# SYLLABUS
## Class – B.Com I Year
## Subject: Cost Accounting

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| Unit 2 | Material Costing: Procurement of materials, Inventory Management and Control, Inventory Accounting Cost price method LIFO, FIFO, HIFO, Áverage cost method, Inflated price method, Physical Verification, Slow and Non-moving Stock and Treatment of Losses. Scrap, Spoilage, Defective and Normal-Abnormal Wastage. |
| Unit 3 | Labour costing: Accounting and control of labour cost, Time Keeping, Time Booking and Payroll, Overtime, Idle Time, Labour Turnovers and Fringe Benefits, Employee Cost Reporting, Methods of Wage Payments and Incentives Schemes - Halsey, Rowan, Taylor. |
| Unit 4 | Overhead Expenses and Unit Costing: Classification allocation and absorption of Overhead Expenses, Under and Over Absorption, Capacity Level of Cost, treatment of certain items in costing like Interest on Capital, Packaging Expenses, Bad Debts, Research and Development Expenses, Calculation of unit costing and preparation of Cost Sheet, Job Costing. |
| Unit 5 | Contract Costing: Contract Costing, Sub Contract Costing, Process Costing (excluding Process Losses), Joint and By-products. |
| Unit 6 | Operating Cost Accounting: Transportation and hotel service costing, Integral and Non-Integral Cost Accounting, Reconciliation of cost accounting records with financial accounts. |

# Unit I

## Principle of Best Utilization of Resources in Ancient Indian Tradition

The principle of resource utilization has been deeply ingrained in ancient Indian philosophy and economic systems. Ancient Indian texts, like the ***Arthashastra by Kautilya (Chanakya***) and the ***Manusmriti***, highlighted the importance of effective resource management. The following are key aspects of resource utilization in ancient Indian tradition:

1. **Sustainable Use of Resources**:

Ancient Indian culture emphasized a sustainable and balanced approach to resource use.

For example, the concept of "Dharma" (moral law) and "Artha" (prosperity) promoted using resources responsibly, ensuring that the needs of the present did not jeopardize future generations.

2. **Agriculture as the Backbone of Economy**:

Agriculture was central to the ancient Indian economy, with sustainable practices being crucial for optimal resource use. The ancient texts also recommended the prudent use of water, land, and labor in agriculture.

3. **Diversity of Resources**:

The emphasis was placed on diversification rather than over-reliance on a single resource. The system of trade (internal and external), such as through the Silk Route, indicated that multiple resources (textiles, spices, metals) were managed in a way to optimize their use for a diverse economy

4. **Efficient Labor Allocation:**

Ancient Indian texts also suggested ensuring that human resources (labor) were used effectively. This includes concepts from Kautilya's Arthashastra, which discussed the effective organization of labor forces and the allocation of human resources to appropriate sectors (agriculture, trade, administration).

5. **Role of the State in Resource Management**:

In ancient India, the state played a key role in overseeing and managing resources for the common good. Taxes were levied on various resources, including land, produce, and trade goods, and the proceeds were used for public welfare and infrastructure.

## Product Costing in Ancient Business and Economic Models

Ancient India had a highly sophisticated economic system with an early form of product costing that took into account not just material costs, but also the value of labor, taxes, and time.

1. **Cost of Production**:

The Arthashastra outlined methods to calculate the cost of production in the context of goods like textiles, metalwork, and agricultural produce. It considered factors such as:

- **Labor Costs**: The cost of skilled labor in different industries.
- **Material Costs**: Raw materials like cotton, spices, metals, and gems were priced based on availability and quality.
- **Operational Costs**: Costs of tools, machinery, and basic infrastructure.
- **Transport and Handling**: Given the vast geographical expanse of ancient Indian trade routes, transportation (both land and maritime) formed a key element in the costing model.
- **Taxes and Levies**: In the ancient system, businesses also had to factor in the royal tax (called "Bhaga") and other governmental charges.

2. **Trade and Market Pricing:**

The ancient markets had mechanisms in place for determining fair prices based on supply and demand, which could also be considered a form of product costing. Merchants followed guidelines that balanced the cost of resources, overheads, and profits, as seen in the "Vyavahara" (business practices) mentioned in the Manusmriti.

3. **Barter and Non-Monetary Systems**:

The practice of barter in ancient India meant that costs were often calculated in terms of goods exchanged rather than currency. However, the value of goods and services was understood based on their utility, rarity, and demand.

## Relationship between Business Ethics and Cost Control

In ancient Indian economic systems, there was a strong emphasis on business ethics and its relationship with cost control. Several key concepts can be outlined:

1. **Honesty and Fairness in Transactions**:

Ancient Indian texts, such as the Arthashastra, suggest that honesty in transactions was a fundamental principle. Merchants and traders were expected to maintain transparency in pricing, avoid overcharging, and ensure that goods sold were of good quality. Ethical conduct in business helped control costs by eliminating wasteful practices, fraud, and exploitation.

2. **Avoidance of Greed:**

Business ethics in ancient India also emphasized non-greed. Greed was seen as a negative force that could lead to the exploitation of workers and consumers, disrupting the balance of supply and demand. Kautilya argued that a wise king (or ruler) should ensure that businesses operate with fair margins and that high profits are not made at the expense of workers or consumers.

3. **Fair Wage Systems:**

The concept of fair wages in ancient India, especially in the context of artisans and laborers, was critical to controlling labor costs in a fair and ethical manner. The Arthashastra even mentions the need for regulating wages and creating standards to prevent the exploitation of workers in certain industries, which in turn helped businesses maintain ethical cost controls.

4. **Corporate Social Responsibility (CSR):**

In a way, the ancient Indian economic model embraced the idea of corporate social responsibility long before it became a modern-day concept. Merchants and kings were encouraged to ensure that their businesses contributed positively to society, from sponsoring religious and educational institutions to ensuring that basic needs like food and health were met for their workers.

5. **Efficiency and Waste Reduction**:

Ethical business practices also focused on efficient production and cost control by reducing waste, both in terms of material and human resources. The management of surplus resources, as seen in ancient texts, suggested reinvesting profits into the business or community, maintaining a balance between accumulation of wealth and its ethical utilization.

6. **Environmental Considerations:**

Ancient India's business ethics also involved respect for nature, which contributed to controlling costs over time. Ancient texts emphasized not over-exploiting natural resources, which ensured that production could be sustained without depleting resources, thus making businesses more resilient in the long term.

# COST ACCOUNTING-AN INTRODUCTION

**Introduction**:-

Cost accounting is the branch of accounting. It has been developed due to the limitations of financial accounting. In these days of cut throat competition, it is vitual that a business concern should conduct its activities with the least chance of being kicked out of business. Those concerns which don't take such precautions and which dnt try to continuously improve, their products and service and bring down cost and prices will sooner or later find themselves out of business. Cost accounting plays a big role in the case.

**Costing - terminology**

Costing relates to the determination of cost of a product manufactured or service rendered. In order to ascertain cost, it involves system, methods and techniques of accumulation, classification and analysis of cost.

**Cost Accounting**: - "The process of accounting for cost from the point at which expenditure is incurred or committed to the establishment of its ultimate relationship with cost centres and cost units. The term 'cost Accountancy' includes

- Costing
- Cost Accounting.
  Its purposes are
  (i) Cost control,
  (ii) Profitability-ascertainment and serves as an essential tool of the management for decision-making.

**Cost Centre**

Cost Centre is defined as "a location or person or place or machine or item of equipment or thing for which cost can be ascertained and used for the purpose of cost control." Cost centre can be classified as:

1. Process cost centre is one in which a specific process or a continuous sequence of operations is carried out on a regular basis.

2. Production cost centre is one in which production activity is carried where the shape of raw material is converted into a finished product.

3. Service cost centre are those which render services to the other cost centres. For examples a maintenance & repair department, store department etc.

4. Impersonal cost centre is one which consists of a location or item of equipment (or group of these).

5. Personal cost centre is one which consists of a person or group of persons.

6. Operation cost centre is one which consists of those machines and/or persons carrying out similar operations.

**Profit Centre**

It means a centre responsible for adopting ways and avenues to earn maximum possible profit on a product or any other activity of business, by making market surveys, suggests localities for publicity, helps to formulate sales policies and suggests to add more values to the product at the same or cheaper costs.

## NATURE AND CHARACTERISTICS OF COST ACCOUNTING

a) Cost accounting is a special branch of accounting having its own specific significance based on double entry system.
b) It ascertains cost of products and services through the process of accumulation, classification, analysis and recording.
c) It determines the cost of incomplete work or job.
d) The extensive use of this system involves application of statistical data, control methods & techniques and determining profitability.
e) This system provides measures for control and guidance for various levels of management.
f) Helpful in decision making process.

## SCOPE OF COST ACCOUNTING

1. Analysis of the profitability of product, service, job or activities.

2. Analysis of profitability of various departments of segments of the organization.

3. Analysis of the type and nature of cost.

4. Explanation of the causes of variances between actual cost and standard cost.

5. Helpful in determination of selling price.

6. Analysis of the change in profit as per the change in level of production.

7. Analysis of the profit or loss of the organization.

8. Assist in management information system.

9. Provides basis for the application of techniques of management accounting.

10. Helpful for manufacturing and service rendering organization.

## Difference between cost accounting and financial accounting

| Aspect | Cost Accounting | Financial Accounting |
|---|---|---|
| **Primary Purpose** | To track, control, and manage costs within the organization. | To provide an accurate financial picture of the organization to external parties. |
| **Users** | Internal users (management, department heads, and employees). | External users (investors, creditors, regulatory bodies, and tax authorities). |
| **Scope** | Detailed, specific to products, processes, or departments. | Broad and aggregate, covering the entire organization. |
| **Focus** | Cost determination, cost control, and performance evaluation. | Financial performance (profits, revenues) and financial position (assets, liabilities). |
| **Reports Produced** | Cost sheets, job order costing, process costing reports, break-even analysis, etc. | Financial statements: Balance Sheet, Income Statement (Profit & Loss), Cash Flow Statement. |
| **Time Frame** | Real-time or specific to the current period for decision-making. | Historical, typically annual or quarterly financial results. |
| **Regulation** | Not mandatory or regulated externally, flexible reporting. | Must comply with external standards (GAAP, IFRS) and is audited. |
| **Nature of Information** | Quantitative cost data (e.g., raw materials, labor costs, overheads). | Quantitative financial data (e.g., revenue, expenses, assets, liabilities). |
| **Flexibility** | Flexible and customizable based on business needs and management preferences. | Standardized format, fixed |

## FUNDAMENTAL PRINCIPLES OF COSTING

1. Cost is related to its cause.

2. Cost is charged after it is incurred.

3. Abnormal costs are excluded from costing.

4. Past costs are not charged to future periods.

5. The concept of conservatism has no place in costing.

6. Accounting for cost is based on Double-entry Principle.

## OBJECTS AND FUNCTIONS OF COST ACCOUNTING

i. To ascertain the cost per unit of the different products manufactured by a business
ii. concern.
iii. To advise management on future expansion policies and proposed capital projects.
iv. To organize the internal audit system to ensure effective working of different departments.
v. To help in supervising the working of punched card accounting or data processing through computers.
vi. Provide useful data to the management for taking decisions.
vii. To find out costing profit or loss by identifying with revenues the cost of those products or services To provide specialized services of cost audit in order to prevent the errors and frauds and to facilitate prompt and reliable information to the management.
viii. To organize cost reduction programmes with the help of different departmental managers.
ix. To provide requisite data and serves as a guide to price fixing of products manufactured or services rendered.
x. To help in the preparation of budgets and implementation of budgetary control.
xi. To guide management in the formulation and implementation of incentive bonus plans based on productivity and cost savings.
xii. To supply useful data to the management to take various financial decisions such as introduction of new products, replacement of labour by machine etc.
xiii. To organize an effective information system so that different levels of management may get required information at the right time in right form for carrying out their individual responsibilities in an efficient manner.

## ADVANTAGES OF COST ACCOUNTING

### A. To the Management

1) Action against unprofitable Activities
2) Facilities Decision Making
3) Inventory Control
4) Budgetary Control
5) Facilitation cost control
6) Prevents Fraud
7) Tool of Management Control
8) Measuring rods

9) Future Prospects

**B. To the Employees**

1) Sound Wage Policy
2) Security of Job
3) Distinction between Efficient and Inefficient Workers

**C. To the Creditors**

Bankers, creditors, investors etc., can have a better understanding of the firm as regard the process and prosperity, before they offer financial leading.

**D. To the Government**

1) For government wage tribunals, for deciding the state subsidy to industry.
2) In the preparation of national plans, economic development etc.
3) Cost audit is important and industries have to keep books of ac materials, labour and other costs.

**E. To the Public**

1) Removes all types of wast ages and inefficiencies.
2) Facilities the customers to pay fair price.
3) Development and prosperity of industries will create employment opportunities.

## Cost accounting Standards

Below are the list of cost accounting standard with CAS No., Title Effective Date and (for the period commencing from)

a) CAS 1 (Revised 2015) Classification of Cost 1st April 2015
b) CAS 2 (Revised 2024) Capacity Determination 1st April 2024
c) CAS 3 (Revised 2015) Production and Operation Overheads 1st April 2016
d) CAS 4 (Revised 2018) Cost of Production / Acquisition / Supply of Goods / Provision of Services 1st March 2019
e) CAS 5 Average (Equalized) Cost of Transportation 1st April 2010
f) CAS 6 Material Cost 1st April 2017
g) CAS 7 Employee Cost 1st April 2017
h) CAS 8 Cost of Utilities 1st April 2017
i) CAS 9 Packing Material Cost 1st April 2017
j) CAS 10 Direct Expenses 1st April 2017

k) CAS 11 Administrative Overheads 1st April 2017
l) CAS 12 Repairs and Maintenance Cost 1st April 2017
m) CAS 13 Cost of Service Cost Centre 1st April 2017
n) CAS 14 Pollution Control Cost 1st April 2017
o) CAS 15 Selling and Distribution Overheads 1st April 2013
p) CAS 16 Depreciation and Amortisation 1st April 2017
q) CAS 17 Interest and Financing Charges 1st April 2017
r) CAS 18 Research and Development Costs 1st April 2014
s) CAS 19 Joint Costs 1st April 2014
t) CAS 20 Royalty and Technical Know-How Fee 1st April 2017
u) CAS 21 Quality Control 1st April 2017
v) CAS 22 Manufacturing Cost 1st April 2017
w) CAS 23 Overburden Removal Cost 1st April 2017
x) CAS 24 Treatment of Revenue in Cost Statements 1st April 2017

## Costing Records and Accounting Auditing Rules

**Costing records** refer to the documentation and systemized records related to the costs of production, operations, and services. These records include details of costs incurred for materials, labor, overheads, etc., at every stage of production or service delivery. **Costing records** help in calculating the **cost of goods sold (COGS)**, **marginal cost**, **break-even analysis**, and **profitability**.

**Objectives of Maintaining Cost Records:**

- **Cost Control**: To ensure that production costs remain within budgeted limits.
- **Price Determination**: Helps in determining the prices of products or services by assessing the total cost.
- **Profitability Analysis**: Identifies areas where a company is losing money and helps in taking corrective measures.
- **Regulatory Compliance**: Ensures that the company complies with **legal requirements** regarding cost records and audits.
- **Decision-Making**: Assists management in making strategic decisions related to production, pricing, and expansion.

**Costing Records in Different Industries:**

- **Manufacturing Industry**: In manufacturing, **direct materials**, **direct labor**, and **factory overheads** are recorded.

- **Service Industry**: In services, cost records focus on **labor** and **overhead costs** associated with providing the service.

**Structure of Cost Records:**

1. **Material Cost Records**: Include purchases, consumption, wastage, and inventories.
2. **Labor Cost Records**: Track employee wages, salaries, and any other labor-related costs.
3. **Overhead Cost Records**: Record indirect costs like utilities, factory maintenance, and management salaries.
4. **Capital Expenditure Records**: Track expenditures on long-term assets such as equipment and machinery.

## Cost Accounting Records Rules (CARR)

The **Cost Accounting Records Rules** (CARR) were notified by the Ministry of Corporate Affairs (MCA) in 2014. These rules are intended for maintaining detailed cost records for various industries and ensure that cost-related data is **accurate, consistent**, and **compliant with statutory requirements**.

**Key Features of CARR 2014:**

1. **Applicability**:
   - These rules are applicable to specific industries, including manufacturing, power generation, chemical production, and others.
   - The industries that are required to maintain cost records include:
     - **Pharmaceuticals**
     - **Cement**
     - **Steel**
     - **Power generation**
     - **Fertilizers**
     - **Textiles**
   - The applicability depends on factors such as **turnover** and **capital investment**.
2. **Maintenance of Cost Records**:
   - Businesses are required to maintain **cost records** that give a clear breakdown of costs incurred at different stages of production.
   - These records should be maintained in a **prescribed format** and should be kept for **at least eight years** from the end of the financial year in which the records were generated.
3. **Formulation of Cost Statements**:
   - Businesses must prepare **cost statements** that reflect the cost of production, profit margins, and cost behavior over a period.

- The formats are prescribed and industry-specific, ensuring uniformity across similar businesses.

4. **Auditing of Cost Records**:
   - Certain companies are mandated to undergo a **cost audit**, where the cost records are verified by a **cost auditor**.
   - A detailed **cost audit report** is required to be submitted to the **Ministry of Corporate Affairs** for compliance.

## Cost Audit Rules (CAR)

**Cost Audit Rules, 2014**, govern the **audit of cost records** maintained by companies. A **cost audit** involves reviewing and verifying the accuracy of the cost records and ensuring that the company is adhering to **prescribed cost accounting practices**.

**Objective of Cost Audit:**

- To **verify the accuracy** of cost records.
- To ensure compliance with **cost accounting standards**.
- To assess the **efficiency** of the cost control mechanisms in place.
- To check the **reasonableness** of prices and profits in relation to the costs incurred.

**Key Provisions of Cost Audit Rules (CAR 2014):**

1. **Appointment of Cost Auditors**:
   - The **Board of Directors** of the company is responsible for appointing a **cost auditor** who is a member of the **Institute of Cost Accountants of India (ICAI)**.
   - The **cost auditor** should be an independent professional and must not have any conflict of interest with the company.
2. **Appointment Criteria**:

- The requirement for **cost auditing** applies to companies that:
  - Have a **turnover** exceeding **₹35 crores** in any of the financial years.
  - Are involved in **regulated industries** like power, cement, fertilizers, etc.
- The **cost auditor** must be appointed within **180 days** from the start of the financial year.

3. **Cost Audit Report**:

- The **cost auditor** must submit a **Cost Audit Report** to the **Board of Directors**.
- The report includes the **cost structure**, details of **overhead costs**, **operating profits**, and suggestions for cost control.
- The report must also include **discrepancies** (if any) between actual and budgeted costs.

4. **Submission of Report to MCA**:

- After the **Board of Directors** approves the report, it must be submitted to the **Ministry of Corporate Affairs (MCA)** within **180 days** from the end of the financial year.
- The MCA reviews these reports to ensure compliance with cost accounting standards and statutory regulations.

5. **Audit of Cost Statements**:
   - The auditor examines various cost records, such as:
     1. Material costs
     2. Labor costs
     3. Factory overheads
     4. Administrative overheads
   - **Compliance with cost standards**: Ensuring adherence to **Cost Accounting Standards (CAS)** issued by the Institute of Cost Accountants of India.
6. **Penalties for Non-Compliance**:
   - If a company fails to maintain proper cost records or undergo a cost audit, it may face penalties as per the **Companies Act** and **Cost Audit Rules**.
   - Penalties can include fines, penalties for non-compliance, and even criminal charges in extreme cases.

## Unit II

### Material Costing

Material or inventory cost control is defined as a systematic control and regulation of purchase, storage and usage of materials in such a way as to maintain an even flow of production at proper times and valued at right prices at the same time avoiding excessive investment in inventories.

Materials can be classified as under:

| Direct materials | Indirect materials | Components |
|---|---|---|
| • Wood for furniture industries<br>• sugarcane for sugar industries etc.. | • oiling<br>• stationary<br>• small spare parts etc.. | • tyres and tubes for car production |

**Objectives of Material control**

- Continuous availability of material
- No under stocking or over stocking
- Economy in purchasing
- Proper Quality
- Minimum wastage
- Information about material availability

**Inventory management**

**Inventory management** refers to the process of ordering, storing, tracking, and controlling inventory (goods and materials) within a business. It plays a crucial role in ensuring that a company has the right products in the right quantity at the right time to meet customer demand, without overstocking or understocking. Effective inventory management optimizes the flow of goods, reduces carrying costs, and enhances operational efficiency.

**Key Inventory Management Techniques**

**Just-in-Time (JIT) Inventory**:

- JIT inventory management ensures that inventory arrives just in time for production or sales, minimizing inventory levels.

- It is used to reduce storage and carrying costs and is widely implemented in industries like automotive and electronics.
- Advantages: Reduced inventory costs, increased efficiency.
- Disadvantages: Risk of stockouts, dependency on suppliers for timely deliveries.

**Economic Order Quantity (EOQ)**:

- The EOQ model calculates the optimal order quantity that minimizes total inventory costs, considering the cost of ordering and holding inventory.
- Formula:
  $EOQ = \sqrt{2DS / H}$

  Where:

  D = Demand rate (units per year)

  S = Ordering cost per order

  H = Holding cost per unit per year

- Advantages: Helps in determining the most cost-effective quantity to order.
- Disadvantages: Assumes constant demand and order costs, which may not be realistic in dynamic markets.

**ABC Analysis:**

- ABC analysis classifies inventory into three categories based on their importance:

A-items: High-value items with low frequency of sales. These require tight control and frequent reviews.

B-items: Moderate value and moderate sales frequency.

C-items: Low-value items with high frequency of sales. These are less critical and can be ordered in bulk.

- Advantages: Helps in prioritizing resources and management focus on the most critical inventory items.
- Disadvantages: May not capture all the nuances of the inventory's importance.

**First-In, First-Out (FIFO):**

- FIFO ensures that the oldest inventory items are sold first, reducing the risk of stock obsolescence and spoilage, especially in perishable goods.

- Advantages: Reduces the risk of holding obsolete inventory, ensures fresh stock.
- Disadvantages: Not always the most cost-effective when prices are rising, as older, cheaper stock is sold first.

**Last-In, First-Out (LIFO):**

- LIFO assumes that the most recent inventory items are sold first. This method is typically used in environments with rapidly changing prices.
- Advantages: Matches current costs with current revenues, potentially offering tax advantages in times of inflation.
- Disadvantages: Can result in older inventory being held longer, leading to obsolescence.

**Reorder Point (ROP)**:

- The reorder point is the inventory level at which a new order is placed to replenish stock before it runs out.
- Formula:
  ROP = Lead Time Demand =Average Daily Usage × Lead Time in Days
- Advantages: Helps prevent stockouts and ensures timely procurement.
- Disadvantages: Requires accurate forecasting and a reliable supplier.

**Safety Stock**:

- Safety stock is additional inventory kept to prevent stockouts due to demand fluctuations or supply chain delays.
- Advantages: Helps mitigate the risk of stockouts.
- Disadvantages: Increases holding costs.

## Inventory Control Systems

**Manual Inventory System**:

- Involves tracking inventory levels manually through ledgers or spreadsheets.
- Advantages: Simple and low-cost for small businesses.
- Disadvantages: Prone to human error, inefficient as the business grows.

**Barcode/RFID-Based Systems:**

- Use of barcodes or RFID (Radio Frequency Identification) tags to track inventory levels in real-time.
- Advantages: Real-time tracking, reduces human error, improves accuracy.
- Disadvantages: Initial setup cost, requires investment in technology.

**Automated Inventory Management Systems (ERP Systems)**:

- Enterprise Resource Planning (ERP) systems integrate inventory management with other business functions such as procurement, sales, and finance.
- Advantages: Real-time tracking, integrated system, better forecasting, and planning.
- Disadvantages: High implementation cost, complexity.

**Vendor-Managed Inventory (VMI):**

- In VMI, suppliers manage inventory levels at the customer's location. The supplier is responsible for replenishing the stock when it reaches a certain threshold.
- Advantages: Reduced administrative burden for the company, better supplier relationship.
- Disadvantages: Potential loss of control over stock levels and ordering processes.

**Benefits of Efficient Inventory Management**

1. Cost Savings: Reducing excess inventory and minimizing stockouts leads to lower holding and procurement costs.
2. Improved Cash Flow: Efficient inventory management ensures that capital isn't unnecessarily tied up in excess stock, allowing businesses to reinvest more effectively.
3. Increased Customer Satisfaction: By ensuring product availability, businesses enhance the customer experience and loyalty.
4. Better Operational Efficiency: Automated and well-organized inventory systems streamline warehouse operations, reduce handling time, and increase productivity.
5. Data-Driven Decisions: Real-time inventory data allows managers to make informed decisions related to ordering, stocking, and pricing strategies.

**Techniques of Inventory Control**

1. **ABC Technique**: - It is a value based system of material control where materials are classified according to their value, A, B and C, so that costly and valuable materials are given greater attention and care. 'A' items are high value items which consist of only a small percentage of total items handled and hence require tight control. 'B' items are medium value materials which should be under normal control procedures 'C' items are low value materials which represent a large number of items and require economical control procedures, and least attention.
2. **Stock Levels**: - To avoid under stocking and overstocking, maximum, minimum and reorder levels are fixed. Factors which influence stock levels are
    - Anticipated rate of consumption
    - Account of capital available

- Availability of storage space
- Storage/ warehousing cost
- Procurement cost
- Reliability of suppliers
- Minimum order quantities imposed by suppliers
- Risk of loss due to obsolescence, deterioration, evaporation and fall in market prices

## Cost price Method

It is important to know that the pricing of material directly affects the amount of profit/ loss reported during the accounting period. There is number of methods used for pricing material issues. The various methods are as follow:

### 1 . First in First Out (FIFO) Method:

**Definition**: FIFO is an inventory valuation method where the oldest inventory items are sold or used first.

**Application**: The first items purchased are the first ones sold, and the remaining items are valued at the most recent purchase costs.

**Impact**: In times of rising prices, FIFO will result in lower cost of goods sold (COGS) and higher inventory value on the balance sheet

### 2 . LIFO (Last In, First Out):

**Definition**: LIFO assumes that the most recently purchased items are sold or used first.

**Application**: The last items purchased are the first ones to be sold or used, meaning the inventory left over is valued at older costs.

**Impact:** During periods of inflation, LIFO leads to higher COGS and lower inventory value, potentially reducing taxable income.

### 3 . HIFO (Highest In, First Out):

**Definition**: HIFO is an inventory method where the highest priced inventory is sold first.

**Application**: The items with the highest purchase cost are considered sold first, which is a strategy to maximize profits in certain situations.

**Impact:** It can result in a higher cost of goods sold (COGS) and a lower reported profit, similar to LIFO, but this method is less commonly used and not allowed under certain accounting standards.

Each method has its own advantages, and the choice of method affects financial reporting, tax calculations, and inventory management.

## 4 . Average Cost Method:

**Definition**: The average cost method involves calculating a weighted average of all inventory costs and using that average for both the cost of goods sold (COGS) and the value of remaining inventory.

**Application**: After each purchase, the new average cost per unit is recalculated. This is particularly useful for companies with large quantities of similar, interchangeable products.

**Impact**: It smoothens fluctuations in inventory costs and provides a stable, consistent way to value inventory and calculate COGS, especially in volatile markets.

## 5 . Inflated Price Method:

**Definition**: The inflated price method is an accounting practice where inventory is valued at an inflated or higher price than its actual cost, usually for tax benefits or financial reporting.

**Application**: This method might be used to show higher asset values or profits, particularly during periods of inflation, but it can distort financial statements and may not be compliant with accounting standards.

**Impact**: While it may benefit a company in the short term (e.g., for tax deferral), it can mislead investors and regulatory bodies about the true value of a company's assets and profitability.

## 6 . Physical Verification Method:

**Definition**: The physical verification method involves a direct count and assessment of the actual inventory items on hand to determine their value.

**Application**: Inventory is physically counted (usually at the end of a period), and adjustments are made to reflect discrepancies between the recorded and actual stock.

**Impact**: This method ensures accuracy in inventory reporting but is labor-intensive and may result in occasional discrepancies due to human error or unaccounted losses. It's typically used in combination with other inventory valuation methods for consistency.

## 7 . Slow and Non-Moving Stock:

**Definition**: Slow-moving stock refers to inventory items that sell at a much slower rate than expected, while non-moving stock refers to items that haven't sold for an extended period of time.

**Characteristics**:

- **Slow-moving**: Items that are in stock for an extended period but still get occasional sales.
- **Non-moving**: Items that haven't been sold at all during a specific period.

**Treatment**:

- Slow-moving stock may be offered at a discount, promoted more aggressively, or repurposed to increase sales.
- Non-moving stock often needs to be written off or disposed of, as it ties up valuable working capital.

**Impact**: Accumulation of slow and non-moving stock can result in higher storage costs, lower profitability, and obsolescence of products. Managing these types of stock is crucial for efficient inventory management.

## 8 . Treatment of Losses Method:

**Definition**: The treatment of losses method involves the accounting approach used to handle inventory losses (due to theft, damage, or obsolescence).

**Types of Losses**:

- **Physical Losses**: Losses due to physical factors such as damage, theft, or spoilage.
- **Book Losses**: Losses identified through discrepancies between the physical count and recorded inventory.

- **Methods**:
  - **Direct Charge to Profit & Loss (P&L)**: Losses are directly written off to the profit and loss account, reducing the net income for the period.
  - **Inventory Adjustment**: The loss is adjusted in the inventory record, and an allowance for the loss may be created, reducing the reported inventory value.
  - **Provisions**: Some companies create provisions for expected losses, such as obsolete or damaged inventory, in advance of actual losses occurring.

**Impact**: How inventory losses are treated affects the financial statements, tax liabilities, and overall profitability. Proper management of losses ensures that the true financial health of the company is reflected.

## Material Losses:

Material losses may take the form of waste, scrap, defectives and spoilage. Problems of spoilage, waste, defective units and scrap are bound to arise in almost all manufacturing concerns, so there is usually a difference between the quantity of the output and the input.

Usually the quantity of the output is less than that of the input because of waste, scrap or spoilage. Efforts should be made to reduce the difference between the quantities of the output and the input so that cost of production may be reduced.

**Normal Wastage:**

Normal wastage is the unavoidable loss of materials during production due to the inherent nature of the process. It is expected and planned for in cost estimates. Examples include dust, evaporation, and trimming of raw materials.

**Abnormal Wastage:**

Abnormal wastage refers to avoidable and unexpected loss of materials caused by factors such as machine breakdowns, human error, or poor handling. It is not considered part of standard operations and is recorded separately for analysis.

**Key Differences:**

- **Normal Wastage:** Inevitable, expected, included in production cost.
- **Abnormal Wastage:** Avoidable, unexpected, excluded from normal cost and often investigated.

Controlling abnormal wastage helps improve efficiency and reduce production costs.

**Scrap:**

Scrap refers to the leftover material or waste generated during the production process that has little or no value but can often be sold or reused. It does not usually require further processing. Examples include metal shavings, cuttings, or trimmings. Scrap is generally considered a normal part of production.

**Spoilage:**

Spoilage refers to units or materials that are damaged or not up to quality standards and cannot be repaired or used in production. Spoilage may be:

- Normal Spoilage: Expected and unavoidable due to the production process.
- Abnormal Spoilage: Unexpected and caused by errors, which should be investigated and controlled.

**Key Differences:**

- Scrap: Usable in some form; not defective.
- Spoilage: Defective; not usable or saleable without significant rework or loss.

Proper management of scrap and spoilage helps reduce waste and improve cost efficiency.

## Model Question

**1. FIFO (First-In, First-Out):**

**Example: Grocery Store (Perishables)**
A grocery store sells milk.

- **Purchase 1:** 100 units at ₹20 each
- **Purchase 2:** 100 units at ₹25 each
- **Sale:** 100 units

**Under FIFO:**
The **first 100 units (₹20 each)** are sold first.

- **Cost of Goods Sold (COGS):** 100 × ₹20 = ₹2,000
- **Remaining Inventory:** 100 units at ₹25

FIFO matches the flow of perishable goods (old stock first).

**2. LIFO (Last-In, First-Out):**

**Example: Hardware Store (Nuts & Bolts)**
A hardware store keeps large amounts of nuts and bolts in stock.

- **Purchase 1:** 100 units at ₹10 each
- **Purchase 2:** 100 units at ₹15 each
- **Sale:** 100 units

**Under LIFO:**
The **last 100 units (₹15 each)** are sold first.

- **COGS:** 100 × ₹15 = ₹1,500
- **Remaining Inventory:** 100 units at ₹10

LIFO is used in inflationary times to reflect current costs in COGS.

**3. HIFO (Highest-In, First-Out):**

**Example: Jewelry Store (Gold Chains)**
A jeweler buys gold chains at different prices.

- **Purchase 1:** 10 units at ₹5,000 each
- **Purchase 2:** 10 units at ₹5,500 each
- **Purchase 3:** 10 units at ₹4,800 each
- **Sale:** 10 units

**Under HIFO:**
The **most expensive batch (₹5,500)** is sold first.

- **COGS:** 10 × ₹5,500 = ₹55,000
- **Remaining Inventory:** 10 at ₹5,000 + 10 at ₹4,800

HIFO shows the **highest possible cost**, minimizing profit (used sometimes for tax advantage).

**Problem 1:**

Given below the details of purchase:

| Date | Transaction | Quantity | Unit Price (₹) |
|---|---|---|---|
| Jan 1 | Purchase | 100 | 10 |
| Jan 5 | Purchase | 100 | 12 |
| Jan 10 | Purchase | 100 | 15 |
| Jan 15 | Issue/Sale | 150 | ? |

**Solution**: Fifo method will be as follow:

| Date | Details | Qty In | Rate | Qty Out | Rate | Balance (Qty × Rate) |
|---|---|---|---|---|---|---|
| Jan 1 | Purchase | 100 | 10 | | | 100 @ ₹10 |
| Jan 5 | Purchase | 100 | 12 | | | 100 @ ₹10, 100 @ ₹12 |
| Jan 10 | Purchase | 100 | 15 | | | 100 @ ₹10, 100 @ ₹12, 100 @ ₹15 |
| Jan 15 | Issue | | | 150 | FIFO | 100 @ ₹10, 50 @ ₹12 |
| | **Balance** | | | | | 50 @ ₹12, 100 @ ₹15 |

**COGS (Cost of Goods Sold):**
100×10 + 50×12 = ₹1,000 + ₹600 = **₹1,600**

**Lifo method will be as follow:**

| Date | Details | Qty In | Rate | Qty Out | Rate | Balance (Qty × Rate) |
|---|---|---|---|---|---|---|
| Jan 1 | Purchase | 100 | 10 | | | 100 @ ₹10 |
| Jan 5 | Purchase | 100 | 12 | | | 100 @ ₹10, 100 @ ₹12 |
| Jan 10 | Purchase | 100 | 15 | | | 100 @ ₹10, 100 @ ₹12, 100 @ ₹15 |
| Jan 15 | Issue | | | 150 | LIFO | 100 @ ₹15, 50 @ ₹12 |
| | **Balance** | | | | | 50 @ ₹12, 100 @ ₹10 |

**COGS:**
100×15 + 50×12 = ₹1,500 + ₹600 = **₹2,100**

**Hifo will be as follow:**

| Date | Details | Qty In | Rate | Qty Out | Rate | Balance (Qty × Rate) |
|---|---|---|---|---|---|---|
| Jan 1 | Purchase | 100 | 10 | | | 100 @ ₹10 |
| Jan 5 | Purchase | 100 | 12 | | | 100 @ ₹10, 100 @ ₹12 |
| Jan 10 | Purchase | 100 | 15 | | | 100 @ ₹10, 100 @ ₹12, 100 @ ₹15 |
| Jan 15 | Issue | | | 150 | HIFO | 100 @ ₹15, 50 @ ₹12 |
| | **Balance** | | | | | 50 @ ₹12, 100 @ ₹10 |

**COGS:**
100×15 + 50×12 = ₹1,500 + ₹600 = **₹2,100**

**Summary:**

| Method | COGS (₹) | Closing Stock |
|---|---|---|
| FIFO | 1,600 | 150 units: 50 @ ₹12, 100 @ ₹15 = ₹2,100 |
| LIFO | 2,100 | 150 units: 50 @ ₹12, 100 @ ₹10 = ₹1,700 |
| HIFO | 2,100 | 150 units: 50 @ ₹12, 100 @ ₹10 = ₹1,700 |