to day business transactions in words and figures in the book of accounts.
- It show correctly and clearly the financial position of a business.

- Definition of book keeping-Book keeping may be defined as the art and science of recording all the dealings related to money ,goods and services in a systematic manner so that any information pertaining to the business can be easily supplied to the management or the owner of the concern.

# ACCOUNTING:

- ***Accountancy :***
- Accountancy is an act or recording, classifying, summarizing and reporting business transactions.
- It interpret their effect on the business affairs.
- It is art and science of recording business transactions in a methodical manner
- It helps to show the business position at a particular instant of time and success or loss or business during a specific period of time.

# Unit 5: Financial Management

# ACCOUNTING TERMINOLOGY:

- Assets-Assets are the resources of the business enterprises e.g. Properties ,equipments, stock, debtors and cash etc.
- Types-1) Current assets e.g. Cash in hand, cash in bank, investement, debtors,accounts receivable,all inventores etc2)Fixed assets e.g.land ,building, equipments machinery,furniture,transport vehicles
- Liabilities- Meaning of liabilities is “something that someone is responsible for”
- Types-1) Current Liabilities- e.g.bank overdraft,short term loans,trade credit,wages of employee,rent.

## ACCOUNTING TERMINOLOGY:

- 2)Fixed Liabilities-e.g.Owner capitals,long term loans,long term debts,bonde,debentures.

## A) Assets And Liabilities:

- Properties that are owned by business and have monetary value are called as assets.
- Current assets include cash and other assets which can be converted into cash within a short period.
- Fixed assets such as Land, building, equipment, furniture, machinery, etc
- Liabilities are the debts to be paid to the outsiders by the business. Such as loans taken by business, bank overdraft, bills payable, debentures payable, expenses payable, employee wages etc.
- Current liability: Debts which are to be repaid within a short period (1 year or less) are known as current liabilities. Income taxes payable, short term loans, rent payable etc. are current liabilities.
- Fixed liability: Debts which are to be paid in more than a year are fixed liabilities. E.g. long term loans, mortgage payable, owners capital etc.

## B) Transactions:

- A transaction means an exchange of things or services between the two parties.
- A transaction may be monetary or non-monetary transaction.

## C) Trade discount:

- If a publisher usually allows 10 to 15 percent discount to the library for on purchase of books.
- This discount is trade discount.

## D) Creditor and Debtor:

- Creditor is a person who supplies finance to other i.e. he has to get money from the others.
- Debtor is a person (or a firm) who owes money to others (creditors) i.e. he has to pay money to others.

## E) Turnover:

- Turnover means the sales income (Credit and Cash) of a business during a given period.

## F) Commission:

- The remuneration given by a firm to a person for the services provided by him to the firm is called as commission.

## G) Cash Trade and Credit trade:

- When the goods are purchased and sold on cash only, it is known as cash trade.
- When the goods are purchased or sold on credit, it is called as credit trade.

## H) Journal:

- It is a book of original entry.
- All the daily transactions are recorded within this book in the chronological order (i.e. in an order in which the events takes place).
- **Rules of Journalizing:**
- For personal accounts, debit the account of person receiving and credit the account of person giving.
- For nominal accounts, debit the account of expenses and losses, and credit account of income and gains.

## H) Ledger:

- It is the book of accounts.
- It includes all the different heads of accounts of persons, assets, incomes and expenditures.
- It is a main book.
- Hence you can say that all transactions from the journal are classified and sorted out, and entered in a book called Ledger.
- Thus there is a separate page for records of cash, purchase, sales, expenses, each customer and for each firm.
- The ledger is split into two halves, the debit (Dr) side being on the left and the credit (Cr) side on the right.
- Ledger is used to summarize transactions and to prepare the financial statements like balance sheet and profit and loss account.

- **Ledger Posting:**
- Transactions originally recorded in journal are also to be recorded in ledger under different heads.
- This act of recording transactions of journal in the ledger is called posting.

**I) Bad Debt:**

- A debt which becomes irrecoverable due to some reasons is called as bad debt.
- For example, if the debtor dies without leaving any property behind, the debt given to him cannot be recovered.

**J) Drawing:**

- It is the withdrawal of money by the owner from his business for his personal use.

# Systems of book-keeping:

- There are two systems of book-keeping:
- **Single entry system:**
- Single entry system records only one side of the transaction and hence it does not provide information about a transaction.
- Under this system only cash transactions are recorded in cash book and personal accounts of debtors and creditors are maintained.
- Impersonal accounts and nominal accounts are ignored.
- Trading account, Profit and loss account and balance sheet cannot be prepared with the help of this system.

- **Double entry system:**
- Double entry system records both sides of transaction:
  - 1) Credit side
  - 2) Debit side.
- According to the principle of double entry system for every business two parties must be involved.
- Every debit has equal credit on the opposite side.
- The double entry book-keeping can be successfully used in every kind of business such as manufacturing, wholesale, retail, large scale, small scale, individual ownership, partnership, joint stock company etc.

## ADVANTAGES OF DOUBLE ENTRY SYSTEM :

- It provides complete information of the business transaction since debit and credit sides are noted down.
- Trading account, profit and loss account, and balance sheet can be prepared with this system.
- Comparison of various items, such as purchases, sales, income, expenses etc of the current year can be made with those of the last year to know the business trend.
- Any error made in recording the transactions can be easily traced on and corrected.
- A possibility of fraud is reduced.

# ACCOUNT:

- An account is summarized record of business transactions relating to persons, properties, expenses, losses, incomes, gains, etc.

**A) Personal Accounts:**

- The account of individuals, firms, shops and establishments, institutions, companies are called as personal accounts.
- The examples of personal accounts are: Ramesh’s account, Cusrow Wadia college account, Pune University account, Bank of Maharashtra account, Hotel Sun & Sand account.
- Rule for Personal account is: “Debit the receiver, Credit the giver.”
- E.g. Transaction says:”Sold 20 computers to Irfan for Rs 500000.” Since Irfan (Personal account) is the receiver of the goods, his account is to be debited.

## B) Real accounts:

- The account of properties and assets are Real accounts.
- These accounts indicate the values of various assets held by the business.
- The example of Real accounts can be: Cash account, Goods account etc.
- The rule for Real account is: “Debit what comes in; Credit what goes out.”
- E.g. Transaction says: “Purchased computer accessories worth Rs 40000.”
- Since a computer accessory (real account) is an asset and it is coming in the business, debit the computer accessories account.

## C) Nominal accounts:

- The account of expenses & losses and income & gains are called as nominal accounts.
- Example: Wages account: Wages are given to workers so it is expense/loss hence it becomes nominal account.
- Rent and taxes account is a nominal account because Rent and tax both are to be paid from the business income.
- It is a loss so it becomes nominal account.
- Rule for nominal account: “Debit expenses & losses, Credit incomes and gains. Debit that which goes out, credit that which comes in”.
- E.g. Transaction says: “Paid office salaries Rs. 5000.” Office salary is a nominal account which indicates expenses (in other words loss). So debit office Salaries account.

# Financial Statement : Balance Sheet

Objectives

In this lecture you will learn the following

- Introduction.
- Balance Sheet.
- Elements of Balance Sheet.

# Financial Statement : Balance Sheet

Financial statements are records that provide an information of an individual's, organization's, or business' financial status.
They are normally prepared general or specific purposes.

General purpose Financial Statement examples

- Balance Sheet.
- Profit and Loss A/c.
- Cash Flow Statement.
- Fund Flow Statement.
- Segment Revenue Report.

Specific purpose Financial Statement examples

- Departmental Budget.
- Computation prepared for Income Tax Purpose.

# Financial Statement : Balance Sheet

### Balance Sheet

Balance Sheet portrays value of economic resources controlled by an enterprises and the way they are financed.

A balance sheet or statement of financial position is a summary of the financial balances of an entity on a particular point of time. i.e. summary of organization's assets, liabilities and equity as of a specific date.

### Balance Sheet (Format)

| Liabilities | Rs. | Assets | Rs. |
|---|---|---|---|
| Owners Fund | XX | Fixed Assets | XX |
| Non Current Liabilities | XX | Non current Investments | XX |
| Current Liabilities | XX | Current Assets | XX |

Every balance sheet shall give a true and fair view of state of affairs of the company as at the end of financial year.

# Financial Statement : Balance Sheet

| | Particulars (format as per revised Schedule VI) | As at | As at |
|---|---|---|---|
| | | 31st Mar 2011 | 31st Mar 2010 |
| **I.** | **EQUITY AND LIABILITIES** | | |
| **1** | **Shareholder's Funds** | | |
| | (a) Share Capital | - | - |
| | (b) Reserves and Surplus | - | - |
| | (c) Money received against Share Warrants | - | - |
| | | | |
| **2** | **Share Application Money pending allotment** | - | - |
| | | | |
| **3** | **Non-Current Liabilities** | | |
| | (a) Long-Term Borrowings | - | - |
| | (b) Deferred Tax Liabilities (Net) | - | - |
| | (c) Other Long Term Liabilities | - | - |
| | (d) Long-Term Provisions | - | - |
| | | | |
| **4** | **Current Liabilities** | | |
| | (a) Short-Term Borrowings | - | - |
| | (b) Trade Payables | - | - |
| | (c) Other Current Liabilities | - | - |
| | (d) Short-Term Provisions | - | - |
| | | | |
| | **TOTAL** | - | - |
| | | | |

# FINANCIAL STATEMENT : BALANCE SHEET

| | | | |
|---|---|---|---|
| | **TOTAL** | - | - |
| | | | |
| **II.** | **ASSETS** | | |
| | | | |
| **1** | **Non-Current Assets** | | |
| | (a) Fixed Assets | | |
| | (i) Tangible Assets | - | - |
| | (ii) Intangible Assets | - | - |
| | (iii) Capital work-in-progress | - | - |
| | (iv) Intangible assets under development | - | - |
| | (b) Non-Current Investments | - | - |
| | (c) Deferred Tax Assets (Net) | - | - |
| | (d) Long-Term Loans and Advances | - | - |
| | (e) Other Non-Current Assets | - | - |
| | | | |
| **2** | **Current Assets** | | |
| | (a) Current Investments | - | - |
| | (b) Inventories | - | - |
| | (c) Trade Receivables | - | - |
| | (d) Cash and Cash Equivalents | - | - |
| | (e) Short-Term Loans and Advances | - | - |
| | (f) Other Current Assets | - | - |
| | | | |
| | **TOTAL** | - | - |

# Financial Statement : Balance Sheet

## Elements of Balance Sheet

- Assets.
- Liabilities.
- Owners Fund.

## Assets

- Probable future economic benefit.
- What is owned or controlled.

  Examples
  - Cash.
  - Land and Building.
  - Investments.
  - Machinery.

- An asset is a resource controlled by the enterprise as a result of past events from which future economic benefits are expected to flow to the enterprise.
- Resource must have a cost or value that can be measured reliably.

# Financial Statement : Balance Sheet

## Lecture 1 : Financial Statement : Balance Sheet

### Types of assets

- Fixed Assets.
- Current Assets.
- Investments.

# Financial Statement : Balance Sheet

## Liabilities

- A liability is a present obligation of the enterprise arising from past events, the settlement of which is expected to the result in an outflow of a resource embodying economic benefits.
- A liability is an existing obligation based on the evidence available on balance sheet date.
- A liability is recognised when outflow of economic resources in settlement of present obligation can be anticipated and the value of outflow can be reliably measured.

# Financial Statement : Balance Sheet

**Long-Term Liabilities**

- Long-term liabilities are a company's debts or obligations that are to be repaid or performed beyond one year.

  **Source of fund**

  Examples:

- Bank Loan.
- Loan from Financial Institution.
- Debentures.

**Current Liabilities**

- Current liabilities are a company's debts or obligations that are to be repaid or performed within one year.
  - Emerge from normal business.
  - Examples:
    - Creditors (Accounts Payable).
    - Outstanding Expenses.
    - Interest accrued but not due on Loan.
    - Provision for Tax.
    - Bank Overdraft.

# Financial Statement : Balance Sheet

**Provision:**

Provision means any amount retained by way of providing for any known liability of which amount can not be determined with substantial accuracy.

Provision refers to an amount set aside for meeting claims which are admissible but the amount whereof has not been confirmed.

**Examples**

- Provision for payment of electricity charges (but bill is not yet received).
- Provision for taxes (till final amount is assessed by authorities.).
- Provision for bonus.
- Amount set aside for writing off bad debts.

# Financial Statement : Balance Sheet

**Contingent Liability**

Contingent liability can be defined as

a. a **possible** obligation that arises from past events and the existence of which will be confirmed only by occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the enterprise.

b. a **present** obligation that arises from past events but is not recognised because:

   i. it is not probable that an outflow of resources consisting economic benefits will be required to settle the obligation or

   ii. a reliable estimate of the amount of the obligation cannot be made.

**Owners Fund**

Owners fund is defined as residual interest of an enterprises after deducting all its liabilities.

Owners fund is the excess of aggregate assets of an enterprises over its aggregate liabilities.

# FINANCIAL STATEMENT : BALANCE SHEET

**Vertical Format of Balance Sheet**

| **Sources of Funds** | **Rs.** | **Rs.** |
|---|---|---|
| Owners Fund | | XX |
| Borrowing Funds | | |
| Secured Loan | XX | |
| Unsecured Loan | XX | XX |
| Total Capital Employed | | XX |

| **Application of Fund** | **Rs.** | **Rs.** |
|---|---|---|
| Fixed Assets | | XX |
| Investments | | XX |
| Working Capital | | |
| Current Assets | XX | |
| Current Liabilities | (XX) | |
| Net Working Capital | | XX |
| Total Assets Employed | | XX |

# Financial Statement : Balance Sheet

**Exercise 1**

1. On January 2, owners invest Rs.15,000 in ShriRam Company to begin the business.
2. On January 3, ShriRam Company borrows Rs. 10,000 from DhanLakshmi Bank.
3. On January 5, ShriRam Company purchases Rs. 18,000 of inventory from suppliers. Payment due on Jan 8.
4. On January 9, ShriRam Company sells inventory that cost Rs. 6,000 for Rs. 8,000 in cash.
5. On January 10, ShriRam Company pays for inventory purchased on January 5.
6. On January 12, ShriRam Company sells inventory that cost Rs. 5,000 for Rs. 6,000, on account. Payment will be received on January 31.
7. On January 31, ShriRam Company collects the account receivable and puts in bank.

Prepare Balance sheet of the concern after each transaction.

1. On January 2, owners invest Rs.15,000 in ShriRam Company to begin the business.

| **ShriRam Company<br>Balance Sheet<br>January 2, Year 1** | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Capital | 15,000 | Bank | 15,000 |
| Total | 15,000 | Total | 15,000 |

# Financial Statement : Balance Sheet

2. On January 3, ShriRam Company borrows Rs. 10,000 from DhanLakshmi Bank.

| ShriRam Company Balance Sheet<br>January 3, Year 1 | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Paid-up capital | 15,000 | Bank | 25,000 |
| DhanLakshmi Bank Loan | 10,000 | | |
| Total | 25,000 | Total | 25,000 |

3. On January 5, ShriRam Company purchases Rs. 18,000 of inventory from suppliers, on account Payment due on January 8

| ShriRam Company Balance Sheet<br>January 5, Year 1 | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Paid-up capital | 15,000 | Bank | 25,000 |
| DhanLakshmi Bank Loan | 10,000 | Inventory | 18,000 |
| Accounts Payable/Creditors | 18,000 | | |
| Total | 43,000 | Total | 43,000 |

# FINANCIAL STATEMENT : BALANCE SHEET

4. On January 9, ShriRam Company sells inventory that cost Rs. 6,000 for Rs. 8,000 in

| ShriRam Company Balance Sheet<br>January 9, Year 1 | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Paid-up capital | 15,000 | Bank | 33,000 |
| Reserves | 2,000 | Inventory | 12,000 |
| DhanLakshmi Bank Loan | 10,000 | | |
| Creditors | 18,000 | | |
| Total | 45,000 | Total | 45,000 |

5. On January 10, ShriRam Company pays for inventory purchased on January 5.

| ShriRam Company Balance Sheet<br>January 10, Year 1 | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Paid-up capital | 15,000 | Bank | 15,000 |
| Reserves | 2,000 | Inventory | 12,000 |
| DhanLakshmi Bank Loan | 10,000 | | |
| Creditors | Nil | | |
| Total | 27,000 | Total | 27,000 |

# Financial Statement : Balance Sheet

6. On January 12, ShriRam Company sells inventory that cost Rs. 5,000 for Rs. 6,
   Payment will be received on January 31.

| ShriRam Company Balance Sheet<br>January 12, Year 1 | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Paid-up capital | 15,000 | Bank | 15,000 |
| Reserves | 3,000 | Inventory | 7,000 |
| DhanLakshmi Bank Loan | 10,000 | Debtors | 6,000 |
| Total | 28,000 | Total | 28,000 |

7. On January 31, ShriRam Company collects the debtors and puts in bank.

| ShriRam Company Balance Sheet<br>January 31, Year 1 | | | |
|---|---|---|---|
| **Liabilities** | | **Assets** | |
| Paid-up capital | 15,000 | Bank | 21,000 |
| Reserves | 3,000 | Inventory | 7,000 |

# Financial Statement : Profit and Loss Account

## Lecture 2 : Financial Statement : Profit and Loss Account

### Objectives

**In this lecture you will learn the following**

- Profit and Loss Account.
- Elements of P & L A/c.
- Entity Concept.
- Accrual Basis of Accounting.
- Matching Concept.
- Prepaid Expenses & Outstanding Expenses.
- Realisation Concept.

# Financial Statement : Profit and Loss Account

## Lecture 2 : Financial Statement : Profit and Loss Account

### Profit and Loss Account

Profit and loss account discloses the result of the working of an entity during the accounting year.

Profit and loss account measures the income generated by the entity.

### Elements of Profit and Loss Account

- Income.
- Expenses.

# Financial Statement : Profit and Loss Account

**Profit & Loss A/c (Simple Format)**

| Particulars | Amount |
|---|---|
| Sales | XX |
| Cost of Goods Sold | (XX) |
| Gross Profit | XX |
| Other Expenses | (XX) |
| Tax | (XX) |
| Net Profit | XX |

| | Particulars | Year Ended | Year Ended |
|---|---|---|---|
| | **(format as per revised schedule VI )** | **31st Mar 2011** | **31st Mar 2010** |
| I. | Revenue from Operations | - | - |
| II. | Other Incomes | - | - |
| III. | Total Revenue (I + II) | - | - |
| IV. | Expenses: | | |
| | Cost of Materials Consumed | - | - |
| | Purchases of Stock-in-Trade | - | - |
| | Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade | - | - |
| | Employee Benefit Expenses | - | - |
| | Finance Costs | - | - |
| | Depreciation and Amortization Expense | [illegible] | - |
| | Total Expenses | - | - |

# FINANCIAL STATEMENT : PROFIT AND LOSS ACCOUNT

| | | | |
|---|---|---|---|
| | Changes in Inventories of Finished Goods, Work-in-Progress and Stock-in-Trade | - | - |
| | Employee Benefit Expenses | - | - |
| | Finance Costs | - | - |
| | Depreciation and Amortization Expense | - | - |
| | Total Expenses | - | - |
| V. | Profit before Exceptional and Extraordinary Items and Tax (III – IV) | - | - |
| VI. | Exceptional Items | - | - |
| VII. | Profit before Extraordinary Items and Tax (V – VI) | - | - |
| VIII. | Extra Ordinary Items | - | - |
| IX. | Profit before Tax (VII – VIII) | - | - |
| X. | Tax Expense: | | |
| | (1) Current tax | - | - |
| | (2) Deferred Tax | - | - |
| XI. | Profit/ (Loss) for the period from Continuing | - | - |
| | Operations (IX – X) | | |
| XII. | Profit/Loss from Discontinuing Operations | - | - |
| XIII. | Tax Expense of Discontinuing Operations | - | - |
| XIV. | Profit/(Loss) from Discontinuing Operations (after Tax) | - | - |
| | (XII – XIII) | | |
| XV. | Profit/ (Loss) for the Period (XI + XIV) | - | - |

# Financial Statement : Profit and Loss Account

## Lecture 2 : Financial Statement : Profit and Loss Account

### Income

Income is the increase in economic benefits during the accounting period in the form of inflows or enhancement of asset or decreases of the liability. The definition of income encompasses revenue and gains.

- Revenue is an income that arises in the ordinary course of activities. e.g. sales.
- Gains are income, which may or may not arises in the ordinary course of activities. e.g. profit on sale of fixed asset.

### Expenses

Expense is the decrease in economic benefits during the accounting period in the form of outflows or depletion of asset or incurrence of the liability.

- Expense arises in the ordinary course of activities. e.g. wages.
- Losses may or may not arises in the ordinary course of activities. e.g. loss on sale of fixed asset.

# Financial Statement : Profit and Loss Account

**Profit & Loss A/c (Detailed Format)**

| Particulars | Amount |
|---|---|
| Sales | XX |
| Operating Expenses | (XX) |
| | |
| Operating Profit | XX |
| Non-Operating Income | XX |
| Non-Operating Expense | (XX) |
| Profit before Interest and Tax | XX |
| Interest | (XX) |
| Profit before Tax | XX |
| Tax | (XX) |
| Profit after Tax | XX |

# Financial Statement : Profit and Loss Account

**Lecture 2 : Financial Statement : Profit and Loss Account**

### Operating Profit

Operating activities are principal revenue producing activities of the enterprise.
Operating profit is the figure obtained after subtracting personnel, depreciation and other expenses.
Operating profit is the surplus generated by the operations.

### Profit before Interest & Tax

The company irrespective of method of financing, earns this amount. The only other expense to be met at this stage, is the interest expense.

This is the measure of the operational efficiency of the company. This is usually referred as Earnings before Interest and Tax.

### Profit before Tax

Profit before Tax is the surplus after meeting all expenses, including interest.
This is the profit available to company as a result of both its operating as well as financing performance.

### Profit after Tax

Profit after Tax is the net amount of surplus earned by the company during the accounting period.
This is the amount available to the company for appropriation. This amount can either distributed to owners or retained in the business as retained earning. Not distributing the profit to owners increases the owners investment in the business.

# Financial Statement : Profit and Loss Account

**Lecture 2 : Financial Statement : Profit and Loss Account**

**Exercise 1**

In Padmanabham and co. following transaction took place during year 2009-10.

- Goods costing Rs. 1,40,000 purchased for cash.
- Padmanabham paid General expenses of Rs. 4,800.
- Salaries of Rs. 25,500 paid to office staff.
- Padmanabham sales on credit for two month. Total credit sales during year is Rs. 1,40,500 (cost: 90,000) and remaining goods were sold at cash to retail traders for cash at Rs. 69,000.
- Printing and stationary expense were Rs. 5,000 and Telephone expenses were Rs. 18,000.
- Padmanabham paid salary of Apr 2010, Rs. 2,000 in advance to one employee.
- Padmanabham paid Rs. 50,000 towards Bank of Baroda loan, of which Rs. 5,000 was interest component.
- Rs. 3,000 paid as tax.

Prepare profit and loss A/c from the given information of year 2009-10.

# Financial Statement : Profit and Loss Account

**Lecture 2 : Financial Statement : Profit and Loss Account**

**Exercise 1**

| Profit and Loss A/c for year ended 31 March 2010 | |
|---|---|
| **Particulars** | **Amount** |
| Cash Sales | 69,000 |
| Credit Sales | 1,40,500 |
| Total Sales | 2,09,500 |
| Cost of goods sold | (1,40,000) |
| Operating Profit | 69,500 |
| General Expenses | (4,800) |
| Salary Expenses | (25,500) |
| Printing and Stationary Expenses | (5,000) |
| Telephone Expenses | (18,000) |
| Profit Before Interest and Tax | 16,200 |
| Interest | (5,000) |
| Profit Before Tax | 11,200 |
| Tax | (3,000) |
| **Net profit after Tax** | **8,200** |

# Financial Statement : Profit and Loss Account

## TESTING METHODS:

- Tests are conducted to judge the ability, knowledge, attitude, aptitude, skills etc.
- Tests discover the hidden talents remaining in an individual.
- Test score is a positive point (reason) to accept him or reject him.
- Some important tests are:

1) **Written Tests:** are conducted to test the knowledge of candidates.
2) **Ability or Trade Tests:** are conducted to judge the skill and proficiency of the candidate for e.g. typing speed of a stenographer, this test will check the speed at dictation and typing

3) **Aptitude Tests:**

- Are conducted to measure skills and ability.
- It explores inborn tendencies and inborn hidden talent of an applicant to perform well in a particular field.
- It determines whether an applicant has capacity or hidden ability to learn a given work if he is given proper training.
- These tests measures whether or not an individual has capacity to learn a given job quickly and efficiently.

4) **Personality & Psychological Tests:**

- Are conducted to judge the Self confidence, Decision-making ability, optimistic nature, emotional balance, stress level, mental condition of the candidate.

5. **Interest Tests:**

- Are conducted to find the areas of interest of individual.
- This test indicates the type of jobs to be allocated to the employee.
- For e.g. a computer engineer is having interest in the field of hardware other than software, this can be quickly recognized by the questions asked in this test.

## TRAINING METHODS:

- Training improves employee performance, motivates him, teaches new techniques to do job, reduces scrap rate, and reduces accidents

**A) Worker's Training method:**

- Induction and Orientation
- Training by skilled, experienced and old workers
- On the job training
- Vestibule schools

**B) Supervisor's Training methods:**

- Induction and orientation
- Lecture (classroom) method
- Conference
- Written Instructional method
- Special courses

- All the training methods are explained in brief below:
- <u>On job Training</u>
  - It is useful for unskilled, semi-skilled and manual jobs as well as clerical jobs.
  - The aim of this training is to give the employee the necessary skill required for a specific job.
- <u>Vestibule Training</u>
  - This is similar to on the job training method.
  - New workers are trained for specific jobs on special machines and equipment in a separate training center within the plant itself.
- <u>Apprenticeship</u>
  - Here worker is trained for 6 months in the enterprise.
  - The learner is given wage rate or stipend.

- **Training by skilled, experienced and old workers**
- New worker has to work with skilled, experienced and old worker and observe him while he is working and then try to do the same task like the experienced worker.
- Experienced worker gives him time to time instructions.
- **Lecture (classroom) method**
- Lectures are imparted to supervisors by experts within or outside the company.
- Lectures cover topics such as techniques and responsibilities of shop floor management, company policies, and methods of training workers etc.
- Use of audio visual aids, technical films, videos, slides, transparencies of drawing and dimensions of jobs etc makes lecture more descriptive.

- **Special courses**
- Some complicated jobs require much detailed theoretical practical or technical knowledge under different work conditions.
- In such a situation intensive training courses in institutions outside the organisation have to be arranged.
- Class room methods are usually employed for supervisory and middle management training.
- **Induction or orientation training**
- Induction training is the final step in selection. It helps the new employee to adjust to the new environment.
- He is made familiar with the company's policy, objectives, rules and regulations, pay day hours of work etc.

# SUPERVISOR/FOREMAN:

- Supervision is ***"the act of guiding, instructing & coordinating the activities assigned to group of workers."***
- Foreman is in constant touch with workers and management.
- He tries to solve dispute between workers and management.

# Qualities of Good Supervisor:

- Be a good listener
- Have qualifications suited to his job.
- Have democratic leadership qualities.
- Possess skill to impart correct instructions to workers.
- Possess planning skills
- Possess decision making ability.
- Have impartial attitude and fair treatment to workers.
- Have ability to motivate workers.

# Duties of Supervisor

- **Role towards Management:**

1. Act middleman between management and workers.
2. Convey feelings and problems of workers to management.
3. Give feedback of work progress to management.
4. Discuss appropriate steps with management to improve efficiency and boost productivity.
5. Take part in management meetings and managerial decisions whenever asked to do.
6. Prepares reports which are useful to management.

- **Role towards Workers:**
- Instruct workers about right method of doing job.
- Train workers and improve their skill.
- Patiently listen to workers problems and suggestions.
- Motivate workers to do better job.
- Encourage workers to take responsibilities.
- Train new workers.

- **Role towards Fellow supervisors**

1. Co-operate with fellow supervisors.
2. Discuss with fellow supervisors and come to conclusion of any problem.
3. Patiently listen to fellow supervisors.
4. Agree to suitable suggestions.
5. Implement new suggestions with his help.
6. Try to avoid bad relations among fellow supervisors.

- **Role towards Work:**

1. Decide the plan to carry out work.
2. Assign work to each employee according to his ability, skill and experience.
3. Check availability of material to complete work.
4. Check availability of tools and equipments.
5. Check whether the work is carried out according to the scheduled plan.
6. Ensure smooth flow of work.

# Morale

- Morale is an attitude of individuals/groups which determines their willingness to cooperate.
- Morale is extent to which an individual's needs are satisfied.
- It is the extent to which the individual achieves satisfaction from his job.
- Morale is made of one set which help to make a person satisfied with his job and second set which when lacking make him dissatisfied.
- High morale is the confident spirit of whole-hearted cooperation in a common effort.

# ADVANTAGES OF HIGH MORALE

- **High morale brings:**

1. Team spirit.
2. Leadership qualities
3. Discipline in work
4. Interest in job.
5. Zest or enthusiasm.
6. Fewer complaints and less employee grievances.

**Disadvantage of Low morale:**

1. Higher rate of absenteeism
2. Indiscipline
3. Friction, Jealousy among workers
4. Frustration among workers
5. More complaints and employee grievances
6. Enmity towards management

# Moral Maintenance (Methods to improve morale)

1. Give proper recognition and status.
2. Give freedom.
3. Allow 2 way communications between workers and management.
4. Periodic conference between workers and management.
5. Provide welfare schemes to employee and his family.
6. Provide Recreational facilities.

# MOTIVATION:

- Motivation has come from the word “motive” which means “need” of an individual.
- Motivation is process of inspiring people to action to accomplish desired goal.
- Motivation moves an individual into action and forces him to work with sincerity and loyalty.

- **Following are the reasons why motivation is necessary:**

1. For improving the efficiency and output of organisation.
2. For fulfilling organizational goal.
3. For proper utilization of men, money, machines and materials.
4. To reduce employee absenteeism.
5. For improving relations between management and workers.
6. Making changes and organisation and accepting those changes

# Types/Ways/Methods of Motivation

1. By positive motivation
2. By negative motivation.

## 1. Positive Motivation

- Positive motivation makes the workers inspire positively and do their work in the best possible manner.
- This improves their performance.
- This can be done by providing:
- better facilities and rewards
- pay-rise, bonus scheme,
- praise, appreciation
- promotion, Participation in management etc.

- **2. Negative Motivation**
- In negative motivation if the man fails in achieving the desired results he is to be punished.
- This can be done by
  1. Punishment,
  2. fear of loss of job,
  3. reduced wages
  4. No incentives
  5. Demotion etc

# Wages and Incentives

- **Wages:**
- Remuneration paid for the services rendered by the workers is called as wage.
- It is the payment for the use of labour.
- Remuneration paid to staff on monthly basis is called as salary.
- **Types of wages:**
  1) **Nominal wages:**
  2) **Real wages:**
  3) **Living wage, Fair wage, Minimum wage:**

## 1) Nominal wages:

- These are the earnings of workers expressed in terms of money.
- They are paid in form of cash and do not include any other benefits given to workers.
- This wage is also called as money wage.

## 2) Real wages:

- In addition to cash payment real wages include amount of necessities, comforts, luxuries and other benefits which a worker gets in return of the effort and work he puts in.
- Real wage is always higher than nominal wage. For example if employee is being paid 4000/- per month in addition to free accommodation having rental value of Rs 500/- per month.
- Then employees nominal wage is 4000/- and real wage is 4500/-.

## 3) Living wage, Fair wage, Minimum wage:

- Minimum wage is to improve the standard of living o people who live below the poverty line.
- Minimum wages cover bare necessities of life such as food, clothes, shelter.
- Minimum wages should be able to keep the employees motivated.
- Fair wage assures equal pay for equal work.
- It is a fair amount of return for the efforts of the employees and should be able to cover the other necessities of life, apart from basic necessities like food, clothes and shelter for his family.
- Living wage assures maintenance of living standards in society.

## CHARACTERISTICS OF SOUND WAGE/INCENTIVE PLAN:

1) It should provide minimum wage.
2) Wage system should be simple and easy to understand because it is known that if calculations are tedious workers might not understand those calculations.
3) Clerical work in the plan should be less.
4) Time and motion study should be the basis for correct work standards on which wages are based.
5) Wage system should be fair for both employer and employee and should be acceptable by both.
6) Rewards to be provided to workers or employees should be clear cut and generous.

## WAGE PAYMENT PLANS:

- A good wage payment plan is one which satisfies the workers and at the same time brings profit to management.
- If employee is satisfied he will work better and bring profit to management.
- Types :
  1) **Time rate system:**
  2) **Piece rate system:**
  3) **Combination of time rate and piece rate system**

## 1) TIME RATE SYSTEM:

- Wages are paid on the time basis (number of hours) for which worker works.
- Workers are paid for the time they work not on the number of products they produce.
- It assures minimum fixed income to workers even though his efficiency is reduced due to temporary sickness and he could not produce more products.
- Worker is allowed to take his own time to complete the work.
- There is no hurry and this helps to improve the quality of the work.
- But the disadvantage is that this plan does not provide any reward to ambitious and more efficient employees.

## 2) Piece rate system:

- In this system, wages are based on the quantity of work completed by the worker.
- Wages are paid to worker on the number of pieces (products) produced (Rs/hr).
- This plan provides reward (incentive) to ambitious and more efficient employee.
- Basis for wage is output and not time so it won't happen that less efficient workers are paid equal to efficient workers.
- But the disadvantage of this plan is that because of speed, worker may meet with an accident as he forgets to take safety measures and precautions.

# 3) COMBINATION OF TIME RATE AND PIECE RATE SYSTEM:

- In this system, guaranteed time wages are given to less efficient workers and for more efficient workers time wage plus extra money according to piece rate is provided to worker.
- Since money is given according to time rate + piece rate, this system is called as combination of time rate and piece rate system.
- This method takes care of persons who are sick or old and hence give them wages like time rate system and this method also takes care of more efficient workers since they get suitable extra wage (incentive or bonus) for their extra work output like in piece rate system.

# INCENTIVES:

- Reward given to worker for his increased efficiency and hard-work.
- Workers get a guaranteed minimum wages on job hourly rate plus some extra payment or bonus for extra work done over and above standard work.
- Incentive motivates and encourages the worker to produce more and better.
- **Types of Incentives :**
    1) **Financial incentives and Non financial incentives:**
    2) **Semi-financial incentives:**
    3) **Individual incentive scheme and group incentive schemes:**

## 1) FINANCIAL INCENTIVES AND NON FINANCIAL INCENTIVES:

- Financial incentives are paid in terms of cash.
- These are financial benefits in the form of bonus and profit sharing.
- Non Financial Incentives are non monetary incentives (other than cash).
- These may include due praise of workers good work, Service security, Training and other employee improvement programmes, better and healthy working conditions, promotion, Helpful and cooperative management.

## 2) SEMI-FINANCIAL INCENTIVES:

- Providing lunch and recreational facilities, pension benefits, facilities petrol allowance, etc

## 3) Individual incentive scheme and group incentive schemes:

- Under individual incentive scheme, individual employee is paid incentive regardless of output or performance of department or organisation.
- Under group incentive scheme, each employee is paid incentive on the basis of collective performance of his group to which he belongs.

# WAGE INCENTIVE PLANS:

1. The various wage incentive plans are:
2. Straight piece rate system
3. Differential piece rate system
   (a) Taylor's Differential piece rate system
   (b) Merrick's Differential piece rate system.
4. Gantt task & bonus scheme
5. Halsey plan, Rowan plan and Bedaux plan
6. Emerson's Efficiency based plan
7. Group incentive schemes

## 1) STRAIGHT PIECE RATE SYSTEM & STRAIGHT PIECE RATE WITH GUARANTEED MINIMUM WAGE:

- In straight piece rate system, worker is paid straight for the number of pieces which he produces per day.
- The formula for wage calculation is given as:
- *Earning = No. of pieces × Rate per piece*.
- A worker is paid Re 1.50 per job.
- He prepares 40 jobs then he gets :
- 40 × 1.50 = 60 Rs per day.

## 2) DIFFERENTIAL PIECE RATE SYSTEM:

- Taylor's differential Piece rate system:
- This plan two piece rates namely high piece rate and low piece rate.

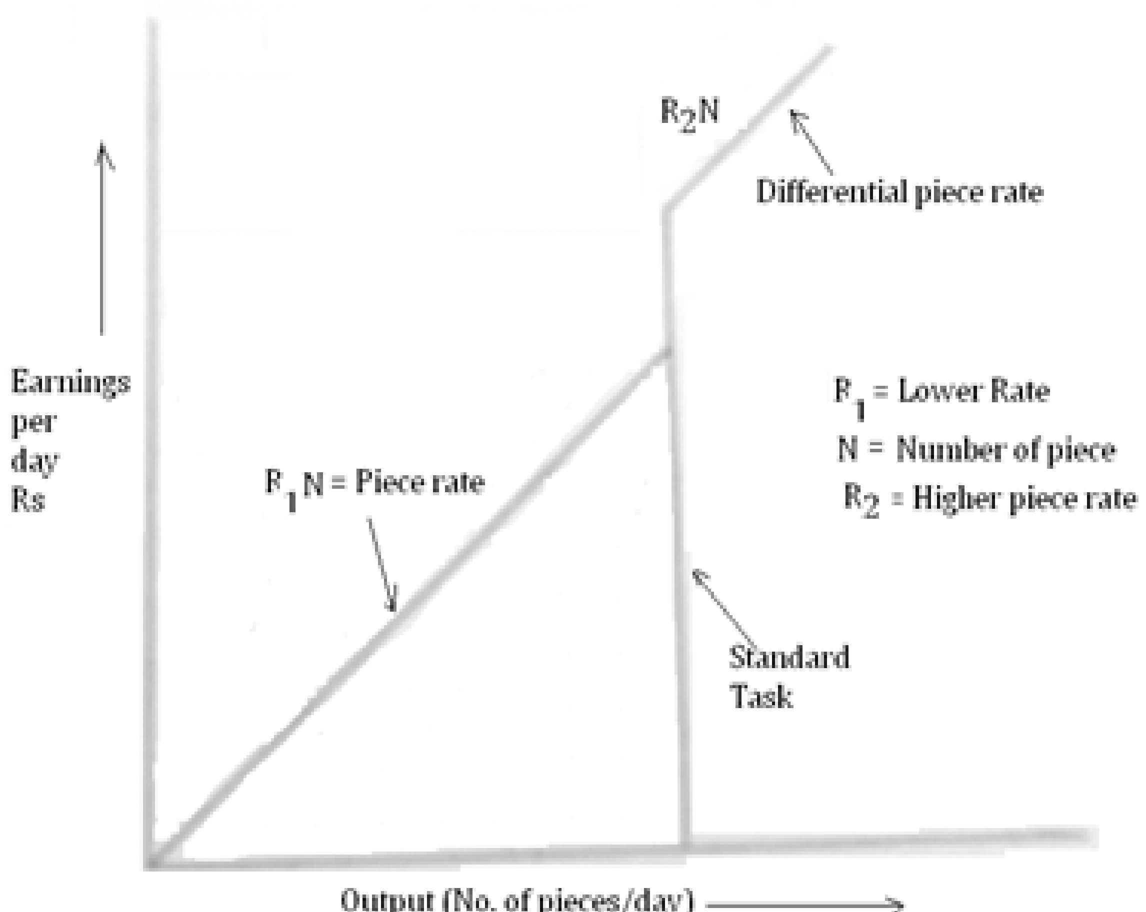





Figure: taylor's differential piece rate system

# TAYLOR'S DIFFERENTIAL PIECE RATE SYSTEM:

- **Wage calculation is done as below:**
- Low piece rate = 80% of the standard (basic) piece rate for below standard performance
- High piece rate = 120% of standard piece rate for standard and above standard performance.

# MERRICK'S DIFFERENTIAL PIECE RATE SYSTEM:

- Merrick modified the Taylor's plan and introduced Merrick's differential piece rate plan.

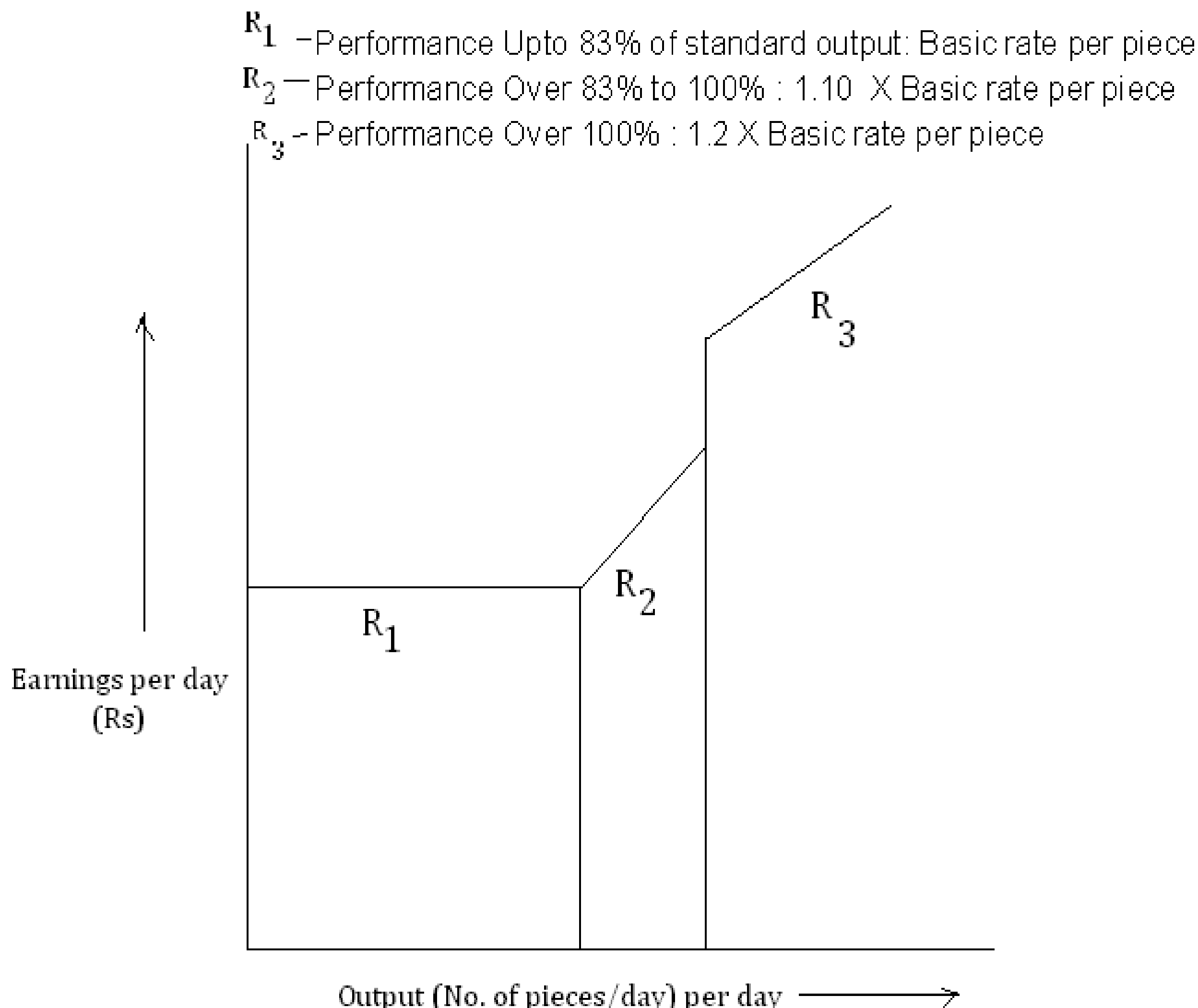



Figure: Merrick's differential piece rate system

## MERRICK'S DIFFERENTIAL PIECE RATE SYSTEM:

- **Wage calculation is done as below:**
- Performance Upto 83% of standard output = Basic rate per piece
- Performance Over 83% to 100% = 1.10 × Basic rate per piece
- Performance Over 100% : 1.2 × Basic rate per piece
- Merrick modified Taylor's plan and introduced his own plan.
- Merrick's plan assures a minimum guaranteed wage to the workers.
- The disadvantage of Merrick's plan is that it is little complicated and wage calculations in the plan are complicated than Taylor's plan.

# LABOUR LAWS

- Industrial acts are the laws put forward by the Government to provide economic & social justice to the workers in industries.
- These laws provide guidelines to the industrialists in dealing with matter of wages, incentives, facilities and other working conditions of workers.

## INDUSTRIAL LAWS ARE NECESSARY BECAUSE OF FOLLOWING REASONS:

- Improves relations between employer and employee i.e. industrial relations.
- Minimizes industrial disputes.
- Reduces conflicts, strikes, etc.
- Provides job security for workers.
- Minimize accidents for e.g. boiler explosion.
- Fixes working hours, rest pauses, etc.
- Provides compensation to workers suffered from industrial accidents.

# Factories act: (1948)

- Factories act is passed by Government to:

1) maintain health of workers
2) ensure safety and better working conditions to workers, protect workers against accidents
3) provide various welfare activities
4) Maintain working hours & rest hours of workers.

- Factory act is applicable to any factory in India having 10 or more than 10 workers.
- Approval, Licensing & Registration of Factories:
- Before starting a factory

a) Previous permission for the site of factory has to be taken from state government or chief inspector.
b) Plans & specifications have to be approved by factory inspector.
c) Factory has to be registered & licensed after paying necessary fees.

## Health provisions in factory act:

- Maintain Cleanliness
- Proper Waste disposal
- Maintain Ventilation & Temperature
- Arrangement for Dust & Fumes
- Provision of Artificial Humidification
- Sufficient Lighting
- Provision of Drinking Water
- Provision of Latrines & Urinals

# SAFETY PROVISIONS IN FACTORY ACT:

1. Dangerous parts like engines, motors, pumps having moving parts must be fenced.
2. Only Specially trained adult workers with tight fitting clothes should examine the moving parts.
3. No young person should be allowed to work on dangerous machines unless he is trained
4. Lifting machines such as cranes, pulley, must be of good mechanical construction, adequate strength & they should be properly serviced & maintained every year.
5. Goggles or safety helmet should be provided to avoid eye irritation.
6. No one should be allowed to enter any place having dangerous smoke & if he does he must have suitable protection such as goggles or safety helmet to avoid eye irritation.
7. Suitable arrangements such as fire extinguishers, extra doors & windows for emergency exit, fire warning signals must be provided.

# WELFARE PROVISIONS:

1. Washing Facilities for male & female must be provided.
2. Facilities for sitting as few workers constantly stand & do work.
3. First Aid box & Appliances for 150 workers & ambulance if 500 workers.
4. Canteen should be provided for 250 or more than 250 workers.
5. Shelters, Rest-rooms & Lunch-Rooms with good ventilation for 150 or more worker
6. Crèches (special rooms) for more than 30 women having 6 or below years of children.
7. Welfare officers must be appointed if factory has 500 workers or more.

# SPECIAL PROVISIONS IN FACTORIES ACT:

- Dangerous operations:
- State government makes following rules if it finds out any manufacturing process or operation in a factory to be risky, dangerous, injurious, and poisonous or disease causing
  1. No women or child will work or perform that operation as it is dangerous
  2. Providing safeguards with that operation
  3. Periodical medical checkup of all concerned with that operation.
- Notice of accidents & diseases:
- Worker meets an accident causing death or physical injury shall not work for a period of 48hours or immediately after accident.
- If a worker is suffering from a disease, a report regarding his disease is immediately sent to Chief inspector.

# PENALTIES & PROCEDURE IN FACTORY ACT

| | |
|---|---|
| **General penalty for offences:** | (a) If any provision is broken or not followed, factory manager will be sent for 2 years of imprisonment or he has to pay fine upto Rs 100,000 or both. After this punishment, if the manager still continue breaking provisions, there will be Rs. 1000 per day.<br>(b) Once already broken the provision, if the person breaks the same provision again, he shall be punished with imprisonment upto 3 years, a fine upto Rs 10000 to 3 lakhs or both. |
| **Penalty for stopping or obstructing Inspector** | If the inspector is stopped from checking the factory or doing his work, punishment is given to manager of factory for e.g. If manager fails to provide the documents & registers which inspector wants to check or if he stops inspector from examining any factory worker then manager is punished with imprisonment upto 6 months or fine upto Rs 10,000 or both. |
| **Worker's punishment** | If any worker breaks any provision of factory act, he shall be punishable with fine upto Rs 500. |
| **Appeal** | Manager can appeal against order of Inspector to a prescribed authority within 30 days of order. |

# Obligation of workers

- No factory will misuse any device /aid that is provided specially for the purpose of securing health, safety, employee welfare.
- A worker who breaks this provision shall be punished with imprisonment upto 3 months or fine of Rs 100 or both.

## WORKMEN’S COMPENSATION ACT: 1923

- Workmen’s compensation act provides compensation to certain categories of workmen (worker) when he claims compensation for the loss of working capacity due to accidents.
- The amount of compensation depends upon the result of the injury and the nature of disablement.

# EMPLOYER'S LIABILITY FOR COMPENSATION:

- **The employer is liable for compensation if:**

1. Injury has been caused by accident.
2. during the course of employement
3. And has resulted in workmen's death, permanent or temporary disablement.

- **The employer is not liable to pay compensation if:**

a) Injury disables the workmen for less than 3 days.

b) Injury caused by an accident which occurred because workman was drunk or he had drugs.

c) injury is caused because worker wilfully disobeyed the safety rules explained to him by the supervisor

d) Injury is caused because workmen wilfully removed the safety guard/ equipment.

## EMPLOYER'S LIABILITY FOR COMPENSATION IN CASE OF OCCUPATIONAL DISEASES:

- Occupational disease is the disease which occured because of the kind of job a person is doing.
- For e.g. worker working near smokes & fumes is likely to go through air illness, breathing problems, lung diseases etc.
- If occupational disease is detected within the workmen then employer has to pay compensation to him.

# Amount of Compensation:

| | |
|---|---|
| **Where death results from the injury** | Amount equal to 40% monthly wages of the worker multiplied by the factor related to the age completed by the worker on the last birthday.<br>OR<br>Amount of Rs 20000 rupees whichever is more. |
| **Where permanent total disablement results from the injury** | Amount equal to 50% monthly wages of the worker multiplied by the factor related to the age completed on the last birthday.<br>OR<br>Amount of Rs 24000 rupees whichever is more. |
| **Where temporary disablement results from the injury.** | A half monthly payment of sum equivalent to 25% of monthly wages of the workman, to be paid. |

# INDUSTRIAL DISPUTE ACT: (1947)

- *Industrial dispute is defined as "Conflict or difference between employer & workers or between worker".*
- **Matters of dispute between employer & employee OR Causes of industrial dispute:**

1. Low wages provided to workers.
2. Insufficient incentives & bonus provided to workers
3. Long hours of work
4. Overload of work
5. Workers not provided sufficient leave
6. Insufficient breaks between work
7. Overtime
8. Improper working conditions
9. Victimization of workers
10. Exploitation of workers

# SCOPE, AIM & OBJECTIVE:

- is to secure industrial peace by setting the industrial disputes, protect workmen against victimization by the employers, avoid illegal strikes & lockouts.

## STRIKES & LOCKOUTS:

- Strike means *refusal of work* by workman during industrial dispute while lockout means *closing of place of employement* during industrial dispute.
- Strike is illegal if Or No employee should go on strike,

a) without giving a notice of strike within 6 weeks before striking
b) within 14 days of giving such notice
c) before the date mentioned in the notice
d) if case remains pending in Labour court, national tribunals,

- Lockout is illegal if Or no employer shall lock the place of employement

1) without giving a notice of lockout within 6 weeks before lockout.
2) within 14 days of giving such notice
3) before the date mentioned in the notice
4) if case remains pending in Labour court, national tribunals

# PENALTIES FOR ILLEGAL STRIKES & LOCKOUTS:

- A worker continues illegal strike is sent to jail for upto one month or a fine upto 50 Rs or both.
- An employer continues illegal lockout is sent to jail for upto one month or a fine of Rs 1000 or both.

# EMPLOYEE'S STATE INSURANCE ACT 1948:

- ESI act was formed because workmen's compensation act did not benefit workers as well as it was expected.
- Workmen's compensation act did not cover many diseases, & there was a lot of delay in payment of compensation to worker.
- **Scope, aim & objective:**
- Provide certain benefits to employees in case of sickness, employement injury, maternity leave & certain other parameters.
- **Medical Benefit Council:**
- It is setup to advice on matters relating to administration of medical benefits.
- Such council investigates complaints of workers in connection with medical treatments.
- **Finance & Audit:**
- This act makes provision for creation of a fund called Employee's State insurance fund.
- This fund is created mainly by the contribution made by the employer and the employees.

# BENEFITS PROVIDED IN ESI ACT:

- **Sickness benefit:** When a worker is certified that he is sick by a medical practitioner, his payment is done under these benefits.
- **Maternity benefit:** When a medical practitioner certifies that insured women is is pregnant or complications such as miscarraige, premature birth of baby has happened then her payment is done under these benefits.
- **Disablement benefit:** an insured person suffering from disablement as a result of injury, his payment is done under this benefit.
- **Dependents benefit:** when insured person dies of employement injury, dependent's benefit is payable.
- **Medical benefit:** An insured person whose condition demands medical treatment is given medical treatment under medical benefit.
- **Penalties:**
- Punishments for false statements: Jail upto 6 months of fine upto Rs 2000 or both.
- Punishments for failure to pay contributions: Jail upto 3 years or fine upto Rs 10,000.

# ACCIDENTS AND SAFETY

- *"Accident may be defined as unforeseen, uncontrolled, undesirable incident/event which may result in injury or death of people, interruption in activities going on in industry and loss of property."*
- Causes of Accidents:
  1) Unsafe acts (Human causes)
  2) Unsafe conditions (Technical causes)
  3) Environmental factors
  4) Mental condition of person
  5) Physical condition of person
  6) Supervisory mistake
  7) Electrical wiring.

## UNSAFE ACTS:

- Faulty working habits and careless working are termed as unsafe acts.
- Typical unsafe acts are:
  1) ignoring rules,
  2) operating some machine or instrument without permission or authority,
  3) operating with unsafe speed, using unsafe equipments,
  4) improper handling of equipment,
  5) not wearing safety devices,
  6) working on moving equipment,
  7) unsafe lifting, pulling and pushing of job or machine,
  8) distraction and teasing caused by one person to another person etc.

## UNSAFE CONDITIONS:

- Unsafe conditions are related to the workplace, plant layout, equipments and tools etc.
- **Some unsafe conditions are:**
  1) Moving parts in machine are open and some safety guard or cover is not put on it.
  2) Unsafe design of equipment
  3) Overloading of equipment
  4) Unsafe and improper use of material handling equipment
  5) Ineffective safety devices
  6) Insufficient ventilation
  7) Slippery floors
  8) Poor housekeeping

# ENVIRONMENTAL FACTORS:

- Accidents cause due to :
  1) Heat causing headache and sweating
  2) Low temperature causing shivering
  3) Humid atmosphere causing uncomforted, fatigue and drowsiness
  4) Irritation to eyes and other body parts
  5) Dust, fumes and smoke and lack of ventilation
  6) Noise, bad smell around person

# MENTAL CONDITION OF PERSON:

- **Accidents occur due to**
  1. Lack of experience of person
  2. Improper attitude of person
  3. Unfavorable mental condition
  4. Lack of concentration at work
  5. Mental worriness and tension
  6. Emotional unstability
  7. Day dreaming and inattentiveness
  8. Carelessness

# PHYSICAL CONDITION OF PERSON:

- **Accidents occur if :**
  1) Fatigue
  2) More number of working hours above the capacity of worker.
  3) Inadequate rest and pauses or breaks between working hours
  4) Physically handicapped person

## SUPERVISORY MISTAKE:

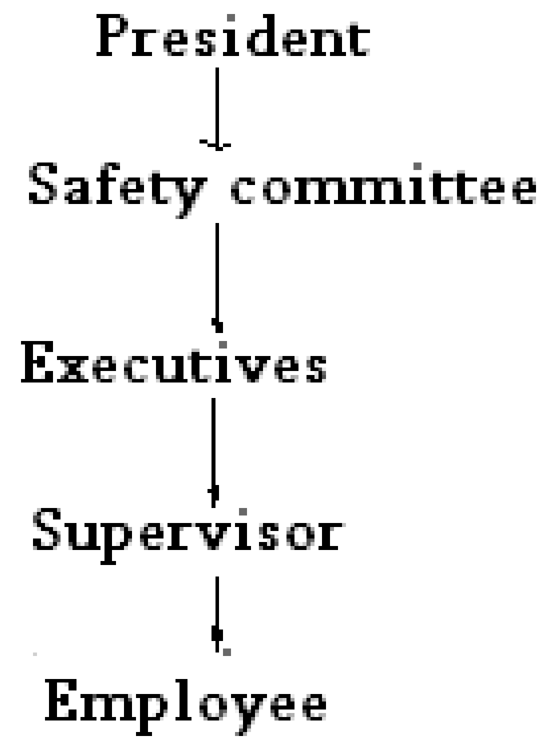
- If the supervisor fails to give safety instructions, there are possibilities of industrial accidents.
- Poor discipline and not explaining the safety rules results into accidents.
- If supervisor does not control a condition in time, an accident can cause.

## Safety organisation /Procedure and Safety prorgramme:

- Safety not only reduces accidents but reduces damage of man, machine, money and production work.
- A safety organisation consists of systematic procedure by means of which interest is created and maintained and all safety activities are directed.
- In small industry foreman is responsible for taking safety measures and he has to report to his boss and discuss safety related issues.
- But in large industries, a safety department may be created with the safety Director/Manager as its chief executive and number of persons under him.
- Sometimes the responsibility of safety rests on safety committee. Safety committee consists of executives (managers), supervisors, and shop floor workers.

- To go on the shop floor and watch what is being done about safety.
- They are asked to report periodically as what improvements have been made and what more can be done.
- A safety programme is therefore implemented. It includes four E's

1. Engineering: Safety of design of equipments
2. Education: to employees about how to remain safe.
3. Enlistment: arouse the interest of employee in accident prevention and safety programmes
4. Enforcement: to force to strictly follow safety rules and practices.



# INVENTORY CONTROL

- Inventory is a detailed list of all materials, parts, and expensive tools, finished & semifinished products in stock.
- Inventory refers to materials in stock. It is also called the idle resource of an enterprise.
- Inventory refers to all those items which are either stocked for sale, items that are in process of manufacturing or items in form of materials which are yet to be utilized.

## TYPES OF INVENTORIES:

A manufacturing firm generally carries the following types of inventories:

- Raw materials
- Bought out parts
- Semi-finished products at various stages of manufacture.
- Finished goods inventories:
- Items which do not form the part of the final product but are consumed in the production process, e.g. Machine spares, oil, grease.
- Tools inventory:
- Miscellaneous inventories such as office stationeries and other consumable stores.

# INVENTORY CONTROL:

- All those items between the purchase of raw materials and the dispatch of final product to customers are termed as inventory.
- Inventory control means control over materials lying in store.
- Inventory control keeps continuous track of inventories.
- It is not only record keeping.

# IT AIMS AT:

- Don’t remain out of stock,
- Don’t store unnecessary extra un-wanted stock.
- It simply states be in the situation of overstocking or under stocking.

# Objectives/Need/Importance of Inventory Control

- Proper inventory control reduces the minimum idle time due to shortage of materials and spare parts.
- Neither man nor the machine has idle time due to lack of materials.
- Proper inventory control minimizes the possibility of delay in production. There is no danger of closure (lockout) of plant, un-employment, lower dividend and replacement of management.
- Proper inventory control offers maximum service and satisfaction to customers with regard to fulfilling the due dates strictly as per orders.
- The main of business is to create and retain customers.
- Inventory control minimizes capital investment and cost of storage

- Inventory control helps better use of available material and less clerical works.
- Inventory control discourages dishonesty i.e. stealing material from plant.
- Inventory control system helps in preparation of financial statements.
- Due to inventory control losses, damages, deterioration of materials can be minimized.
- Proper inventory control ensures careful material handling
- Inventory control industry finds better sales through improved service to customers, lower cost through smoother production operations and low investment through reduced inventories.

# FUNCTIONS OF INVENTORY CONTROL (ESSENTIAL STEPS IN INVENTORY CONTROL)

- Separate different operations & production processes (starting from raw material till it is molded into finished product) from each other.
- Maintain smooth & efficient production flow.
- Purchase in desired quantities and thus evaluate the effects of changes in prices or supply.
- Keeps a process continuously operating.
- Create motivational effect.
- A person may be tempted to purchase more if inventories are displayed in bulk.

# COSTS ASSOCIATED WITH INVENTORY:

- **Purchase or production cost:**
- The value of an item is its unit purchasing (production) cost.
- This cost becomes significant when availing the price discounts. This cost is expressed as Rs./unit.
- **Capital cost:**
- The amount invested in an item, (capital cost) is an amount of capital not available for other purchases.
- If the money were invested somewhere else, a return on the investment is expected.
- A charge to inventory expenses is made to account for this unreceived return.
- The amount of the charge reflects the percentage return expected from other investment.

## ORDERING COST:

- It is also known by the name procurement cost or replenishment cost or acquisition cost.
- Cost of ordering is the amount of money expended to get an item into inventory.
- This takes in to account all the costs incurred from calling the quotations to the point at which the items are taken to stock.
- There are two types of costs: –
  A. **Fixed costs and**
  B. **variable costs**

- **Fixed costs** do not depend on the number of order whereas **variable costs** change with respect to the number of orders placed.
- The salaries and wages of permanent employees involved in purchase function and control of inventory, purchasing, incoming inspection, accounting for purchase orders constitute the major part of the fixed costs.
- The cost of placing an order varies from one organisation to another.

## THEY ARE GENERALLY CLASSIFIED UNDER THE FOLLOWING HEADS:

- **Purchasing:** the clerical and administrative cost associated with the purchasing, the cost of requisitioning material, placing the order, follow up, receiving and evaluating quotations.
- **Inspection:** the cost of checking material after they are received by the supplier for quantity and quality and maintaining records of the receipts.
- **Accounting:** the cost of checking supply against each other, making payments and maintaining record of purchases.
- **Transportation costs.**

# INVENTORY CARRYING COST (HOLDING COSTS):

- These are the costs associated with holding a given level of inventory on hand and this cost vary in direct proportion to the amount of holding and period of holding the stock in stores.
- The holding costs include:
- Storage costs (rent, heating, lighting etc)
- Handling costs: costs associated with moving the items such as cost of labour, equipment for handling.
- Depreciation, taxes and insurance.
- Costs on record keeping.
- Product deterioration and obsolescence.
- Spoilage, breakage, pilferage and loss due to perishable nature.

## SHORTAGE COST:

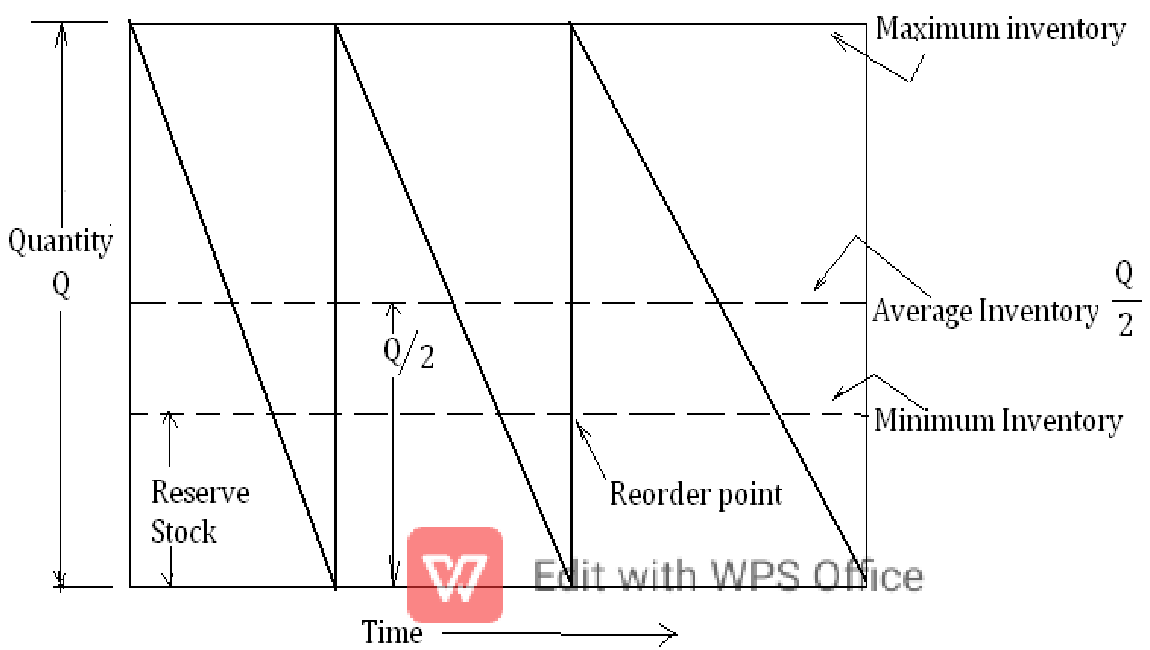
- When there is a demand for the product and the item needed is not in stock, then we incur a shortage cost or cost associated with stock out.
- The shortage costs include:
- Backorder costs
- Loss of future sales
- Loss of customer goodwill
- Extra cost associated with urgent, small quantity ordering costs
- Loss of profit contribution by lost sales revenue.
- The unsatisfied demand can be satisfied at a later stage (by means of back orders) or unfulfilled demand is lost completely (no back ordering, the shortage costs become proportional to only the shortage quantity).

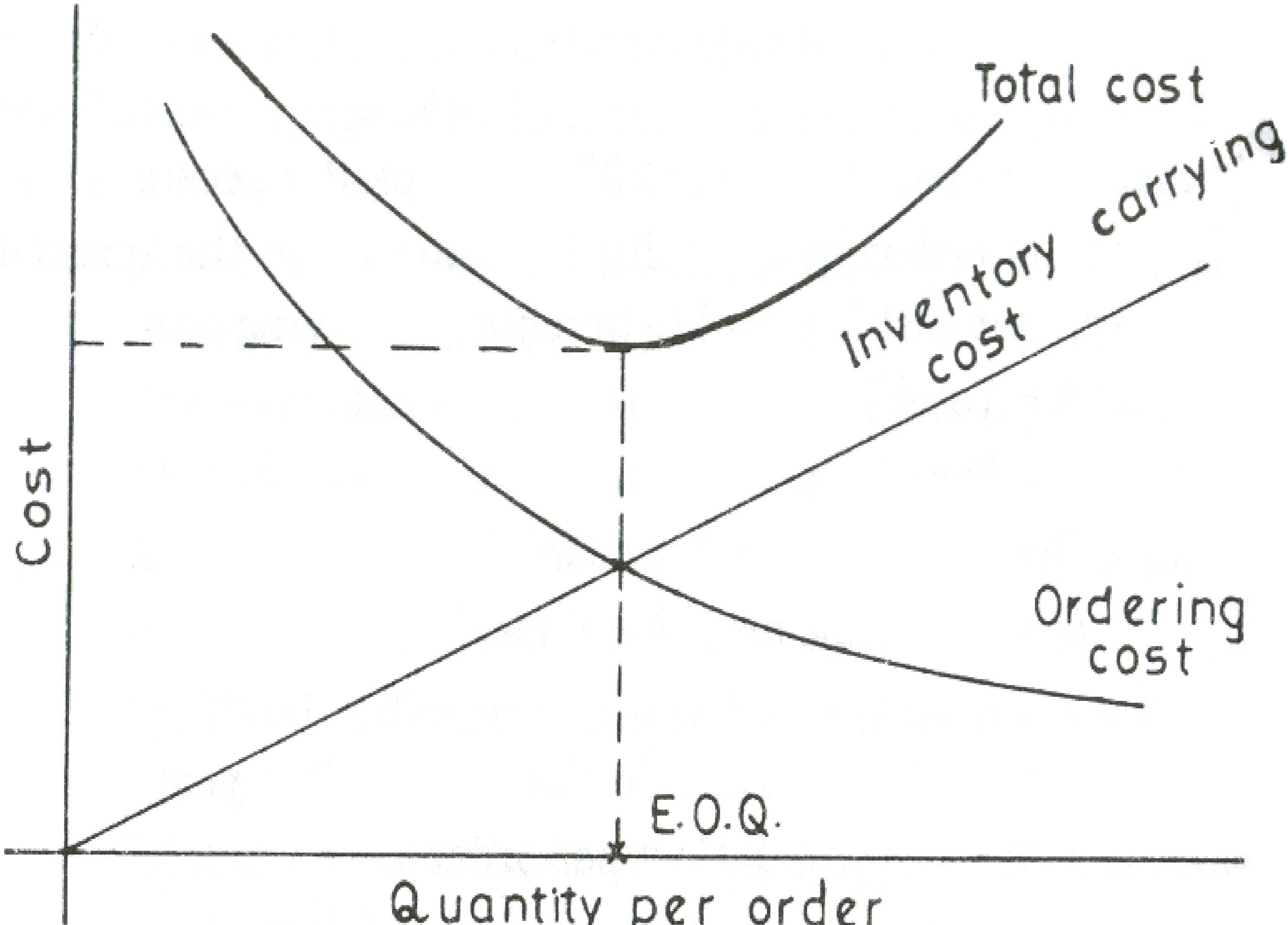
# Economic Ordering Quantity (EOQ):

- There are four important quality standards in-inventory control.
- **1. The Maximum**
- It indicates the upper limit of the level of stocks or inventory.
- It points out the largest quality to the normally kept in store in the interest of economy.
- **2. The minimum**
- It indicates the lower limit of the level of stocks or inventory, which is rely a maximum reserve or margin of safety.
- This level of safety is used only in an emergency.
- It is the level acting as safe valve.
- It is the minimum level of stocks which must be always on hand. It is the minimum reserve of the dealer.

# 3. THE STANDARD ORDER

- It is the quantity of stock to be order for purchase at any one time.
- A repeat order for a commodity is always of the same quantity until conditions change, necessitating a revision of standard order.
- The purchase requisition gives this quantity for replenishment of stocks.




Total cost
Inventory carrying cost
Cost
Ordering cost
E.O.Q.
Quantity per order

## 4. The Ordering Point

- It is the quantity of stock necessary to protect against the exhaustion of the stock during the gap between the date of order and the date of actual receipt when the level of stock or the balance in hand reaches this level it is or indication that a new order must be placed at once.
- Thus maximum indicates the upper limit of the stocks the minimum indicates the lower limit, the ordering point indicates when to order and the standard order indicates how much to order.

## Derivation For ECONOMIC ORDERING QUANTITY (E. O. Q.): -

- The evaluation of the most economic quantity to be purchased involves calculation of the following two costs:

- **(a) Procurement cost or buying cost, or set up cost.**
- **(b) Inventory carrying cost.**

- **(a) Procurement Cost: -**
- This cost includes the expenditure made on:
  1) Calling quotations
  2) Processing quotations
  3) Placing purchase orders
  4) Receiving and inspecting
  5) Verifying and payment of bills
  6) Other incidental charges etc.

**(b) Inventory Carrying Cost: -**

- This consists of expenditure made for:
    1. Insurance
    2. Storage and handling
    3. Obsolescence and Depreciation
    4. Deterioration
    5. Taxes
    6. Interest etc.
- This cost varies between 10 to 20% of the product cost.
- The economic ordering quantity is obtained by the quantity whose procurement cost is equal to inventory carrying cost.

Let

A = Total items consumed per year.

P = Procurement cost per order.

C = Annual Inventory carrying cost per item.

Q = Economic 'ordering quantity.

- Then,
- Procurement cost/year = No. of orders placed in a year x Cost per order

$$= \left( A \times \frac{P}{Q} \right) \qquad \ldots(1)$$

&

- Inventory carrying cost/year =

Average value of Inventory in a year × Annual inventory carrying cost / item

$$\left( \frac{Q}{2} \times C \right) \qquad \ldots(2)$$

- This total cost will be minimum, when
-

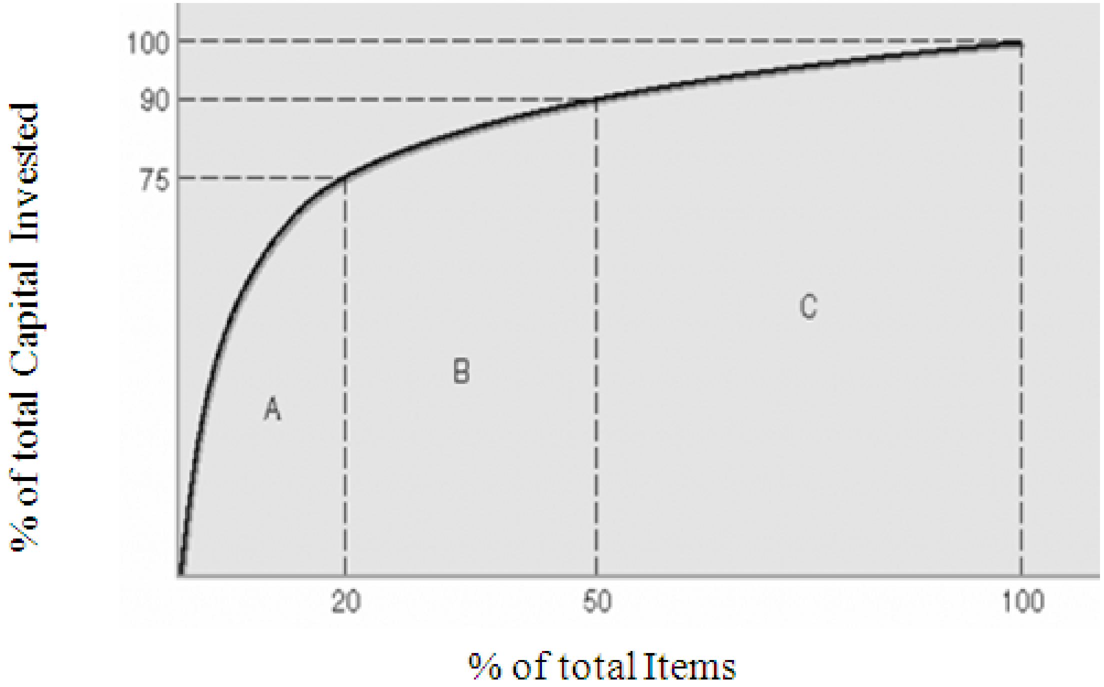
$$\left(A \times \frac{P}{Q}\right) = \left(\frac{Q}{2} \times C\right)$$

- Hence, most economic ordering quantity
- =

$$\sqrt{\frac{2\,AP}{C}}$$

# ABC ANALYSIS:

- In ABC analysis, A stands for A-items, B stands for B-items, C stands for C-items.
- Inventory in any organisation consists of thousands of different materials in stores with different prices & different use.
- It is difficult to handle all the items. For proper control of all these items it is necessary to understand which item requires more importance & which requires less.
- A class items are high class items and are few in number.
- They need tight/close control due to their high cost and so they are purchased in small quantities.
- B-class items are middle class items. They need intermediate control.
- They don't require tight control like A class items but need more attention as compared to
- C class items. C-class items are purchased in large order.
- They don't require tight control instead it is better to say that they require very less control.




| A class (High class) | B class (Moderate Value) | C class (Low value) |
|---|---|---|
| 1) Tight control on storage of A class items | 1) Moderate control on storage of B class items | 1) Less control on storage of C class items |
| 1) Low store | 1) Medium store | 1) Large store |
| 1) A class items ordered frequently | 1) B class items ordered less frequently | 1) Bulk ordering of C class items |
| 1) Continuous check on schedules and revision when called for | 1) Broad check on schedule revision | 1) Hardly any check required on C class items |
| 1) A class items purchased from | 1) Purchased from 2 or more reliable sources | 1) Purchased from reliable sources for |

# C) Material Requirement Planning: -

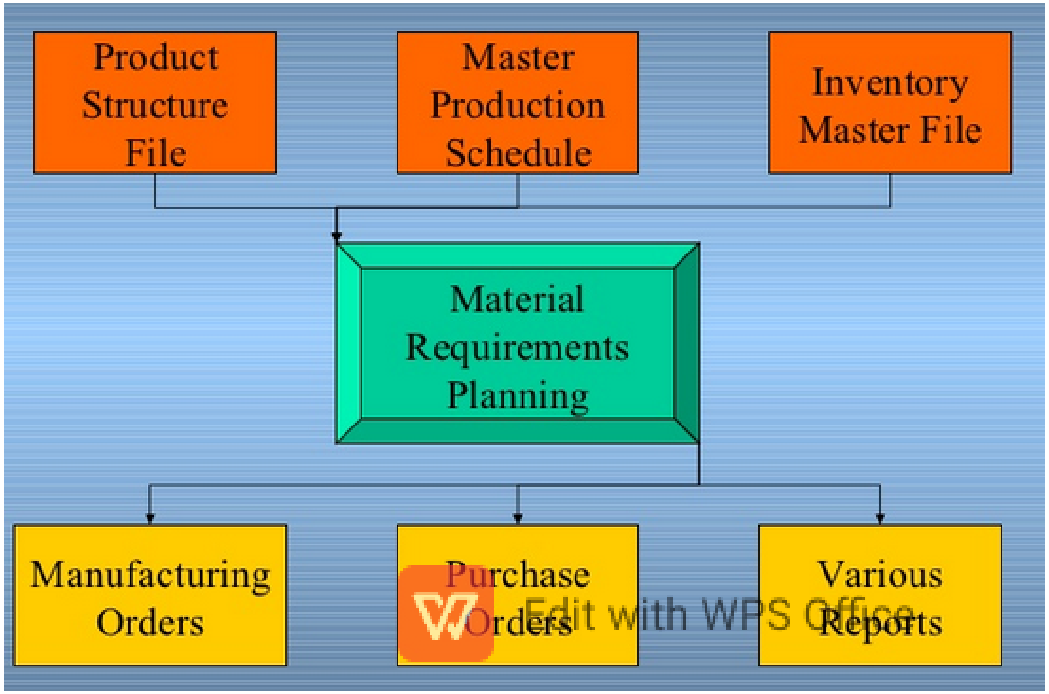
- Material requirements planning (MRP) is a production planning and inventory control system used to manage manufacturing processes. Most MRP systems are software-based, while it is possible to conduct MRP by hand as well.
- **An MRP system is intended to simultaneously meet three objectives:**
  - Ensure materials are available for production and products are available for delivery to customers.
  - Maintain the lowest possible material and product levels in store
  - Plan manufacturing activities, delivery schedules and purchasing activities.

# The scope of MRP in Manufacturing:

- The basic functions of an MRP system include: inventory control, bill of material processing, and elementary scheduling.
- MRP helps organizations to maintain low inventory levels. It is used to plan manufacturing, purchasing and delivering activities.
- "Manufacturing organizations, whatever their products face the same daily practical problem that customers want products to be available in a shorter time than it takes to make them.
- This means that some level of planning is required."

# It provides answers for several Questions:

- What items are required?
- How many are required?
- When are they required?
- MRP can be applied both to items that are purchased from outside suppliers and to subassemblies, produced internally, that are components of more complex items.



Material management

The 5 M’s of production are Men, Machines, Money , **Materials** and Methods
**Material mgt.** is the planning, directing, controlling and coordinating those activities which are concern with **materials** and **inventory management**.
Material Management ensures that the

- required material are brought in the required quantities,
- at the required time,
- of the required quality and
- at an acceptable price.

Advantage of MM are maximum co-ordination & Optimum expenditure on material.

***Functions/aims of Material Management***

1. Planning and control of material
2. Purchasing of material
3. Stock keeping (Inventory) of material
4. Distribution of material to various department
5. Allocation of material
6. Disposal of material

***Inventory***: Inventory is a **detailed list of all kinds of items(goods)** which are necessary to manufacture a product and to maintain the equipment and machinery in good working condition.
Inventory mgt. is a process of maintaining the optimum stock of each inventory item at minimum cost.

*Inventory management* takes care of

- Quantity of stock to be stored.
- When to order material?
- How much to order?
- What to order?

*Inventory Control:*
The aim of a sound inventory control system is to secure the best balance between ‘ **too much and too little**’

- ✓ Too much inventory (stock) - carries financial risks
- ✓ Too little inventory increases the risk of ‘out of stock’ condition which may hamper production activity. It may result in loss of order.

Classification of Inventories

1. **Raw material** - raw material on which operation will be performed to convert it into the desired(final) product.
   e.g steel, wood, rubber, tubes, plates etc.

2. **Semi-finished Material inventory:** It is also called as ‘Work-In-process inventory’. The material which is processed partially and waiting for next process.
   eg. Half or partly parts which are required to assemble the final product

3. **Finished inventories-** they are the finished goods lying in stock rooms and are ready for dispatch to market.
   eg. Finished product like mobile phones, a.c, tv etc.

4. **Indirect inventories** - they include lubricants and other items ( fro ex. Spare parts) need for proper operations.

Objective of Inventory Control

1. Procurement of inventory of right quantity and right quality.
2. Procurement of material at an economical rate.
3. Establishing safe, suitable storage location

**Advantages of proper and efficient Inventory control**

1. Supply of good quality material at right time
2. Reducing cost of production
3. No shortage and no excess of inventory.
4. Efficient utilization of storage space.

**ABC** analysis **( A**lways **B**etter **C**ontrol**)**

ABC analysis is one of imp. Technique which is based on **grading** the items according to the **importance of material.**

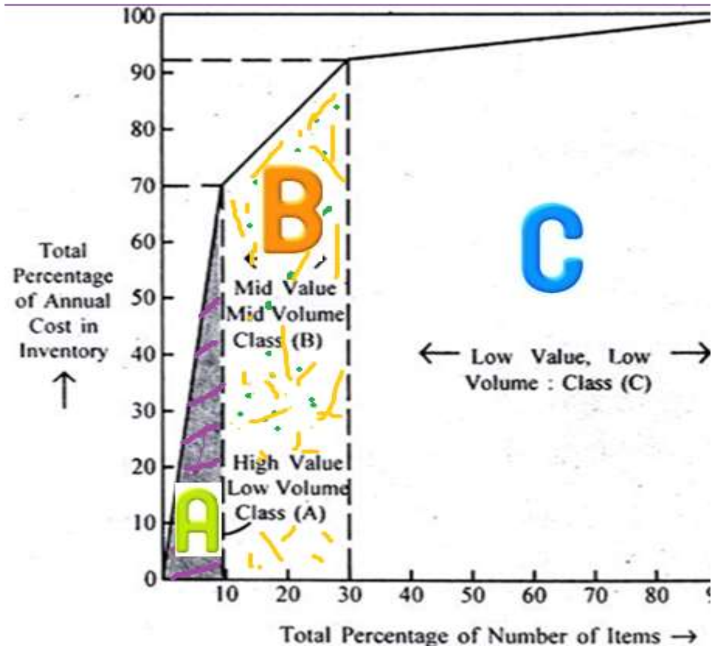
In inventory control, this technique helps to analyze the distribution of any characteristic by **money value** of importance in order to determine its importance.

All the items of organization divided into **3 categories** on the basis of the money value of importance of material.

**1. High value cost material – A ( Less Consumption)**

**2. Medium value materials- B ( Medium Consumption)**

**3. Low value materials- C ( High Consumption)**




| Category | % of total number of items | % of total consumption cost |
|---|---|---|
| A | less than 10% | 70 to 80 % |
| B | 10 to 20% | 15 to 25 % |
| C | 70 to 80% | less than 10% |

**Economic Order Quantity (EOQ)**

The Economic Order Quantity is the order quantity that minimizes total holding and ordering costs for the year.

Or

The EOQ is the amount of inventory ordered at one time for the purposes of minimizes annual inventory cost.

Or

The size of order that minimize the total inventory cost is called EOQ.

EOQ objectives is to

- ✓ Minimize the ordering cost
- ✓ Minimize carrying (holding) cost
- ✓ Minimize total cost of production.


Formula for EOQ is

$$EOQ = \sqrt{\frac{2 \times \text{Annual Consumption} \times \text{Ordering Cost}}{\text{Storage(holding)cost per unit}}}$$

Ordering cost = cost of placing single order

Holding cost = cost of hold one unit inventory in a year.

Ex: Calculate the EOQ if annual demand of the product is 5000 unit. The ordering cost is Rs.30 per unit and holding cost is Rs.6 per unit per annual.

Sol: Annual Consumption = 5000 unit, Ordering cost=Rs.30 , Holding cost per unit=Rs.6 , **Ans: 224 units**

**Purchasing (Purchase Management):** can be defined as procurement of raw material, machinery, parts, goods needed for production and maintenance department.

**Steps in purchasing**

1. **Requisition or Order** (receiving purchase requirement by any department in need of material and send recognition letter to the inventory team.)
2. **Selection of supplier** ( Tender/quotation from different vendors are invited and after comparing, finalized the best one by considering different parameters like cost, quality, reputation of vendor)
3. **Issue Purchase order** to vendor/Supplier: In PO the details about product specification, quality and date mentioned.
4. **Follow up with suppler** for updating the status of your order.
5. **Receiving Goods**: Once good received physically verified against the details provided in the PO.
6. **Inspection and testing**: overall dimensions, specification, material are tested.
7. **Storage and record keeping** ( entering the goods by adding barcode and placed in warehouse)
8. **Paymen**t issued to supplier by cash or check.

**Material Resource Planning (MRP)**

**MRP** is a computer based **production planning** and **inventory control system.**

- *It provides the information about when to order and how much to order*
- **Inputs of MRP**
  - **Master Production Schedule**
  - **Bill of material**
  - **Inventory Records**

Output of MRP – when to Buy. How much to buy, purchase orders and reports.

**ERP (Enterprise Resource Planning)**

ERP is an integrated information system that serves all departments.

ERP is a theoretical Concept. It is computerized software or application available SAP, Oracle, JD Edward, PeopleSoft, TallyERP.

SAP ER product popular for material management.


**Advantages of ERP:**

1. Complete visibility into all process in the organization
2. Improves information access and mgt. throughout the enterprise.
3. ERP reduces paper cost and greater accuracy of information
4. Same software can be used in whole organization
5. Centralized data storage.

# Unit No 5 Material management

The 5 M's of production are Men, Machines, Money , Materials and Methods Material mgt. is the planning, directing, controlling and coordinating those activities which are concern with materials and inventory management.
Material Management ensures that the
• Required material are brought in the required quantities,
• At the required time,
• Of the required quality and
• At an acceptable price.

Definition: A process encompassing acquisition, shipping, receiving, evaluation, warehousing and distribution of goods, supplies and equipment Each step is vital

**Advantage of MM** are maximum co-ordination & Optimum expenditure on material.

## Functions/aims of Material Management

1. Planning and control of material
2. Purchasing of material
3. Stock keeping (Inventory) of material
4. Distribution of material to various department
5. Allocation of material
6. Disposal of material

## 5.1 Inventory Management

**Inventory**:
Inventory is a detailed list of all kinds of items (goods) which are necessary to manufacture a product and to maintain the equipment and machinery in good working condition.
Inventory mgt. is a process of maintaining the optimum stock of each inventory item at minimum cost.
• Stocks to ensure uninterrupted supplies
• The idle resources which have future economic value
• Cushion between estimated and actual demand of materials

A scientific system which indicates:
1. What to order
2. When to order
3. How much to order
4. How much to stock

## Inventory Control:

The aim of a sound inventory control system is to secure the best balance between ' too much and too little'
✓ Too much inventory (stock) – carries financial risks

✓ Too little inventory increases the risk of ‘out of stock’ condition which may hamper production activity. It may result in loss of order.

## Classification of Inventories

### Direct Inventories

The inventories which play a direct role in the manufacturing of a product and become an integral part of the finished product are called direct inventories

**1. Raw material –** raw material on which operation will be performed to convert it into the desired (final) product. e.g. steel, wood, rubber, tubes, plates etc.

**2. Semi-finished Material inventory:** It is also called as ‘Work-In-process inventory’. The material which is processed partially and waiting for next process. eg. Half or partly parts which are required to assemble the final product

**3. Finished inventories-** they are the finished goods lying in stock rooms and are ready for dispatch to market. eg. Finished product like mobile phones, a.c, tv etc.

### Indirect inventories

Comprise of stock items that are necessary for the manufacturing of goods but are not a direct component of such goods. They are ancillary goods, which mean we cannot assign them to specific units of the final goods. ... For example, petrol or lubricants used in production are **indirect inventories**.

**Indirect materials** are **materials** that are used in the production process but that are not directly traceable to the product. For **example**, glue, oil, tape, cleaning supplies, etc. are classified as **indirect materials**.

They include lubricants and other items (fro ex. Spare parts) need for proper operations.

## Functions of Inventory management

1. **Improved Productivity and Efficiency:**
   Inventory management software enables us to increase productivity and efficiency by implementing automated daily manual tasks. This will assist you to maximize the growth of your business.
   The software saves uncountable hours and gives the opportunity to print shipping labels, process and dispatch orders, manage stock, create and update the listing on the system.
2. **Avoid Stock-outs and Over-stock:**
   When it comes to maintaining the balance sheet of inventories and its management, it is a difficult and challenging task to handle. Case of less stock leads to stock-out which not only disrupt customer relation but cause a possible loss whereas in case of over-stock its storage creates a problem.
   With inventory management software installed, you can set a limit for re-ordering so that stock when drops it gets automatically re-ordered.
3. **Quality Management:**
   The software has the ability to identify and track issues that can cause delayed shipment or broken packages. Through the already feed data provides guidance to quality management.

4. **Easy Inventory Management:**
   The software makes the process of inventory management a lot easier which saves money and time both. It assists to automate the business processes and guides to make smarter decisions.
5. **Improved Profitability:**
   The software helps to reach the maximum amount for business investment. It uses marketing and production to increase profits. With the software's ability to automatically operate the business in terms of management of inventory possibility of fulfilling tasks efficiently and accurately, increases.
   It can be in any terms from managing stocks to updating lists on all channels. Then the processing orders will turn to reduce expenses and maximize profitability.
6. **Planned Management:**
   You can identify the possibilities of opening multiple stock storehouses located near the customers' location. This will increase efficiency and improve service levels.
7. **Balanced Supply and Demand:**
   When it comes to delivery, time is the focus point. Delivery should be given at the exact time that also with the least pay amount and excess of features.
8. **Inventory Reports:**
   The software is meant to generate automated reports. You can get any report such as a low stock report, inventory validation report, inventory forecast report.
9. **Inventory Tracking:**
   Inventory tracking is the most beneficial function and feature of inventory management software. The software keeps the track of unlimited serial numbers from when the inventory is received until the time it is issued.

## Objective of Inventory Control

1. Procurement of inventory of right quantity and right quality.
2. Procurement of material at an economical rate.
3. Establishing safe, suitable storage location

## Advantages of proper and efficient Inventory control

1. Supply of good quality material at right time
2. Reducing cost of production
3. No shortage and no excess of inventory.
4. Efficient utilization of storage space.

# 5.2ABC analysis (Always Better Control)

ABC Analysis also referred to as ABC Classification**,** is an integral part of material management. It is an inventory categorization method, which classifies the inventory primarily into three distinct categories based on the revenue generation. ABC inventory helps business entrepreneurs and stock owners identify the essential products in the stock and prioritize their management based on the value. The inventory analysis is based on the Pareto Principle.

The Pareto Principle is a popular economic theory, discovered by renowned Italian economist Vilfredo Pareto. Pareto believed that optimum economic growth occurs only due to a small part of the economy. It means that the relation between the input and output is always unequal.

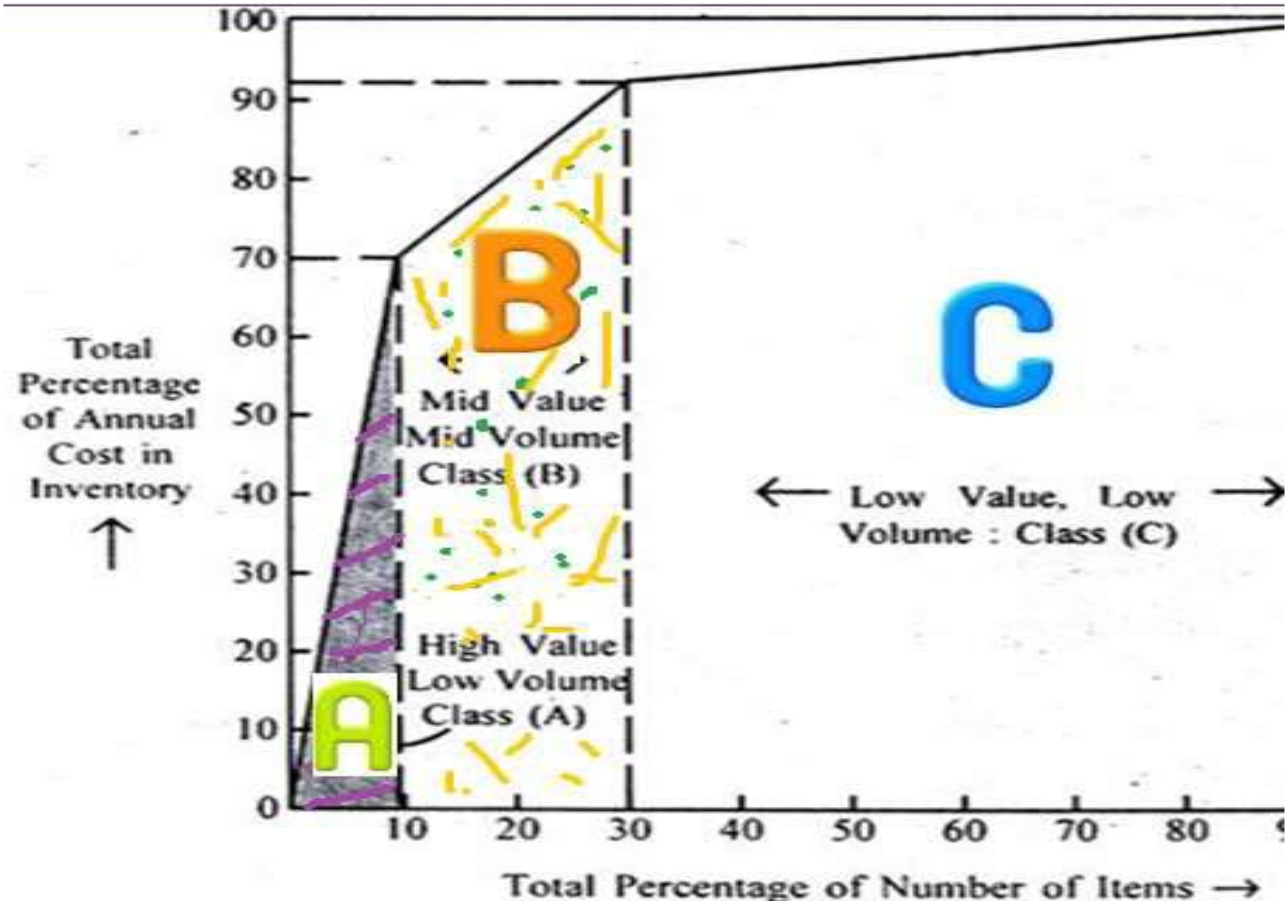
Pareto Principle states that 80% of the sales volume gets generated from the top 20% of the items. It says that in any group, there are significant few and insignificant many. It is also known as the 80/20 rule.

ABC analysis is one of imp. Technique which is based on **grading** the items according to the **importance of material.** In inventory control, this technique helps to analyze the distribution of any characteristic by **money value** of importance in order to determine its importance.

All the items of organization divided into **3 categories** on
The basis of the money value of importance of material.

**1. High value cost material – A (Less Consumption)**
**2. Medium value materials- B (Medium Consumption)**
**3. Low value materials- C (High Consumption)**

| Category | % of total number of items | % of total consumption cost |
|---|---|---|
| A | less than 10% | 70 to 80 % |
| B | 10 to 20% | 15 to 25 % |
| C | 70 to 80% | less than 10% |




**Major Applications of ABC Analysis** The Manufacturing SectorABC Inventory Analysis helps manufacturers to improve the inventory replenishment schedule. It allows managers to categorize stock items based on the total annual cost. Also, ABC Analysis becomes mandatory if the organization plans to integrate the Kabana to manage the workflows.

**Supply Chain and Warehouse**

The supply chain and warehouses use ABC Inventory Classification mainly for the stock count cycles. For instance, items placed in category A have to be counted quarterly. B class items need a bi-annual counting. On the other hand, C category products get the most liberty. They are calculated on an annual basis, once in a year.

**Retail and E-commerce**

The retail and the e-commerce industry usually choose ABC Management for customer segmentation. It helps retailers and e-commerce owners to pinpoint their most valuable customers. ABC Analysis is performed using key metrics such as sales revenue, buying potential, and contribution margin. The retailers can create a chart based on the metrics and then rank their customers in A, B, and C categories accordingly.

**Logistics Industry**

The logistics industry is also reaping the benefits of ABC Analysis. Here ABC management plays a pivotal role in controlling the inventory. The products are classified according to their importance based on different criteria such as sales ratio, profit margin, and cost of transportation, etc.

**ADVANTAGES OF ABC ANALYSIS**

1. It ensures a closer and a more strict control over such items, which are having a sizable investment in there.
2. It releases working capital, which would otherwise have been locked up for a more profitable channel of investment.
3. It reduces inventory-carrying cost.
4. It enables the relaxation of control for the 'C' items and thus makes it possible for a sufficient buffer stock to be created.
5. It enables the maintenance of high inventory turn over rate.

## 5.3Economic Order Quantity (EOQ)

The Economic Order Quantity is the order quantity that minimizes total holding and ordering costs for the year.
Or
The EOQ is the amount of inventory ordered at one time for the purposes of minimizes annual inventory cost.
Or
The size of order that minimize the total inventory cost is called EOQ.
Economic order quantity (EOQ) is the ideal order quantity a company should purchase to minimize inventory costs such as holding costs, shortage costs, and order costs. This production-scheduling model was developed in 1913 by Ford W. Harris and has been refined over time.
**EOQ objectives is to**

✓ Minimize the ordering cost
✓ Minimize carrying (holding) cost
✓ Minimize total cost of production.


$$EOQ = \sqrt{\frac{2 \times \text{Annual Consumption} \times \text{Ordering Cost}}{\text{Storage(holding)cost per unit}}}$$

Ordering cost = cost of placing single order
Holding cost = cost of hold one unit inventory in a year.
Ex: Calculate the EOQ if annual demand of the product is 5000 unit. The ordering cost is Rs.30 per unit and holding cost is Rs.6 per unit per annual.
Sol: Annual Consumption = 5000 unit, Ordering cost=Rs.30 , Holding cost per unit=Rs.6 ,**Ans: 224 units**

**Example of Economic Order Quantity (EOQ)**

EOQ considers the timing of reordering, the cost incurred to place an order, and the costs to store merchandise. If a company is constantly placing small orders to maintain a specific inventory level, the ordering costs are higher, along with the need for additional storage space.

For example, consider a retail clothing shop that carries a line of men's shirts. The shop sells 1,000 shirts each year. It costs the company $5 per year to hold a single shirt in inventory, and the fixed cost to place an order is $2.

**Disadvantages of Using Economic Order Quantity (EOQ)**

The basis for the EOQ formula assumes that consumer demand is constant. The calculation also assumes that both ordering and holding costs remain constant. These assumptions make it difficult, if not impossible; to account for unpredictable business events, such as changing consumer demand, seasonal changes in inventory costs, lost sales revenue due to inventory shortages, or purchase discounts a company might get for buying inventory in larger quantities.

## Buffer Stocks

Buffer stock is an additionally stored volume of goods which is kept to meet any sudden future demand or supply fluctuations. It is a backup stock, which retains some kind of buffer to protect in case of uncertain future. Buffer stock is kept as an extra backup to prepare for any uncertain business situations.

Buffer stock is also known as strategic stock or safety stock or buffer inventory. It is an important

## Importance of Buffer Stock

Buffer stock may be found at all stages of the supply chain, and is intended to reduce the occurrence or severity of stock-out situations and thus provide better line continuity and/ or customer service. Buffer stock is used in production or other inventory situations to ensure that exceptional or unpredictable shortages or demands can be met with some degree of certainty. Safety stock is generally held when there is uncertainty in the demand level or lead time for the product. The amount of buffer stock a business chooses to maintain regularly can dramatically affect their operations. Too much stock can result in high inventory carrying costs. Too less stock can cause repeated occurrences of stock-outs. Hence, businesses need to maintain a fine balance and decide on the amount of buffer inventory to be held.

**Definition of Buffer Stock Scheme**

A buffer stock scheme is a government plan to stabilise prices in volatile markets. This requires intervention in buying and selling.

Prices for agricultural products are often volatile because:

- Supply can vary due to the weather.
- Demand is inelastic
- Supply is fixed in the short term
- Buffer stock schemes aim to:
- Stabilize prices
- Ensure the supply of food
- Prevent farmers/producers going out of business because of a drop in prices.

**Advantages of buffer stocks**

1. Stable prices help maintain farmers incomes. A rapid drop in prices can make farmers go out of business, which leads to structural unemployment.
2. Price stability encourages more investment in agriculture.
3. Farming can have positive externalities e.g. helps rural communities. A drop in price could cause a negative multiplier effect within rural areas.
4. Target prices help prevent excess prices for consumers and help reduce food inflation. This might be important for households living in poverty, who may struggle to pay high prices during years of shortage.

5. It helps to maintain food supplies and avoid shortages.
6. It is possible the government could make a profit from a buffer stock scheme. If it buys during a glut and sells during a shortage, it can make a profit.

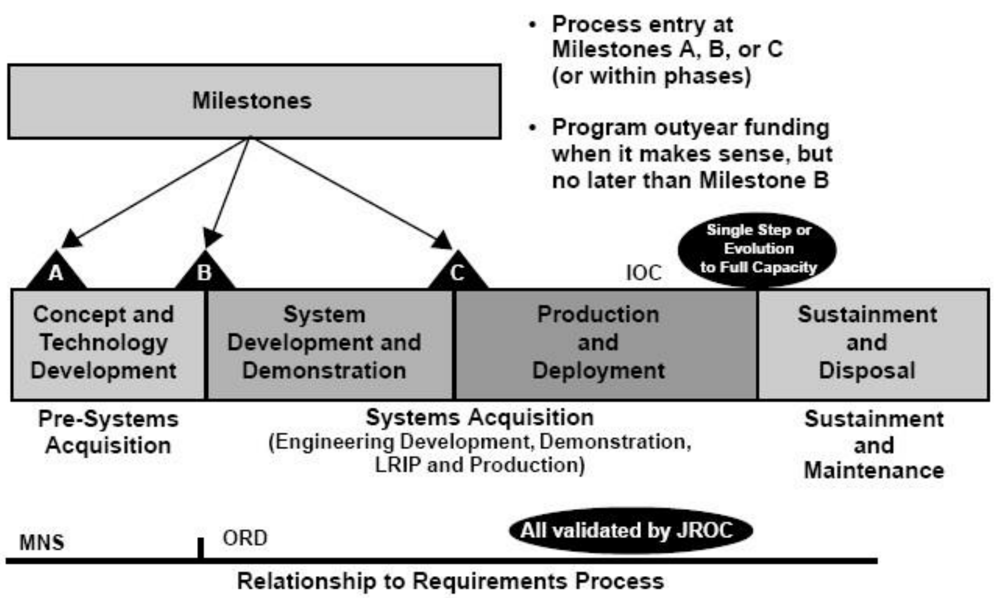
**Disadvantages of Buffer Stock**

1. In case of shorter shelf life, the products can get damaged and be rendered useless.

2. Additional overhead costs in purchasing and storing this stock.

# 5.4 Purchasing (Purchase Management):

can be defined as procurement of raw material, machinery, parts, goods needed for production and maintenance department**.**

The process allows for a given system to enter the process at any of the development phases. For example, a system using unproven technology would enter at the beginning stages of the process and would proceed through a lengthy period of technology maturation, while a system based on mature and proven technologies might enter directly into engineering development or, conceivably, even production. The process itself includes four phases of development:[1]

- Concept and Technology Development: is intended to explore alternative concepts based on assessments of operational needs, technology readiness, risk, and affordability.
- Concept and Technology Development phase begins with concept exploration. During this stage, concept studies are undertaken to define alternative concepts and to provide information about capability and risk that would permit an objective comparison of competing concepts.
- System Development and Demonstration phase. This phase could be entered directly as a result of a technological opportunity and urgent user need, as well as having come through concept and technology development.
- The last, and longest, phase is the Sustainment and Disposal phase of the program. During this phase all necessary activities are accomplished to maintain and sustain the system in the field in the most cost-effective manner possible.

## Importance of Purchasing

The purchasing process is of importance because it is used to identify user requirements, effectively and efficiently and evaluate the need ,identify suppliers, ensure the payment occur promptly and drive continuous improvement. Buying of inventory is usually driven by the purchasing department

The key objectives of purchasing department are:

1. Support operational requirements - It includes the basic requirements like buy products at right price, from the right source, at right quantity and quality.

2. Supply base management- One of the most important objectives of purchasing function is the selection development maintenance of supply, a process commonly known as Supply base management.

3. Develop strong Relationship with other functional groups

4. Support organization goals and objectives that comply with purchasing management

## Responsibilities of Purchasing Department

Some of the key responsibilities & duties are:

1. Evaluate and select suppliers: The most important duty of purchasing is to evaluate and right suppliers. It is important to avoid "maverick buying and selling -a situation that occurs when sellers contact and attempt to sell directly to end users

2. Review specifications: The right to question allows purchasing to review specifications where required. The right to question material specifications also helps avoid developing material specifications that only a users favorite supplier can satisfy.

3. Act as the primary contact with suppliers: Purchasing must act as the primary contact with suppliers, but that other function should be able to interact directly with suppliers as needed. involving multiple people enables the communication process between internal customers, purchasing, sale and suppliers internal functions to be more efficient and accurate

## Steps in purchasing

1. **Requisition or Order** (receiving purchase requirement by any department in need of material and send recognition letter to the inventory team.)
**2. Selection of supplier** ( Tender/quotation from different vendors are invited and after comparing, finalized the best one by considering different parameters like cost, quality, reputation of vendor)
**3. Issue Purchase order** to vendor/Supplier: In PO the details about product specification, quality and date mentioned.
**4. Follow up with suppler** for updating the status of your order.
**5. Receiving Goods**: Once good received physically verified against the details provided in the PO.
**6. Inspection and testing**: overall dimensions, specification, material are tested.
**7. Storage and record keeping** ( entering the goods by adding barcode and placed inwarehouse)
**8. Paymen**t issued to supplier by cash or check.

## 5.5 Smart Manufacturing:

### Brief introduction

The smart manufacturing the latest new generation manufacturing machine used in different industries for manufacturing purposes. Smart manufacturing is implement in different industrial sectors for the increased output of the industry. With the help of smart manufacturing, different tasks of the industry are done automatically. The automation of a factory as per the new technologies can be also termed as the smart manufacturing technique. Computers are mostly use in smart manufacturing procedures to control the automatic operations of a factory or a unit of a factory. Smart manufacturing is also refer to as computer-integrated manufacturing which results in rapid design change, high-level adaptability, flexible workforce training, and digital information technology.
By implementing smart manufacturing in the industrial sector several benefits can be accomplish such as supply chain optimization, fast changes for the demanded production level, efficient recyclability and efficient production.
According to the smart manufacturing industry, a smart industry should have a multi-scale simulation, multi-scale dynamic modeling, interoperable system, good cyber security, networked sensors, and intelligent automation. An industry comprising of all the above-mentioned parameters can be consider as a smart industry possessing smart manufacturing capability.

## Industry 4.0

In this next phase of the industrial revolution, measurement technology plays a crucial role for quality-conscious organizations on the road to Industry 4.0. With the fusion of production technology and the Internet of Things (IoT), measurement technology requires strong connectivity and the capability to capture quality data faster, better and more flexibly and transfer it to networked devices and systems.  It is truly the framework for increasing process efficiency and realizing bottom-line benefits in the smart factory. And, it not only pertains to on-line measurements but also includes the integration of at-line and off-line gauging technologies.


**Connectivity, Communication and Control**

To be Industry 4.0 ready means that production technology must be interoperable with other systems that speak the same industry protocols over a common Ethernet infrastructure. Smart factories require the utilization of advance-prediction tools, so that data can be systematically processed into information that allows operators to make the right decisions. Smart gauges or sensors provide industry-standard connectivity via common communication protocols, and built-in web server support provides mobile connectivity for smart diagnostics and smart service**.**

## Material Resource Planning (MRP)

**MRP** is a computer based **production planning** and **inventory control system.**

- *It provides the information about when to order and how much to order*
- **Inputs of MRP**
- **Master Production Schedule**
- **Bill of material**
- **Inventory Records**

Output of MRP – when to Buy. How much to buy, purchase orders and reports**.**

Materials Requirement Planning (MRP) is a technique for determining the quantity and timing for the acquisition of dependent demand items needed to satisfy master production schedule requirements.”

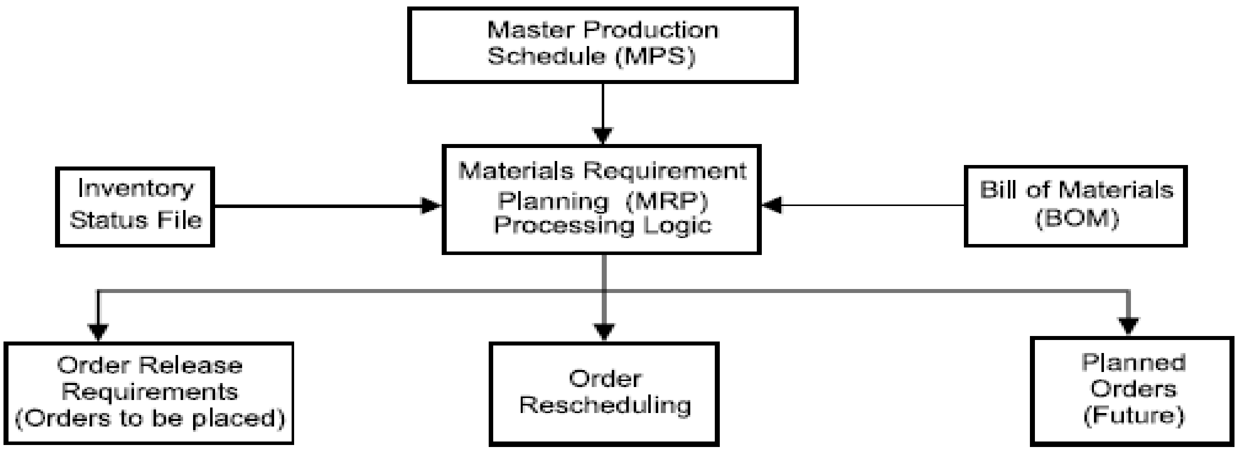
**Objectives of MRP**

1. **Inventory reduction:** MRP determines how many components are required when they are required in order to meet the master schedule. It helps to procure the materials/ components as and when needed and thus avoid excessive build up of inventory.
2. **Reduction in the manufacturing and delivery lead times*:*** MRP identifies materials and component quantities, timings when they are needed, availabilities and procurements and actions required to meet delivery deadlines. MRP helps to avoid delays in production and priorities production activities by putting due dates on customer job order.

3. **Realistic delivery commitments*:*** By using MRP, production can give marketing timely information about likely delivery times to prospective customers.
4. **Increased efficiency:**
   MRP provides a close coordination among various work centers and hence help to achieve uninterrupted flow of materials through the production line. This increases the efficiency of production system.

**MRP System**

The inputs to the MRP system are: (1) A master production schedule, (2) An inventory status file and (3) Bill of materials (BOM). Using these three information sources, the MRP processing logic (computer programme) provides three kinds of information (output) for each product component: order release requirements, order rescheduling and planned orders.




1. **MASTER PRODUCTION SCHEDULE (MPS)**
   MPS is a series of time phased quantities for each item that a company produces, indicating how many are to be produced and when. MPS is initially developed from firm customer orders or from forecasts of demand before MRP system begins to operate. The MRP system whatever the master schedule demands and translates MPS end items into specific component requirements. Many systems make a simulated trial run to determine whether the proposed master can be satisfied.
2. **INVENTORY STATUS FILE**
   Every inventory item being planned must have an inventory status file which gives complete and up to date information on the on-hand quantities, gross requirements, scheduled receipts and planned order releases for an item. It also includes planning information such as lot sizes, lead times, safety stock levels and scrap allowances.
3. **BILL OF MATERIALS (BOM)**
   BOM identifies how each end product is manufactured, specifying all subcomponents items, their sequence of build up, their quantity in each finished unit and the work centers performing the build up sequence. This information is obtained from product design documents, workflow analysis and other standard manufacturing information.

**Advantages of materials requirements planning (MRP)**

- Aids with maintaining minimum inventory levels

- If you have minimum inventory levels, materials planning will also reduce associated costs
- Material tracking becomes much easier and ensures that economic order quantity is achieved for all lot orders
- Material planning smooths out capacity utilization and allocates correct time to products as per demand forecast

**Disadvantages of materials requirements planning (MRP)**

- Material planning is entirely dependent on inputs it receives from other system departments. If input information is not correct than output for material planning will also be incorrect
- Material planning requires maintenance of robust database with all information pertaining inventory records, production schedule, etc, without which output again would be incorrect
- Material planning system requires proper training for end users, as to get maximum out of the system
- Material resource planning system requires substantial investment out of time and capital

## ERP (Enterprise Resource Planning)

ERP is a kind of software system that helps you run your entire business, including processes in finance, manufacturing, supply chain, services, procurement, and more.
Enterprise resource planning (ERP) is defined as the ability to deliver an integrated suite of business applications. ERP tools share a common process and data model, covering broad and deep operational end-to-end processes, such as those found in finance, HR, distribution, manufacturing, service and the supply chain.
ERP applications automate and support a range of administrative and operational business processes across multiple industries, including line of business, customer-facing, administrative and the asset management aspects of an enterprise. ERP deployments are complex and expensive endeavors, and some organizations struggle to define the business benefits.
Look for business benefits in four areas: a catalyst for business innovation, a platform for business process efficiency, a vehicle for process standardization, and IT cost savings. Most enterprises focus on the last two areas, because they are the easiest to quantify; however, the first two areas often have the most significant impact on the enterprise.
ERP is an integrated information system that serves all departments.
ERP is a theoretical Concept. It is computerized software or application available SAP, Oracle, JD Edward, PeopleSoft, Taller.
SAP ER product popular for material management.

**Advantages of ERP:**

1. Complete visibility into all process in the organization
2. Improves information access and mgt. throughout the enterprise.
3. ERP reduces paper cost and greater accuracy of information
4. Same software can be used in whole organization
5. Centralized data storage.


**Internet of Things (IOT)**

### what is the Internet of Things?

"The **Internet of Things** (**IoT**) is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers and the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction."

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, all collecting and sharing data. Thanks to the arrival of super-cheap computer chips and the ubiquity of wireless networks, it's possible to turn anything, from something as small as a pill to something as big as an aeroplane, into a part of the IoT. Connecting up all these different objects and adding sensors to them adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate real-time data without involving a human being. The Internet of Things is making the fabric of the world around us more smarter and more responsive, merging the digital and physical universes.

### What are the types of IoT

1. LPWANs. **Low** Power Wide Area Networks (LPWANs) are the new phenomenon in IoT. ...
2. Cellular (3G/4G/5G) ...
3. **Zigbee** and Other Mesh Protocols. ...
4. **Bluetooth** and BLE. ...
5. **Wi-Fi**. ...


**IoT Benefits**
Several benefits are offered by the IoT to an organisation.

- Help in monitoring the overall business processes.

- Help in improving the experience of the customer.

- Save time and money.

- Productivity of the employee will increase.

- Adapt and integrate business models.

- Business decisions can be made better by IoT.

- Revenue generation can also be increased.

- IoT encourages companies to rethink the ways they approach their business, industries, markets and can also improve their strategies.

**Disadvantage of IoT**
- As several in formations will be shared by different devices so, the potential of hacker to hack data or to steal confidential information will increase.

- Enterprisers have to deal with millions of IoT devices and so collecting and managing data will be difficult task.

- If there is any virus in the system then all the connected devices will also become corrupted.

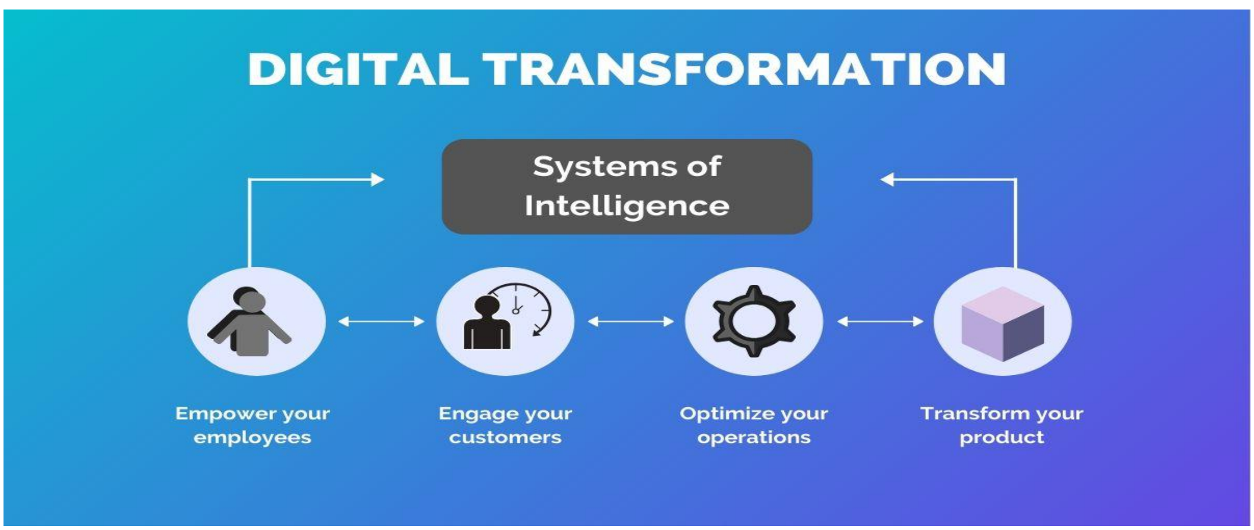
## What is Digital Transformation?

In layman terms, digital transformation (DT or DX) means using technology to create differentiating ways of doing business to drive growth in new and existing markets.

The definition of digital transformation can be different for every organization because every business is unique. So, we have collected a spread of definitions to help you find one that applies best to your needs.


**What are the Benefits of Digital Transformation?**

With the digitization of society, you'd feel the increasing importance of digital transformation. As an entrepreneur, you may take on digital transformation for several reasons.




**1. Transforming Customer Experience**

At the heart of digital is customer experience. Many companies are increasingly aware of this, with 92% of leaders developing sophisticated digital transformation strategies to enhance the consumer experience.

### 2. More Data-based Insights

When you go digital, you can track metrics and analyze the data that you capture during your digital marketing efforts.

Using data-driven insights can help to understand customers better, and also rethink business strategies, assisting with better decision-making, paving ways to a higher ROI.

### 3. Greater Collaboration Across Departments

DT offers an excellent opportunity for unity throughout the organization as leaders build it on digital congruence.

When you find everyone aligned to a common purpose, you'll find a smooth and seamless transition.

# UNIT NO:- 4 FINANCIAL MANAGEMENT

## 4.1 FINANCE AND ITS DEFINITION

In general term finance means management of money for your expenses.

• In broad term finance is the science of funds management. Finance includes saving money and often includes lending money.

• The general areas of finance are business finance, personal finance, and public finance.

• Finance is also a money budget management. The field of finance deals with how money is spent and budgeted. It also deals the concepts of time, money and risk and how they are interrelated.

• Finance is used by individuals as personal finance, by governments as public finance, by businesses as corporate finance, as well as by a wide variety of organizations including schools and non-profit organizations. Finance is the need of the today world economy.

**FINANCE:**

• FINANCE is the life-blood of business. Without finance neither any business can be started nor successfully is run .Finance needed to promote or establish business, acquire fixed assets, make necessary investigations, develop product keep man and machines at work, encourage management to make progress and create values.

**FINANCIAL MANAGEMENT:**

• FINANCIAL MANAGEMENT is one of the functional area of management. It refer to that part of the management activity which is concerned with the planning and controlling of firms financial resources.
**Financial management** refers to the strategic **planning**, organising, directing, and controlling of **financial** undertakings in an organisation or an institute. It also includes applying **management** principles to the **financial** assets of an organisation, while also playing an important part in fiscal **management**.

**Basic Concept of Financial Management:**

In simple concept financial management means, if you save me today – I will save you tomorrow. In this competitive era, funds are acquired from several sources. The procurement of these funds has always been reckoned as a stumbling block. The characterization of funds procured from different sources varies in terms of cost, risk, management and control. A smart manager will know that the funds should be procured at minimum cost, at a balanced risk and control factors.

Proper analysis of utilization of those procured funds is the job of a financial manager. He is responsible for informing the firm or an individual that whether or not their funds are optimally allocated. To accomplish this task, the financial manager is expected to be knowledgeable, tactful and witty. He should understand the demands and requirement of the individual or the firm and should come up with some strategically rationalized plan so that the latter one can enjoy optimally.


**Financial Management Example-1:**
You are planning to take a business loan to purchase a new space for your business office. – Here it is advisable to take a real estate advisor and you need to check whether the valuation after 20 years or more will be higher than renting it or not. Also you need to consult financial department whether investing 20% of funds in down payment and taking 80% business loan will give good returns on investment or not. Many times there are cases where, renting can be more economical than purchasing, regardless of whether you're leasing a property, software or renting a vehicle.

**TYPES OF FINANCE**

• There are mainly two type of finance found in the current economy.

**1. Personal finance**
In this finance decisions may involve paying for education, financing durable goods such as real estate and cars, buying insurance, e.g. health and property insurance, investing and saving for retirement. Personal financial decisions may also involve paying for a loan, or debt obligations.

**2. Corporate finance**
It is the task of providing the funds for a corporation's activities. Corporate finance can easily categorized in two category.
A. Short term finance which generally involves balancing risk and profitability, while attempting to maximize an entity's wealth and the value of its stock.

B. Long term funds are provided by ownership equity and long-term credit, often in the form of bonds. The balance between these forms the company's capital structure. Short-term funding or working capital is mostly provided by banks extending a line of credit.

**Types of Financial Management**

**1. Treasury and Capital Budget Management:**
Capital budgeting is the planning procedure used to decide if a company's fixed assets, for example, new plant, new machinery; new research projects are worth of allocating funds through the organization capitalization structure (equity, debt or profit earnings). Numerous formal strategies are utilized in capital budgeting, For example: Profitability index, Payback period, Net present value, Real options valuation, accounting rate of return, internal rate of return, Equivalent annual cost and more. These management teams are likewise accountable for raising funds and investing funds. In the event that an organization merge with another organization or expands, team will facilitate the financial needs for merger or expansion.

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**2. Capital Structure Management:**
In corporate finance, capital structure is the manner in which a company finances through a mix of debt or equity securities. Debt financing comes as bond issues, while equity comes from retained earnings or as a stock. Short-term debt financing, for example, working capital necessities is likewise viewed as a major aspect of the capital structure. Here financial management team is responsible for capital structure of a company's short-term debts, long-term debts, equities, preferred stocks and more. At the point when team refer to capital structure, they are probably considering a company's debt-to-equity ratio, which gives understanding into how healthy organization is financially or how risky organization is financially.

**3. Working Capital Management:**
Working capital management of an organization refers to managing bookkeeping methodology and accounting strategies intended to keep track of current assets, current liabilities, cash flow, inventory turnover ratio, working capital ratio and much more. The

basic role of working capital management is to ensure the organization dependably keeps up adequate liquid cash to meet its short-term debts and operational cost. This is one of the types of financial management where team need to maintain working capital management to smoother company's operational cycle, and also to improve the company's earnings.

**OBJECTIVES OF FINANACIAL MANAGEMENT**

Objectives of financial management The objective of financial management are considered usually at two levels –at macro level and micro level. three primary objectives are commonly explained as the Objective of financial management- Maximization of profits Maximization of return Maximization of wealth

**Maximization of profits :**
• Maximization of profits Profit earning is the main aim of every economic activity. Profit maximization simply means maximizing the income of the firm . Economist are of the view that profits can be maximized when the difference of total revenue over total cost is maximum, or in other words total revenue is greater than the total cost.

**Maximization of return :**
• Maximization of return Some authorities on financial management conclude that maximization of return provide a basic guideline by which financial decision should be evaluated .

**Maximization of wealth :**
• Maximization of wealth According to proof Solomon Ezra of stand ford university , the ultimate goal of financial management should be the maximization of the owners wealth. The value of corporate wealth may be interpreted in terms of the value of the company's total assets. The finance should attempt to maximize the value of the enterprise to its shareholders. Value is represented by the market price of the company's common stock

**FUNCTIONS OF FINANCIAL MANAGEMENT**

- To Make Finance Availability At Minimum Rate Of Intrest.
- To Help In Deciding Cost, Selling Price Of product.
- To Prepare Annual Budget, For Each Department And Overall For Organization As Whole.
- To Monitor Day To Day Financial Transaction Of Firm.
- To Allocate Funds For New Unit Or Development.
- To Critically Monitor Financial Ratio Of Company.
- To Anticipate Future Capital Requirement Of Business.

**Functions of Financial Management:**
Here we are going to focus on some of the key functions of financial management notes and will discuss in few lines to understand them.

**1. Liquidity Functions:**
Looking for adequate liquidity to hold out the business strategies, each financial manager should perform some primary tasks. Firstly, raising funds, the company gets funding from various source of funds. At different periods some various source of funds is going to be a lot

more desirable. Secondly, forecasting cash flows, your day-to-day businesses need to get that the company to invest their bills easily. This will be mainly one matter of matching funding inflows against cash outflows. That the firm needs to be capable forecast your sources of funds plus timing to cash inflows from clients and use them towards suppliers and lenders payments.

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**2. Capital Requirement Estimation:**

**Finance** manager or supervisor need to make estimation with regards to funds / capital requirement of an organization. This particular depends after profits, expected cost, policies, rules and future programs. Estimations is one of an important functions of financial management. Estimations have to be made in a sufficient manner through which it can improve earning potential of a company.

**3. Capital Composition:**

When the estimation of capital requirement have been completed. Your finance plan with respect to capital structure need to be determined. This involves long-term as well as short-term debt **equity research** and analysis. It will mostly depend after each proportion concerning equity capital, which a company is actually possessing and additional required funds that have to be raised from external parties.


**4. Selecting a Source of Funds:**

To raise additional funds and to be obtained those funds, the best organization has many options. For example:

- Issue of debentures as well as shares.
- Loan to be taken from **financial institutions** or banks.
- Public deposits to be drawn just like at as a type of **bonds**. Choices of factor are determined by general demerits and merits concerning each source of funds and at each stage of company.

**5. Price Control:**
Many large companies possess comprehensive cost-**accounting** systems to monitor expenditure in areas for the company's functions of financial management. Information are fed right into a software system every day. In addition, computer systems are also designed to highlight statistical important facts on tasks and activities to be displayed for a monitor.

**6. Pricing:**
Some of the relevant decisions taken within company include the costs established for the items, services and products. Each philosophy then approach to pricing rules are important elements in company's advertising efforts, brand and then sales. Determination of the appropriate worth is the best joint decision concerning marketing manager provides insight to just how varying worth will likely affect demand within the market and company's competitive position. Each financial supervisor can supply insight about changes in expenditures at different levels of manufacturing and the **revenue** margins necessary to carry on the business successfully.

**7. Capital Investment:**
Finance manager is needed in order to choose allocation of funds entering into profitable ventures to ensure that there is an **investment** protection as well as a regular returns on investment is available. 8. Managing Funds: Funds can be seen as liquid assets of the company. The term funds contains funding held by your company, cash given by a company, funds borrowed by a company and funds gained by acquisitions of preferred stocks and equity stocks. Into the functions of financial management, your financial manager or supervisor acts as one specialized officer of a company. That the manager is responsible for allocating funds and tracking the sufficient funds available for a company to perform its business smoothly.

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**9. Distribution of Income:**
The net revenues decision need to be established simply by finance supervisor. This can be done in two functions of financial management for an organization. Firstly by declaring dividend, It includes determining their rate of dividends along with bonus if any. Second by retaining income, the amount maintains to-be determined that upon expansion, innovation or any diversification plans of an organization.

**10. Financial Control:**
The finance manager not only need to build strategy to raise funds, allocate funds and make use of the funds, but he even need to build techniques and methods to work on financial control of funds. This can be complete thru some techniques just like ratio analysis, financial forecasting, pricing, cost control and much more.

## 4.2 Capital Generation

**CAPITAL**

• Capital Is The Life-Blood Of Business Enterprise.
• Capital In Its Meaning, Covers All The Elements Like Money,Land, Machinery, Materials And Tools Etc. Which AreEssential Factors To Start An Enterprise.

• Capital Is The Measure Of The Amount Of Resources Of An Enteprise.
• Capital Develops Products, Keeps Workers And MachinesAt Work, Encourages Management To Make Progress AndCreate Value.

**TYPES OF CAPITAL**

**1. Fixed Capital:**
For Running An Industry, Two Types Of Capital Are Needed.One
For Purchasing Fixed Assets. Fixed Capital Is Associated WithLong Term Assets.
Fixed Capital Like, Land, Building, Equipments And Machinery, Tools, And Furniture. Etc.

**1. Working or Current Capital:**
Once Fixed Assets Have Been Purchased, The Enterprise NeedTo Meet Its Day To Day Needs And Expenditure. These Working Capital Or Current Capital Such As :
- Purchase Of Raw Material and Supplies.
- Payment Of Employee Wages.
- Advertisement And Selling Expenses.
- Equipment And Plant Maintenance Cost.
- TrnasportationAnd Shipping Exenses.
- Organization Expenses. Etc

**SOURCES OF WORKING CAPITAL**

• There Are Three (3) Types Of Working Capital Requirement:
**1. Long Term Financing Requirement**: In Long Term FinancingFollowing Are The Sources Which Can Tapped By The FinancialManager.
- Loan From Financial Institutions.
- Accepting Public Deposits.
- Issue Of Additional Equity Shares.
- Raising Funds by Internal Financing.

**1. Short Term Financing :**These Sources Include
- Short Term Bank Loans.
- Commercial Papers.
- Cash Credit.
- Overdraft Bills Discount Etc.

**1. Spontaneous Financing**:
- Trade Credit
- Outstanding Expenses.

## 4.3 BUDGET AND BUDGETING

• **Definition:** A **budget** is a financial document used to project future income and expenses. The budgeting process may be carried out by individuals or by companies to estimate whether the person/company can continue to operate with its projected income and expenses.
• A budget may be prepared simply using paper and pencil, or on computer using a spreadsheet program like Excel, or with a financial application like Quicken or QuickBooks.
• The process for preparing a monthly budget includes:

• Listing of all sources of monthly income
• Listing of all required, fixed expenses, like rent/mortgage, utilities, phone, Listing of other possible and variable expenses.
• **Budgeting**
• **Definition:** Establishing a planned level of expenditures, usually at a fairly detailed level. A company may plan and maintain a budget on either an accrual or a cash basis. Business budgeting is one of the most powerful financial tools available to any small-business owner. Put simply, maintaining a good short- and long-range financial plan enables you to control your cash flow instead of having it control you

## 4.3 TYPES OF BUDGETS

• **Types Of Budget**
• Sales Budget
•Production Budget
•Purchase Budget
• Expenditure Budgets
•Cash Budget
• Master Budget
• Zero Base Budget
•Flexible Budget

**• Sales Budget**
• Sales budget is a functional budget. The product wise as well as regional break up of sales estimates are incorporated in the sales budget. The sales budget begins with the previous year actual and incorporates the likely changes.

**• Production Budget**
• The production budget is prepared based on the sales estimate incorporated in the sales budget. The adjustments with respect to the opening and closing stock positions that are policy decisions of the business are then made to prepare the production budget.

**• Purchase Budget**
• The purchase budget is another functional budget that estimates the purchase requirement of materials utilized in the production process. The purchase budget is based on the production budget and the standard material consumption requirement for the production estimates.

**Expenditure Budgets**
• Expenditure budgets may be drafted as fixed / flexible budgets.
• A fixed budget is one which is prepared keeping in mind one level of activity. It is Defined as one which is designed to remain unchanged irrespective of the level of activity attained.
Flexible budgets are prepared where the nature In contrast, flexible budget is one which is designed to change in relation of business is such that it is difficult to predict the demand/sale of goods.
**• Zero Base Budget**
• An illustration of a long term budget is the Zero base budget. Zero Base Budgeting process looks at requirements/ plans a new each year irrespective of project continuity. These are necessarily long term project budget**• Cash Budget**

• A cash budget consolidates all the cash inflows and outflows for the business. The cash budget is also a functional budget. The cash budget helps the business to plan the project purchases as well as to provide for the loan requirements. The cash budgets also help in defining the repayment plans for short and long term loans of the business.

**• Master Budget**
• The overall or master budget summarizes the other functional budgets. Consolidating the functional budgets, an income and expenditure budget and Budgeted balance sheet are prepared. The master budget is usually a one-year Budget expressing the expected asset position and capital and liability positions for The projected year.
• Master Budget – Income Statement
• Particulars January February March Total
• Sales 12000 15000 10000 37000
Less: cost of goods sold 5000 7000 4300 16300
Factory overheads 2000 2000 2000 6000
Administrative overheads 1000 1000 1000 3000
Selling overheads 500 600 400 1500
• Net profit 3500 4400 2300 10200

## 4.4 Accounts

An **account** is a record in an accounting system that tracks the financial activities of a specific asset, liability, equity, revenue, or expense. ... Each individual **account** is stored in the general ledger and used to prepare the financial statements at the end of an accounting period.

**What is Account example?**
In accounting, an **account** is a record in the general ledger that is used to sort and store transactions. For **example**, companies will have a Cash **account** in which to record every transaction that increases or decreases the company's cash.
In accounting, an **account** is a record in the general ledger that is used to sort and store transactions. For **example**, companies will have a Cash **account** in which to record every transaction that increases or decreases the company's cash.

**Types Of Bank Accounts**
whether you are a housewife or a college student, a business owner or a business house, a retired professional or Indian living abroad, not having a bank account is unimaginable. Based on the purpose, frequency of transaction, and location of the account-holder, banks offer a bouquet of bank accounts to choose from. Here is a list of some of the **types of bank accounts in India**.

**1. Current account**
A current account is a deposit account for traders, business owners, and entrepreneurs, who need to make and receive payments more often than others. These accounts hold more liquid deposits with no limit on the number of transactions per day. Current accounts allowoverdraft facility, that is withdrawing more than what is currently available in the account. Also, unlike savings accounts, where you earn some interest, these are zero-interest bearing accounts**.** You need to maintain a minimum balance to be able to operate current accounts.

**2. Savings account**

A savings bank account is a regular deposit account, where you earn a minimum rate of interest. Here, the number of transactions you can make each month is capped. Banks offer a variety of Savings Accounts based on the type of depositor, features of the product, age or purpose of holding the account, and so on.

.There are regular savings accounts, savings accounts for children, senior citizens or women, institutional savings accounts, family savings accounts, and so many more.

You have the option to pick from a range of savings products. There are zero-balance savings accounts and also advanced ones with features like auto sweep, debit cards, bill payments and cross-product benefits.

A cross-product benefit is when you have a savings account with a bank and get to avail special offers on opening a second account such as a demat account.

**3. Salary account**

Among the different types of **bank accounts**, your salary account is the one you have opened as per the tie-up between your employer and the bank. This is the account, where salaries of every employee are credited to at the beginning of the pay cycle. Employees can pick their type of salary account based on the features they want. The bank, where you have a salary account, also maintains reimbursement accounts; this is where your allowances and reimbursements are credited to.

**4. Fixed deposit account**

To park your funds and earn a decent rate of interest on it, there are **different types of accounts** like fixed deposits and recurring deposits.

A fixed deposit (FD) account allows you to earn a fixed rate of interest for keeping a certain sum of money locked in for a given time, that is until the FD matures. FDs range between a maturity period of seven days to 10 years. The rate of interest you earn on FDs will vary depending on the tenure of the FD. Generally, you cannot withdraw money from an FD before it matures. Some banks offer a premature withdrawal facility. But in that case, the interest rate you earn is lower.

**5. Recurring deposit account**

A recurring deposit (RD) has a fixed tenure. You need to invest a fixed sum of money in it regularly -- every month or once a quarter -- to earn interest. Unlike FDs, where you need to make a lump sum deposit, the sum you need to invest here is smaller and more frequent. You cannot change the tenure of the RD and the amount to be invested each month or quarter. Even in the case of RDs, you face a penalty in the form of a lower interest rate for premature withdrawal. The maturity period of an RD could range between six months to 10 years.

**6. NRI accounts**

There are **different types of bank accounts** for Indians or Indian-origin people living overseas. These accounts are called overseas accounts. They include two types of savings accounts and fixed deposits -- NRO or non-resident ordinary and NRE or non-resident external accounts. Banks also offer foreign currency non-resident fixed deposit accounts. Let us quickly see the **various types of bank accounts** for NRIs-

**DIFFERENT LIABILITIES:**

• On the other side of the balance sheet are the liabilities. These are the financial Obligations a company owes to outside parties. Like assets, they can be both Current and long-term.

• Long-term liabilities are debts and other non-debt financial obligations, which Are due after a period of at least one year from the date of the balance sheet.

• Current liabilities are the company's liabilities which will come due, or must be Paid, within one year. This is comprised of both shorter term borrowings, such As accounts payables, along with the current portion of longer term borrowing, Such as the latest interest payment on a 10-year loan**.**

## Profit and loss account

• An official quarterly or annual financial document published by a public company, showing earnings,
Expenses and net profit. Net income is determined from this financial report by subtracting total
Expenses from total revenue. The profit and loss statement and the balance sheet are the two major
Financial reports that every public company publishes. The difference between this statement and the
Balance sheet deals with the periods of time that each one represents. The profit and loss statement
Shows transactions over a given period of time (usually quarterly or annually), whereas the balance
Sheet gives snapshot holdings on a specific date. Also called income statement or earnings report.

**What is a profit and loss account?**

•Shows business performance over a specific period of time.

•Records incomings (revenue from sales) and outgoings (cost of sales plus overheads and expenses) to show whether a profit or loss has been made.

•Shows a summary of invoices that have been raised, or sales income that has been generated, including an estimate of work in progress but not yet invoiced.

•Includes purchases made from suppliers for goods or raw materials, and an estimate of cost for goods/raw materials used but not yet paid

**• 1. Annual Accounts**

• Accounts are required to be prepared annually, and may also be prepared for other periods, for example monthly or quarterly.

• A major purpose of preparing accounts is to be able to monitor the progress of the business. Thus accounts may need to be prepared more frequently than once a year if the business is not going to founder. The management needs to monitor the sales and Costs to make sure that the company is paying its way, and hopefully making a profit. If The profits appear to be down on a previous quarter, then action may need to be taken to Find out why this happened, and remedy the situation in the future.

• If the business has already borrowed money from the bank, or is wishing to do so, then The bank will probably want to see the accounts. The bank is lending its money to the Business and wants to be sure that it is a sound investment. If the bank is not happy With the accounts it may choose not to give the business loan facilities, or perhaps Increase its borrowing charges. Furthermore, the bank wants to be certain that the Business is under sound financial management, and that good records are being kept for This purpose.
• The business is required to annually present its accounts to the Inland Revenue for tax purposes. Should any tax due be not paid on time, or incorrectly, the Inland Revenue can choose to fine the business. In addition, companies are required to file their accounts at Companies House, where they are open for public inspection

**• 2. The Profit & Loss Account:**
• The profit and loss account shows the profit that the business makes. This is also known as the "Trading, Profit and Loss Account". It is made up of the following components:
• • Sales
• • Direct Costs
• • Gross Profit
• • Indirect Costs
• • Net Profit
• • Taxation
• • Director's Drawings
• • Investment in Business.
Balance sheet
• Balance Sheet
• What Does Balance Sheet Mean?
A financial statement that summarizes a company's assets, liabilities and shareholders' equity at a specific point in time. These three balance sheet segments give investors an idea as to what the company owns and owes, as well as the amount invested by the shareholders.
The balance sheet must follow the following formula:
Assets = Liabilities + Shareholders' Equity
• A balance sheet, also known as a "statement of financial position", reveals a company's assets, liabilities and owners' equity (net worth). The balance sheet, together with the income statement and cash flow statement, make up the cornerstone of any company's financial statements.
How the balance sheet works
• If you are a shareholder of a company, it is important that you understand how the balance sheet is structured, how to analyze it and how to read it.
• The balance sheet is divided into two parts that, based on the following equation, must equal (or balance out) each other. The main formula behind balance sheets is:
• assets = liabilities + shareholders' equity
This means that assets, or the means used to operate the company, are balanced by a company's financial obligations along with the equity investment brought into the company and its retained earnings.
Assets are what a company uses to operate its business, while its liabilities and equity are two sources that support these assets. Owners' equity, referred to as shareholders' equity in a publicly traded company, is the amount of money initially invested into the company plus any retained earnings, and it represents a source of funding for the

business.
It is important to note, that a balance sheet is a snapshot of the company's financial position at a single point in time.

**• TYPES OF ASSETS :**
• **Current assets**
Current assets have a life span of one year or less, meaning they can be converted easily into cash. Such assets classes are: cash and cash equivalents, accounts receivable and inventory. Cash, the most fundamental of current assets, also includes non-restricted bank accounts and checks.
• Cash equivalents are very safe assets that can be are readily converted into cash such as US Treasuries. Accounts receivable consists of the short-term obligations owed to the company by
its clients. Companies often sell products or services to customers on credit, which then are held in this account until they are paid off by the clients.
• Lastly, inventory represents the raw materials, work-in-progress goods and the company's finished goods. Depending on the company, the exact makeup of the inventory account will differ. For example, a manufacturing firm will carry a large amount of raw materials, while a retail firm caries none. The makeup of a retailers inventory typically consists of goods purchased from manufacturers and wholesalers.
**• Non-current assets**
Non-current assets, are those assets that are not turned into cash easily, expected to be turned into cash within a year and/or have a life-span of over a year. They can refer to tangible assets
such as machinery, computers, buildings and land.
• Non-current assets also can be intangible assets, such as goodwill, patents or copyright. While
these assets are not physical in nature, they are often the resources that can make or break a company - the value of a brand name, for instance, should not be underestimated.
• Depreciation is calculated and deducted from most of these assets, which represents the economic cost of the asset over its useful life.

## 4.5 Taxes

The money that you have to pay to the government so that it can provide public services
It is a charge or burden laid upon persons or the property for the support of a Government. Government decided the rates and the items on which **tax** will be charged, like income **tax**, GST, etc. **Tax** can be defined in very **simple words** as the government's revenue or source of income.

**Taxes in India are of two types**

Be it an individual or any business/organization, all have to pay the respective taxes in various forms. These taxes are further subcategorized into direct and indirect taxes depending on the manner in which they are paid to the taxation authorities. Let us delve deeper into both types of tax in detail:

**Direct Tax**

- The definition of direct tax is hidden in its name which implies that this tax is paid directly to the government by the taxpayer
- The general examples of this type of tax in India are Income Tax and Wealth Tax.
- From the government's perspective, estimating tax earnings from direct taxes is relatively easy as it bears a direct correlation to the income or wealth of the registered taxpayers.

**Indirect Tax**

- Indirect taxes are slightly different from direct taxes and the collection method is also a bit different. These taxes are consumption-based that are applied to goods or services when they are bought and sold.
- The indirect tax payment is received by the government from the seller of goods/services.
- The seller, in turn, passes the tax on to the end-user i.e. buyer of the good/service.
- Thus the name indirect tax as the end-user of the good/service does not pay the tax directly to the government.
- Some general examples of indirect tax include sales tax, Goods and Services Tax (GST), Value Added Tax (VAT), etc.

**Proportional Tax**

A proportional tax is an income tax system that levies the same percentage tax to everyone regardless of income. A proportional tax is the same for low, middle, and high-income taxpayers. Proportional taxes are sometimes referred to as flat taxes.

In contrast, a progressive tax or marginal tax system adjusts tax rates progressively by income. Low-income earners are taxed at a lower rate than high-income earners.

**KEY TAKEAWAYS**

- A proportional tax system, also referred to as a flat tax system, assesses the same tax rate on everyone regardless of income or wealth.
- Proportional taxation is intended to create greater equality between marginal tax rates and average tax rates paid.
- Proponents of proportional taxes believe they stimulate the economy by encouraging people to spend more and work more because there is no tax penalty for earning more.

**Example of Proportional Taxes**

In a proportional tax system, all taxpayers are required to pay the same percentage of their income in taxes. For example, if the rate is set at 20%, a taxpayer earning $10,000 pays $2,000 and a taxpayer earning $50,000 pays $10,000. Similarly, a person earning $1 million pay $200,00

**Progressive Tax**

A **progressive tax** is a **tax** in which the **tax** rate increases as the taxable amount increases. The term **progressive** refers to the way the **tax** rate progresses from low to high, with the result that a taxpayer's average **tax** rate is less than the person's marginal **tax** rate.ould
pay $200,00

## Customs duty Tax

**Customs duty** refers to the **tax** imposed on goods when they are transported across international borders. In simple terms, it is the **tax** that is levied on **import** and export of goods. The government uses this **duty** to raise its revenues, safeguard domestic industries, and regulate movement of goods.

'Customs Duty' refers to the tax imposed on the goods when they are transported across the international borders. The objective behind levying customs duty is to safeguard each nation's economy, jobs, environment, residents, etc., by regulating the movement of goods, especially prohibited and restrictive goods, in and out of any country.

## Income tax

**Income tax** is a direct **tax** that a government levies on the **income** of its citizens.

... **Income** does not only **mean** money earned in the form of **salary**. It also includes **income** from house property, profits from business, gains from profession (such as bonus), capital gains **income**, and '**income** from other sources'.

**Income Tax** is a **tax** you pay directly to the government basis your **income** or profit. **Income tax** is collected by the Government of India. **Taxes** are of two types - direct **tax** and indirect **tax**. Direct **tax** is the **tax** paid by you on your **income** directly to the government and is levied on profits and **income**.

Income tax in India is a direct tax on the income or earnings in a financial year. Below are some types of incomes and their taxation rules in India:

- **Income from salary/pension:** This includes basic salary, taxable allowances, perquisites, and profit in lieu of salary, as well as pension received by the person who himself/herself has retired from the service. Incomes from salary and pension are included in the computation of taxable income.
- **Income from business/profession:** This includes actual and presumptive incomes from business and professions that individuals do in their personal capacity and is added to taxable income after adjustment of the deductions allowed.
- **Income from house property:** An income tax assesses can own one or more house properties. These house properties can be self-occupied or rented out or even vacant. This head describes the rules relating to such ownership. The rules under this head describe how rent from one or more house properties is to be treated for the purpose of calculation of taxable income. It also describes how interest on home loan is to be accounted for in the case of self-occupied, rented out and vacant properties. An income tax assessee can claim certain deductions such as municipal taxes and a standard deduction for house maintenance in certain cases. The final net income or loss under this head is then added to or deducted from the income from the other heads.
- **Income from other sources:** This includes incomes like interest from a savings account, fixed deposits (FDs), family pension etc, which are included in the taxable income.

- **Income from Lottery, Betting, and Race Horse etc:** Such incomes are included in the total income, but excluded from taxable income as different tax rates are applicable on these types of income.
- **Capital Gain:** Capital gains arise at the time of selling capital assets like gold, house properties, stocks, securities, mutual fund units etc. Depending on the types of capital assets and the period of holding, gains on the sale of such assets are categorised as short-term and long-term capital gains. Although capital gains are part of income tax, they are not added to taxable income, because except short-term capital gains on the sale of debt funds, other gains are taxed at different rates.

## Service tax

**Service tax** was an indirect **tax** levied by the government on **services** offered by **service** providers. ... **Service tax** was paid to the government in exchange for different **services** received from **service** providers.

The single **GST** subsumed several taxes and levies, which **included** central excise duty, **services tax**, additional customs duty, surcharges, state-level value added **tax** and Octopi. ... **GST** is levied on all transactions such as sale, transfer, purchase, barter, lease, or import of goods and/or **services**.

**Service tax** is a type of indirect **Tax** that you are liable to pay to the government once you consume the taxable **services** offered by different **service** providers such as restaurants, cab **services**, hotels, travel agents, cable providers etc.

Service tax is a tax levied by the government on service providers on certain service transactions, but is actually borne by the customers. It is categorized under Indirect Tax and came into existence under the Finance Act, 1994.

**What is service tax?**

Service tax in India is an important form of indirect tax. The Central Board of Excise and Customs (CBEC) has the responsibility of collecting the levy in different states in India. It is not imposed in the state of Jammu and Kashmir. Currently, the rate is 10%. It is a type of indirect duty levied on particular services that are categorized as taxable services. The responsibility of paying this kind of levy lies on the service provider. This duty can't be levied on services that are not included in the specified list. Over last one or two years, the domain of service tax been broadened to include new services. The goal behind imposing service tax in India is to lower the extent of concentration of taxation on business and industry without compelling the government to find the middle ground on the revenue requirements

**Taxed Services**

Since the time of its inception in 1994-1995, only three services were liable to be taxed. From that time, the Government of India has introduced almost 100 categories under its ambit, which include the following:

Traveling agencies (road. air, and railway services)
Telecommunication
Management consultants
Architects
Credit rating agencies
Colleges, universities, and schools
Broadcasting services (television and radio)
Market research analyst
Authorized service stations
Banking and other financial services

Cargo and shipping
Export import unit
Hospitals and health care providers/services
Telegraph services
Maintenance and repair services
Storage and warehousing services
Retail stores
Franchise owner
Packaging services
Transportation of goods
Cable operators
The Traditional System of Levying Tax
• **First Point Tax** - Avoid cascading effect but Govt. loses its control on last point sales with added value – leakage of revenue due to various tax management in the subsequent sales after First Point.
• **Next Point Tax** (especially for banded goods)-Burden of tax is shifted to the next point
• **Last Point Tax-** Govt. gets revenue on value addition upto last point but loses its control on origin of
Manufacture- possibility for leakage of revenue / escaped taxation – Not popular with Govt.

## Value-added tax (VAT)

A **value-added tax** (**VAT**) is a consumption **tax** placed on a product whenever **value** is **added** at each stage of the supply chain, from production to the point of sale. The amount of **VAT** that the user pays is on the cost of the product, less any of the costs of materials used in the product that have already been taxed.
**Value-added tax** (**VAT**) is a type of indirect **tax** levied on goods and services for **value added** at every point of production or distribution cycle, starting from raw materials and going all the way to the final retail purchase. ... Because the consumer bears the entire **tax**, **VAT** is also a consumption **tax**.

**The main characteristics of value-added tax (VAT) are stated as follows:**

1. The VAT is a form of indirect taxation. It is charged on the value of imports but It is not charged on the value of exports.

It is a comprehensive tax imposed by a standard ratio at a single rate in the whole country, although some countries apply multiple ratios.

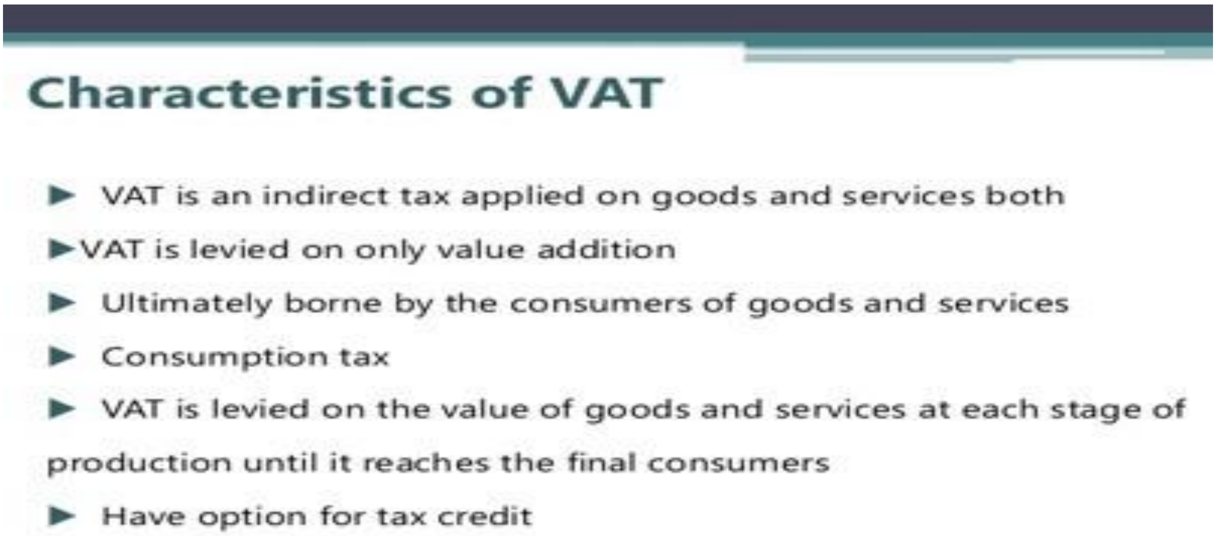
2. The VAT is a broad-based tax as it covers the value added to each commodity by a firm during all stages of production and distribution. It applies to both manufactured goods.

3. A VAT is based on a value-added principle. Value-added can be obtained either by adding payments to factors of production (i.e., wages+rent+interest+profit) or deducting the cost of inputs from sales revenue.

4. It is a substitute for sales tax, hotel tax, contract tax, and entertainment tax. It is a multipoint sales tax that helps set off for tax paid on purchases.

5. It is based on a self-assessment system and provides the facility of tax credit and tax refunds. It is a general tax levied on all goods and services, whether they are manufactured locally or imported.

6. It avoids cascading effect existed in sales tax and contains a catch-up effect. It is a tax that involves the state taking part in its issuance, in the context of its financial policy, to stimulate investment and attract capital.




## Goods and Services Tax

What is **GST** in India? **GST** is known as the Goods and Services **Tax**. It is an indirect **tax** which has replaced many indirect **taxes** in India such as the excise duty, VAT, services **tax**, etc.
Goods and Services **Tax** (**GST**) **GST** subsumed as many as 17 different **indirect taxes** in India like Service **Tax**, Central Excise, State VAT, and more. It is a single, comprehensive, **indirect tax** which is imposed on all the goods and services as per the **tax** slabs laid by the **GST** council.
The goods and services tax (GST) is a value-added tax levied on most goods and services sold for domestic consumption. The GST is paid by consumers, but it is remitted to the government by the businesses selling the goods and services.

KEY TAKEAWAYS

- The goods and services tax (GST) is a tax on goods and services sold domestically for consumption.
- The tax is included in the final price and paid by consumers at point of sale and passed to the government by the seller.
- The GST is a common tax used by the majority of countries globally.
- The GST is usually taxed as a single rate across a nation.

The three types of GST are
CGST or Central Goods and Services Tax,
SGST or State Goods and Services Tax,
IGST or Integrated Goods Services Tax,
UGST or Union Goods and Services Tax.

1. Financial planning deals with

A) Preparations of financial statement

B) Planning for Capital Issues

C) Preparing budgets

D) All of the above

Ans D

2. ______is concerned with procurement, allocation and control of financial resources of a firm.

A) Financial Management

B) Material Management

C) Personnel Management

D) Operation Management

Ans A

3 The company have to generate value able financial reports by compiling financial data from every department of company which includes production, Accounts, Sales, Purchase, personal, Product development and design. which of the following module shall execute this task.

A) Financial Module

B) H. R. Module

C) Production module

D) Purchase module

Ans A

4 Capital required by a company to purchase building for starting the company is called as

A) Working capital

B) Fixed capital

C) Loan

D) Dept

Ans B

5 Fixed capital is also called as

A) Tight capital

**B) Blocked capital**

C) Working capital

D) Current capital

Ans B

6 _______ can be defined as goods or cash used (invested) to generate income from business or property (that can give income)

A) Finance

**B) Capital**

C) Budget

D) VAT

Ans B

7. The capital invested in assets which cannot be easily converted into money is called:

**A) Fixed capital**

B) Rquity capital

C) Working capital

D) None of the above

Ans A

8 . Even through permanent working capital is working capital but it’s nature is ______ for every year or month.

A) Temporary

B) Permanent

C) Variable

D) Increasing basis

Ans D

9 Fixed capital is required for

A. Land

B. Equipment and machinery

C. Building

D. All

Ans D

10 Sources of working capital

A. Land

B. Dividends

C. Long term borrowings

D. B & C

Ans D

11 The sum that every shareholder gets is known as________

A) Amount

B) Dividend

C) Shares

D) Capital

Ans B

12 Which of the following is a false statement?

A) Capital is required to start the business

B) Capital is required to run the business

C) Capital is required to expand the business

D) Capital is required to sell the business

Ans D

13 Capital required by a company to purchase building for staring the company is called as.

A) Working Capital

**B) Fixed captital**

C) Laon

D) Debt

Ans B

14 Variance report is the difference between outcome of the company

A) Material cost and labor cost

**B) Planned budget and actual budget**

C) Cash budget and fixed budget

D) Purchased budget and overhead budget

Ans B

15.________ is prepared to co-ordinate between various budget

**A) Master budget**

B) Sales budget

C) Production budget

D) Material budget

Ans A

16.______ department floats enquiries and processes quotations

A) Sales budget

**B) Purchase**

C) Production

D) Inventory

Ans B

17 Net profit is computed in the

A) Profit and loss account

B) Balance sheet

C) Trial balance

D) Trading account

Answer: A

18 Which of these best explains fixed assets?

A) Are bought to be used in the business

B) Are expensive items bought for the business

C) Are items which will not wear out quickly

D) Are of long life and are not purchased specifically for resale

Answer: D

19 The charges of placing commodities into a saleable condition should be charged to

A) Trading account

B) P & L a/c

C) Balance Sheet

D) None of the above

Answer: B

20 At the balance sheet date, the balance on the Accumulated Provision for Depreciation Account is

A) Transferred to Depreciation Account

B) Transferred to the Asset Account

C) Transferred to Profit and Loss Account

D) Simply deducted from the asset in the Balance Sheet

Answer: D

21 Business is said to be in a profit when

A) Expenditure exceeds income

B) Income exceeds expenditure

C) Income exceeds liability

D) Assets exceed expenditure

Answer: B

22 What does the term “credit” mean in business?

A) It depends upon items

B) Provides benefits

C) It has no effect on business

D) Receiving benefits

Answer: D

23 When a Liability is decreased or reduced, it is registered on the

A) Debit side or left side of the account

B) Credit side or right side of the account

C) Debit side or right side of the account

D) Credit side or left side of the account

Answer: A

24 When there is an increase in capital by an amount, it is registered on the

A) Credit or right side of the account

B) Debit or left side of the account

C) Credit or left side of the account

D) Debit or right side of the account

Answer: A

25 Which option gives a review report on the firm's financial status at a specified date?

A) Income & Expenditure Account

B) Balance Sheet

C) Cash Flow Statement

D) Profit & Loss Account

Answer: B

26 Inventories, cash and equivalents, and accounts receivables are listed as

A) Earnings on Income Statement

B) Payments on Income Statement

C) Assets on the Balance Sheet

D) Liabilities on the Balance Sheet

Answer: C

27 Which of the following is not a current asset?

A) Supplies

B) Land

C) Accounts Receivable

D) Prepaid Insurance

Answer: B

28The Accounting equation is Asset = Liabilities +................

A) Capital

B) Current Asset

C) Total Expense

D) Equity

Answer: D

29 Net Incomes = Income -.............

A) Profit

B) Losses

C) Expenses

D) Revenue

Answer: C

30. Assets - liability =?

A) Profit

B) Working Capital

C) Capital

D) Long term Liability

Answer: C

31 The Accounting equation shows on a Company?

A) Trial Balance

B) Cost Sheet

C) Final Account

D) Balance Sheet

Answer: D

32 A Master budget consist

A) Sale Budget

B) Production Budget

C) Material Budget

D) All of the above

Answer: D

33 Which Financial statement displays the revenue and expense of a company for a period of time?

A) Income Statement

B) Balance sheet

C) Cash flow statement

D) Statement of Stockholder's Equity

Answer: A

34 VAT and sales tax falls under __________
A) Indirect tax
B) Service tax
C) Direct tax
D) All of the above

Answer: A

35 Value added tax (VAT) is a tax on?
A) An employee earning
B) The organization profits
C) The investment earnings
D) Good and services

Answer: D

36 Internal source/s of finance is/are:
A) Deferred taxation
B) Shares
C) Debentures
D) All of the above

Answer: D

37 Indirect tax includes-

A) Excise Duty Custom Duty and VAT

B) Income tax

C) Wealth tax

D) Gift tax

Answer: A

38 Income tax and property tax falls under
A) Indirect Tax
B) Service Tax

C) Direct Tax

D) All of the above

Answer: C

39 Income tax and property tax falls under
A) Indirect tax
B) Service tax
C) Direct tax
D) All of the above

Answer: C

40_______ is the type of indirect tax levied on goods imported into india as well as on goods exported from India
A) Income tax
B) Customs duty
C)Wealth tax
D) Gift tax

Answer: B

41 What is the full form of GST?

A) Goods and Supply Tax

B) Goods and Services Tax

C) General Sales Tax

D) Government Sales Tax

Answer: B

42 Which of the following "tax" is levied at every stage of production?

(A) VAT

(B) Income tax

(C) Custom duty

(D) None of the above

Ans. A

43 Which of the following is indirect tax?

(A) Income tax

(B) Wealth tax

(C) Corporation tax

(D) Sales tax

Ans. D

44 Which of the following tax will be abolished by the Goods and Services Tax.

(A) Property tax

(B) Corporation tax

(C) VAT

(D) All of the above

Ans. C

45 If 'Tata Company' imports a product from abroad, then which tax will be levied on it?

(A) VAT

(B) Custom duty

(C) Income tax

(D) Corporation tax

Ans. B

46 Which of the following is not imposed by the Central Government?

(A) Agricultural tax

(B) Corporation tax

(C) Custom duty

(D) Sales tax

Ans. A

47 Income tax is the most important source of revenue in India. Income tax is

a) Direct and proportional

b) Indirect and proportional

c) Direct and progressive

d) Indirect and progressive

Answer : c

48 Consider the following taxes:

1. Corporation tax
2. Customs duty
3. Wealth tax
4. Excise duty

Which of the above is/are indirect taxes?

a) 1 only

b) 2 and 4

c) 1 and 3

d) 1, 2, and 3

Answer: b

49 The company have to generate valuable financial reports by compiling financial data from every department of company which includes Production, Accounts, Sales, Purchase, Personnel, Product development and design.
Which of the following module shall execute this taska?
a. Financial module.
b. H.R. module.
c. Production module.
d. Purchase module.

Answer: a

50 Financial planning deals with:

A) Preparation of financial statement
B) Planning for capital issues
C) Preparing budgets
D) All of above

Answer: D

51__________is concerned with procurement, allocation and control of financial resources of a firm.
A) Financial management
B) Material management
C) Personnel management

D) Operation management

Answer: A

52 Which of the following comes under the title of “sources of fixed capitals”?
a. Shares of equities.
b. Preferences shares and deferred shares.
c. Public deposits and debentures.
d. All of above

Answer: d

53 ___________ can be defined as goods or cashed used (invested) to generate income from business or property (that can give income).
a. Finance.
b. Capital.
c. Budget.
d. VAT

Answer: b

54 In finance, “working capital” means the same thing as
a. Total assets
b. Fixed assets
c. Current assets
d. Current assets minus current liabilities

Answer: d

55 fixed capital is required for

A) land

B) Equipment and machinery

C) Building

D) All

Answer: D

56 The planning process is used to prepare ______ in an organization.
A) Advancement
B) Technologies
C) Discoveries
D) Budgets

Answer: D

56 Which of the following Input data are needed for material resource planning,1) Master Production Schedule 2) Bill of material 3) Inventory Record 4) Machine capacity 5) Owner of company

(A) 1, 2 , 4,5

(B) 2, 3 ,4,5

(C) 1, 2 & 3

(D) 1, 3, 4,5

Ans c
57 Which is input to MRP?
A) Current forecasting
B) Bill of material
C) On hand inventory
D) All of the above

Answer: D

58 Which is part of material management

A) Inventory Management

B) Marketing Management

C) Both A & B

D) None

Answer: A

59 Which of the followings are the aims of material management ?
A) Continuity of supply
B) Low payroll cost

C) Higher inventory turn over
D) All of the above

Answer: A

60 Inventory management is part of:
A) Product management
B) Marketing management
C) **Material management**
D) Sales management

Answer: C

61 Too little Inventory increases the risc of:
A) **Out of stock condition**
B) More stock
C) Theft
D) Can't Predict

Answer: A

62 _____Determine quality and timing for material planning
A) **EOQ**
B) ERP
C) SAP
D) MRP

Answer: A

63 The _________ provide the information about when to order and how much to order.
A) MRP
B) ERP
C) **EOQ**
D) Inventory

Answer: C

64 While on a long tour, which are the itmes we take most care of? Certainly, it is the jewerly and the cash ..... this could be an analogy to :
A) EOQ
B) **ABC Analysis**
C) Minimum batch demand
D) None

Answer: B

65 Which of the following is advantages of ABC Analysis _____________.
A) **ABC analysis results in reduction of annual inventory cost.**

B) ABC analysis does not give importance which are critical for production.
C) Cannot be used if some of the items are scarce and not readily available.
D) All

Answer: A

66 Even through permanent working capital is working capital but its nature is _____ for every year or month.
A) Temporary
B) Permanent
C) Variable
D) Increasing basis

Answer: D

65 Match the accounts A,B,C,D with 1,2,3,4 A)Creditor B) Debtor C)Ledger Posting D)Transactions1) is a person (or a firm) who owes money to others 2)an exchange of things or services between the two parties 3)This act of recording transactions of journal in the ledger 4)is a person who supplies finance to other

(A) A-2 B-1 C-3 D-4

(B) A-3 B-2 C-4 D-1

(C) A-4 B-1 C-3 D-2

(D) None of the above

Ans c

67 List the module of ERP
A. Human resources
B. Purchase
C. Finance and accounting
D. All of the above

Answer: D

68 _______ can be defined as an integrated information system that serves all departments within an enterprise.
A) MRP
B) MPR
C) ERP
D) EPR

Answer: C

69 “A” type of items has _____ importance due to consumption

A) 10-20%
B) 15-25%
C) 40-50%
**D) 70-80%**

Answer: D

70 Pareto's law is related to ________ placement theory.
A. Item stratification
B. Special consideration
C. Family grouping
**D. Inventory stratification**

Answer: D

71 The objective of maximising ______ conflicts with minimising _______ in inventory.
**A. Purchase, investment**
B. Production, cost-efficiency
C. Profit, negative cash flow
D. Storage capacity, loss

Answer: A

72 Reorder point = ______ + ______
**A. Lead time demand, safety stock**
B. Forecasted daily unit sale, lead time
C. Reorder point, lead time demand
D. Safety level of stock, demand per day

Answer: A

73 Inventory carrying costs consists of _______ and ______.
A. Shipping cost, storage cost
B. Handling cost, storage space cost
C. Vendor cost, physical management cost
**D. Storage cost, physical management cost**

Answer: D

74 Identify the two components that make up the EOQ equation.
A. Order cost, setup cost
B. Quality cost, setup cost
**C. Annual usage, carrying cost**
D. Quality cost, annual usage

Answer: C

75 Which of the following is not an inventory?

a. Machines
b. Raw material
c. Finished products
d. Consumable tools

Ans :A

76  The correct sequence of procedure for purchase of material

(A) Recognition of need, Selection of source of supply, Inviting quotations, Analysis of quotations:

(B) Recognition of need ,Selection of source of supply, Analysis of quotations, Inviting quotations

(C) Selection of source of supply, Recognition of need, Inviting quotations, Analysis of quotations:

(D) Recognition of need, Inviting quotations, Analysis of quotations, Selection of source of supply

Ans  A

76 The cost of insurance and taxes are included in

a. Cost of ordering
b. Set up cost
c. Inventory carrying cost
d. Cost of shortages

(Ans:c)

77 Buffer stock' is the level of stock

a. Half of the actual stock
b. At which the ordering process should start
c. Minimum stock level below which actual stock should not fall

d. Maximum stock in inventory

(Ans:c)

78 Re-ordering level is calculated as

a. Maximum consumption rate x Maximum re-order period

b. Minimum consumption rate x Minimum re-order period

c. Maximum consumption rate x Minimum re-order period

d. Minimum consumption rate x Maximum re-order period

(Ans:a)

79 The order cost per order of an inventory is Rs. 400 with an annual carrying cost of Rs. 10 per unit. The Economic Order Quantity (EOQ) for an annual demand of 2000 units is

a. 400

b. 440

c. 480

d. 500

(Ans:a)

80 Which of the following statements about ABC analysis is false?

a. ABC analysis is based on the presumption that controlling the few most important items produces the vast majority of inventory savings.

b. In ABC analysis, "A" Items are tightly controlled, have accurate records, and receive regular review by major decision makers.

c. ABC analysis is based on the presumption that all items must be tightly controlled to produce important cost savings.

d. In ABC analysis, "C" Items have minimal records, periodic review, and simple controls

Ans. C

81 ABC analysis deals with_______________?

A. analysis of process chart

B. flow of material

C. ordering schedule of job

D. controlling inventory costs money

E. all of the above

Ans. E

82 Which is not a part of 5R's of buying?

a. Right Quality

b. Right Quantity

c. Right Source

d None of the above

Ans. D

83 _________ also called part lists or building lists is the document generated at the design stage.

a. MRP (Material Requirement Planning)

b. BOM (Bill of Materials)

c. MPS (Master Production Schedule)

d. None of the above

Ans. B

84 The first activity of Purchasing cycle is ___________

a. Communicating requirement to the purchase

b. Source Selection and development

c. Recognizing the need for procurement

d. Inspection of goods

Ans. C

85 ________ is the task of buying goods of the right quality, in the right quantities, at

the right time and at the right price.

a. Supplying

b. Purchasing

c. Scrutinizing

d. None of the above

Ans. B

86Which of the following is the way in which an IoT device is associated with data?

A)Internet

B) Cloud
C) Automata
D) Network

Ans. B

87 What is the full form of the LPWAN?

A) Low Protocol Wide Area Network
B) Low Power Wide Area Network
C) Long Protocol Wide Area Network
D) D)Long Power Wide Area Network

Ans. B

88 What is the main purpose of WoT (Web of Things) in the IoT?

A) Improve the usability and interoperability
B) Reduce the security
C) Complex the development
D) Increase the cost

Ans. B

89 Match 1,2,3, with A,B,C, 1) Duration 2) Critical Path 3) Event A) Longest sequence of tasks that must be completed to successfully conclude a project, from start to finish. B) Is the estimated or actual time required to complete a task or an activity? C) The

beginning and end points of an activity

(A) 1-B, 2-A, 3-C

(B) 1-A, 2-B, 3-C

(C) 1-B, 2-C, 3-A

(D) None of the above

Ans A

90 The sequence of a sales process is

(A) Lead generation, call presentation and sale

(B) Sale, presentation, lead generation, sale and call

(C) Presentation, lead generation, sale and call

(D) Lead generation, call, sale and presentation

Ans A

91 Match 1,2,3 with A,B,C 1) Marketing is the art of 2) Role of Advertising 3) PERT & CPM are A) Network analysis techniques B) Creates Demand & to increase customer C) Selling more

(A) 1-B,2-A ,3-C

(B) 1-C,2-A,3-B

(C) 1-C,2-B,3-A

(D) None of the above

Ans c