K S RANGASAMY COLLEGE OF TECHNOLOGY

TIRUCHENGODE-637215

(Autonomous)

DEPARTMENT OF TEXTILE TECHNOLOGY

E-CONTENT

50 TT 702 – Financial Management and Costing for Textile and Apparel Industry

Prepared by

Dr. K.R.Nandagopal

50 TT 702 – Financial Management and Costing for Textile and Apparel Industry

UNIT 1: INTRODUCTION AND CAPITAL BUDGETING

1.1 Objectives of Financial Management

Financial management is the process of planning, organizing, directing, and controlling financial activities such as procurement and utilization of funds. The key objectives include:

✅ **Profit Maximization:** Achieving the highest possible earnings in the short term.
✅ **Wealth Maximization:** Enhancing the market value of the firm's shares for long-term benefits.
✅ **Ensuring Adequate Liquidity:** Maintaining sufficient cash to meet short-term obligations without compromising profitability.
✅ **Efficient Resource Allocation:** Using funds in the most profitable projects to avoid wastage.
✅ **Financial Discipline:** Ensuring accountability and transparency in financial activities.

Example:
A composite textile mill evaluates whether profits can be increased by outsourcing dyeing or maintaining an in-house dyeing unit.

1.2 Functions of Financial Management

✅ **Investment Decisions:** Deciding which projects to invest in (e.g., installing a new knitting machine).
✅ **Financing Decisions:** Selecting the right mix of debt and equity (e.g., taking a loan vs. issuing shares).
✅ **Dividend Decisions:** Choosing how much profit to distribute vs. retain.
✅ **Liquidity Decisions:** Managing cash, receivables, inventory for smooth operations.

1.3 Capital Budgeting: Nature and Principles

Capital budgeting refers to evaluating, selecting, and financing long-term investments that affect the firm's future.

Nature:

- Involves large outlay of funds
- Long-term impacts on profitability and risk
- Requires evaluation under uncertainty

Principles:

1. **Cash Flow Principle:** Focuses on cash inflows/outflows rather than accounting profits.
2. **Incremental Cash Flow:** Considers only additional revenues and costs due to the project.
3. **Time Value of Money:** Value of money changes over time; future cash flows are discounted.
4. **Risk Adjustment:** Higher risk requires higher returns.

Example:
A garment factory evaluating automatic cutting machine → looks at how much time and labor cost will be saved → estimates additional profits.

1.4 Depreciation – Methods of Computing Depreciation

Depreciation accounts for the wear and tear of fixed assets used in production.

Straight Line Method (SLM):

Depreciation per year=Cost of Asset – Salvage ValueUseful Life\text{Depreciation per year} = \frac{\text{Cost of Asset – Salvage Value}}{\text{Useful Life}}

➡️ **Example:** Machine cost = ₹10 lakhs, salvage = ₹1 lakh, life = 9 years
Depreciation = (₹10,00,000 – ₹1,00,000) ÷ 9 = ₹1,00,000/year

Written Down Value (WDV) Method:

Depreciation charged on reducing balance each year:

Depreciation=Opening Book Value × Rate\text{Depreciation} = \text {Opening Book Value} \times \text{Rate}

➡️ **Example:** 20% WDV on ₹10 lakhs → Year 1: ₹2 lakhs depreciation → Year 2: ₹1.6 lakhs

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1.5 Techniques of Investment Analysis

1.5.1 Payback Period Method:

Measures time to recover original investment.

Payback Period=Initial Investment Annual Cash Inflow\text{Payback Period} = \frac{\text{Initial Investment}}{\text{Annual Cash Inflow}}

➡️ Example: Investment = ₹2,00,000; Cash Inflow = ₹50,000/year
Payback = 2,00,000 ÷ 50,000 = 4 years

✔️ Simple & quick but ignores time value and returns after payback.

1.5.2 Accounting Rate of Return (ARR):

ARR=Average Annual ProfitInitial Investment×100ARR = \frac{\text{Average Annual Profit}}{\text{Initial Investment}} \times 100

➡️ Example: Average profit = ₹20,000; Investment = ₹1,00,000
ARR = (20,000 / 1,00,000) × 100 = 20%

✔️ Considers profitability but ignores cash flow timing.

1.5.3 Discounted Cash Flow (DCF) Methods

✅ **Net Present Value (NPV):**

NPV=∑CashInflow(1+r)t–InitialInvestmentNPV = \sum \frac{Cash Inflow}{(1 + r)^t} – Initial Investment

where r = discount rate, t = time period.

➡️ Example: ₹40,000 inflow/year for 3 years; r = 10%; initial = ₹1,00,000

Calculate present value (PV) for each year → sum → subtract investment → if NPV > 0 → accept.

✅ **Internal Rate of Return (IRR):**
The rate r where NPV = 0. Solved by trial/error or spreadsheet.

✅ **Profitability Index (PI):**

PI=PV of Cash Inflows Initial Investment PI = \frac{PV of Cash Inflows}{Initial Investment}

PI > 1 → Accept project; PI < 1 → Reject.

Example for DCF:

A textile unit considers installing solar panels:

- Initial cost = ₹5,00,000
- Annual savings = ₹1,50,000
- Project life = 5 years
- Discount rate = 12%

👉 Find NPV, IRR, PI → Use table/calculator → decision made based on outcomes.

Unit Summary:

- Financial management focuses on maximizing shareholder wealth through sound investment, financing, liquidity decisions.
- Capital budgeting helps choose profitable long-term projects using various methods like Payback, ARR, NPV, IRR, PI.
- Depreciation spreads asset cost over useful life for accurate cost reporting.

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UNIT II: WORKING CAPITAL AND INVENTORY MANAGEMENT

2.1 Capital Structure

Capital structure refers to the way a company finances its assets through a mix of debt, equity, and other financial instruments.

✅ **Debt Capital:** Borrowed funds (loans, debentures).
✅ **Equity Capital:** Funds from owners/shareholders (share capital, retained earnings).

Objective of capital structure: Achieve an optimal balance between debt and equity to minimize cost of capital and maximize shareholder wealth.

👉 **Example:**
A textile mill raises ₹10 crores → ₹6 crores debt + ₹4 crores equity → Debt-equity ratio = 6:4 = 1.5

2.2 Sources and Cost of Capital

✅ **Sources of Capital:**

1. **Equity Shares**
2. **Preference Shares**
3. **Debentures/Bonds**
4. **Term Loans**
5. **Internal Financing (retained profits)**

✅ **Cost of Capital:** Return expected by investors.

Cost of Equity (Ke)=D1P0+g\text{Cost of Equity (Ke)} = \frac{D_1}{P_0} + g

where:
D1D_1 = Dividend per share next year
P0P_0 = Current price per share
gg = Growth rate

Similarly, cost of debt Kd=I(1−T)Kd = I (1 - T),
where II = Interest rate, TT = Tax rate.

👉 In textile industry:
Higher debt increases financial risk → requires balancing low cost of debt with risk tolerance.

2.3 Working Capital – Definition, Principles, and Types

Definition:

Working capital is the capital used to finance day-to-day operations.

Working Capital=Current Assets−Current Liabilities\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}

Principles of Working Capital Management:

✅ **Conservation Principle:** Avoid locking funds unnecessarily in inventory/receivables.
✅ **Cost-Benefit Principle:** Trade-off between risk and profitability.
✅ **Equity Principle:** Permanent working capital → financed by long-term funds.

2.4 Types of Working Capital

✅ **Gross Working Capital:** Total current assets (cash, inventory, receivables).
✅ **Net Working Capital:** Current assets – current liabilities.

✅ **Permanent Working Capital:** Minimum level always required (e.g., base stock of fabric).
✅ **Temporary/Variable Working Capital:** Seasonal or special needs (e.g., festival sales stock buildup).

2.5 Operating Cycle

The time duration required to convert raw materials into cash receipts.

👉 **Stages of operating cycle in a spinning mill:**

1. Purchase cotton →
2. Store cotton →
3. Spin into yarn →
4. Store yarn →
5. Sell yarn →
6. Collect receivables

Operating Cycle=Raw Material Holding Period+WIP Holding Period+Finished Goods Holding Period+Receivables Period–Payables Period\text{Operating Cycle} = \text{Raw Material Holding Period} + \text{WIP Holding Period} + \text{Finished Goods Holding Period} + \text{Receivables Period} – \text{Payables Period}

✅ Shorter cycle → lower working capital needs.

2.6 Estimation of Working Capital Requirements

For Spinning Mill:

Components:

- Raw cotton stock → typically 2 months
- Yarn stock → 1 month

- Debtors → 1 month credit
- Wages & expenses → 1 month advance

👉 **Example Calculation:**

Particulars	**Amount (₹ lakhs)**
Raw cotton (2 months)	50
Yarn stock (1 month)	20
Debtors (1 month)	30
Expenses (1 month)	10
Total Working Capital	110

→ Deduct creditors (₹20 lakhs)
Net Working Capital = ₹110 – ₹20 = ₹90 lakhs

For Composite Textile Mill:

Includes spinning + weaving + processing → more stages → longer operating cycle.

Additional working capital for:
✅ Grey fabric stock
✅ Dyed/printed fabric stock
✅ Chemicals/dyes stock
✅ Receivables from garment exporters

For Garment Unit:

Key working capital needs:
✅ Fabric & accessories stock
✅ Work-in-progress stock (cut panels, partially stitched garments)
✅ Finished goods stock
✅ Receivables from retailers

👉 Credit period → retail customers may take 60-90 days → increases working capital needs.

2.7 Inventory – Definition and Need

Inventory = stock of raw materials, WIP, finished goods held to meet production & sales demand.

✅ Helps prevent stockouts
✅ Ensures smooth production
✅ Meets customer orders promptly

2.8 Inventory Control Techniques

2.8.1 Economic Order Quantity (EOQ)

EOQ = optimum quantity minimizing total inventory cost (ordering + carrying).

EOQ=2ADCEOQ = \sqrt{\frac{2AD}{C}}

where:
A = Annual demand
D = Ordering cost per order
C = Carrying cost per unit per year

👉 **Example:**
Annual demand = 10,000 cones of yarn
Ordering cost = ₹500/order
Carrying cost = ₹20/unit

EOQ=2×10,000×50020=500,000=707unitsEOQ = \sqrt{\frac{2 \times 10,000 \times 500}{20}} = \sqrt{500,000} = 707 units

→ Place order for 707 cones each time.

2.8.2 ABC Analysis

Classify inventory into 3 categories based on value:
✅ **A-items:** High value (10-20% items = 70-80% value) → tight control.
✅ **B-items:** Medium value → moderate control.
✅ **C-items:** Low value → simple control.

👉 **Example for garment unit:**

- A-items: Branded zippers, expensive fabric
- B-items: Buttons, hooks
- C-items: Thread, labels

Illustrative Table: Inventory Levels

Level	Formula
Reorder Level	Max Consumption × Max Lead Time
Minimum Level	Reorder Level – (Normal Consumption × Normal Lead Time)
Maximum Level	Reorder Level + Reorder Qty – (Min Consumption × Min Lead Time)

2.9 Importance of Working Capital Management

✅ Smooth production & sales flow
✅ Avoid liquidity crisis
✅ Improve credit rating
✅ Reduce cost of financing
✅ Competitive advantage

Unit Summary

- Working capital = lifeline of textile/garment operations.
- Needs vary for spinning, composite, garment units.
- Inventory control → critical for cost efficiency → techniques like EOQ & ABC help optimize.
- Estimating accurate working capital → essential for financing day-to-day operations.

UNIT III: COST ACCOUNTING

3.1 Introduction to Cost Accounting

Definition:
Cost accounting is a branch of accounting that deals with recording, classifying, analyzing, and allocating expenditures to determine the cost of products or services. It aids in cost control and decision-making.

Objectives:

- Ascertain the cost of products/services.
- Facilitate cost control and reduction.
- Assist in budgeting and variance analysis.
- Provide data for managerial decision-making.

Comparison with Financial Accounting:

Basis	Cost Accounting	Financial Accounting
Purpose	Internal cost control and decision-making	External reporting to stakeholders
Focus	Detailed cost information	Overall financial performance
Time Frame	Real-time or short-term	Historical data over a fiscal period
Regulation	Not mandatory; no standard format	Mandatory; follows accounting standards

Basis	Cost Accounting	Financial Accounting
Users	Internal management	External parties (investors, regulators)

3.2 Elements of Cost

1. **Material Cost:**
    - **Direct Materials:** Raw materials directly involved in production (e.g., cotton in yarn production).
    - **Indirect Materials:** Materials not directly traceable to the product (e.g., lubricants, cleaning supplies).
2. **Labour Cost:**
    - **Direct Labour:** Wages for workers directly involved in production (e.g., machine operators).
    - **Indirect Labour:** Wages for support staff (e.g., maintenance personnel).
3. **Expenses:**
    - **Direct Expenses:** Costs directly attributable to a specific job (e.g., special design fees).
    - **Indirect Expenses (Overheads):** Costs not directly linked to a specific product (e.g., factory rent).

Total Cost = Direct Materials + Direct Labour + Direct Expenses + Overheads

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3.3 Methods of Costing

Different industries adopt various costing methods based on their production processes.

3.3.1 Job Costing

Definition:
Costs are assigned to specific jobs or orders, each treated as a separate entity.

Applicable Industries:
Custom manufacturing, repair shops, construction.

Features:

- Each job has a unique identifier.
- Costs are tracked per job.

Example:
A garment manufacturer producing a custom order for 500 uniforms.

Cost Sheet:

Particulars	Amount (₹)
Direct Materials	50,000
Direct Labour	30,000
Direct Expenses	5,000
Factory Overheads	15,000
Total Cost	**100,000**
Profit Margin (20%)	20,000
Selling Price	**120,000**

3.3.2 Batch Costing

Definition:
Costs are accumulated for a batch of identical products.

Applicable Industries:
Pharmaceuticals, garment manufacturing.

Features:

- Economies of scale in production.
- Cost per unit = Total Batch Cost / Number of Units.

Example:
Producing 1,000 T-shirts in a batch.

Cost Sheet:

Particulars	Amount (₹)
Direct Materials	100,000
Direct Labour	60,000
Direct Expenses	10,000
Factory Overheads	30,000
Total Batch Cost	**200,000**
Cost per Unit	200

3.3.3 Contract Costing

Definition:
Used for large-scale, long-term contracts.

Applicable Industries:
Construction, shipbuilding.

Features:

- Each contract is a cost unit.
- Costs are tracked over the contract duration.

Example:
Building a textile factory over 2 years.

Cost Sheet:

Particulars	**Amount (₹)**
Direct Materials	5,000,000
Direct Labour	3,000,000
Direct Expenses	500,000
Overheads	1,500,000
Total Cost	**10,000,000**
Profit Margin (15%)	1,500,000
Contract Price	**11,500,000**

3.3.4 Process Costing

Definition:
Costs are assigned to processes or departments, suitable for continuous production.

Applicable Industries:
Textile mills, chemical manufacturing.

Features:

- Homogeneous products.
- Costs averaged over units produced.

Example:
Processing cotton into yarn.

Cost per Unit = Total Process Cost / Units Produced

3.3.5 Joint and By-product Costing

Joint Products:
Two or more products of significant value produced simultaneously.

By-products:
Secondary products of minor value.

Cost Allocation Methods:

- **Physical Units Method:** Based on quantity.
- **Sales Value Method:** Based on market value.

Example:
In oil refining, petrol and diesel are joint products; tar is a by-product.

3.4 Costing in Apparel Manufacturing

Job Costing:
Custom orders (e.g., designer dresses).

Batch Costing:
Mass production (e.g., T-shirts).

Process Costing:
Standardized processes (e.g., dyeing fabrics).

Joint/By-product Costing:
Processing cotton yields lint (main product) and seeds (by-product).

3.5 Summary

- **Cost Accounting** provides detailed cost information for internal decision-making.
- **Elements of Cost** include materials, labour, and expenses.
- **Costing Methods** vary based on industry and production processes.
- **Apparel Industry** utilizes multiple costing methods depending on the nature of production.

UNIT IV: COSTING IN FABRIC PREPARATION

4.1 Yarn Conversion Cost

Definition:
Yarn conversion cost refers to the total expenses incurred in transforming raw fibers into finished yarns. This includes costs related to labor, power, maintenance, and overheads.

Components:

- **Raw Material Cost:** Price of raw fibers (e.g., cotton, polyester).
- **Processing Costs:** Expenses for spinning, twisting, and other processes.
- **Labor Costs:** Wages for workers involved in yarn production.
- **Overheads:** Indirect costs such as utilities, maintenance, and administrative expenses.

Example Calculation: Particulars	Amount (₹)
Raw Material	100,000
Processing Costs	50,000
Labor Costs	30,000
Overheads	20,000
Total Conversion Cost	**200,000**

If 10,000 kg of yarn is produced:

Conversion Cost per kg=200,00010,000=₹20\text{Conversion Cost per kg} = \frac{200,000}{10,000} = ₹20

4.2 Selling Price of Various Wastes

In textile manufacturing, waste materials like yarn waste, fabric trimmings, and off-cuts are generated. These can be sold to recover costs.

Types of Waste:

- **Hard Waste:** Includes yarn ends, sliver waste.
- **Soft Waste:** Includes fabric trimmings, off-cuts.

Factors Affecting Selling Price:

- **Quality of Waste:** Cleaner waste fetches higher prices.
- **Market Demand:** Prices vary based on demand for recycled materials.
- **Quantity:** Bulk quantities may attract better rates.

Example:

Waste Type	Quantity (kg)	Rate (₹/kg)	Total (₹)
Yarn Waste	500	10	5,000
Fabric Trimmings	300	8	2,400
Total			**7,400**

4.3 Calculation of Yarn Requirements for Weaving

To determine the amount of yarn needed for weaving, consider the fabric's construction parameters.

Parameters:

- **Ends per Inch (EPI):** Number of warp threads per inch.
- **Picks per Inch (PPI):** Number of weft threads per inch.
- **Reed Width:** Width of the loom.
- **Fabric Length:** Desired length of the fabric.
- **Yarn Count:** Thickness of the yarn.

Formulas:

- **Warp Yarn Requirement:**

Warp Length=Fabric Length+Loom Waste\text{Warp Length} = \text{Fabric Length} + \text{Loom Waste} Total Warp Ends=EPI×Reed Width\text{Total Warp Ends} = \text{EPI} \times \text{Reed Width} Warp Yarn Required (in meters)=Total Warp Ends×Warp Length\text{Warp Yarn Required (in meters)} = \text{Total Warp Ends} \times \text{Warp Length}

- **Weft Yarn Requirement:**

Total Picks=PPI×Fabric Length\text{Total Picks} = \text{PPI} \times \text{Fabric Length}
Weft Yarn Required (in meters)=Total Picks×Reed Width\text{Weft Yarn Required (in meters)} = \text{Total Picks} \times \text{Reed Width}

Example:

Given:

- Fabric Length = 100 meters
- EPI = 60
- PPI = 50
- Reed Width = 1 meter
- Loom Waste = 5 meters

Calculations:

- Warp Length = 100 + 5 = 105 meters
- Total Warp Ends = 60 × 1 = 60
- Warp Yarn Required = 60 × 105 = 6,300 meters
- Total Picks = 50 × 100 = 5,000
- Weft Yarn Required = 5,000 × 1 = 5,000 meters

4.4 Conversion Cost from Winding to Weaving

This encompasses all costs from winding the yarn to producing the woven fabric.

Stages:

1. **Winding:** Preparing yarn packages suitable for warping.

2. **Warping:** Arranging yarns in parallel for the loom.
3. **Sizing:** Applying protective coating to warp yarns.
4. **Drawing-in:** Threading yarns through heddles and reeds.
5. **Weaving:** Interlacing warp and weft to form fabric.

Cost Components:

- **Labor:** Wages for workers in each stage.
- **Power:** Electricity consumption.
- **Maintenance:** Equipment upkeep.
- **Overheads:** Indirect expenses.

Example Calculation:

Process	Cost per Meter (₹)
Winding	0.50
Warping	0.70
Sizing	0.60
Drawing-in	0.40
Weaving	1.00
Total	**3.20**

4.5 Knitting Cost

Knitting involves interlooping yarns to produce fabrics. Costs are influenced by machine type, yarn used, and production parameters.

Cost Components:

- **Yarn Cost:** Based on yarn count and type.
- **Machine Cost:** Depreciation and maintenance.
- **Labor Cost:** Operator wages.
- **Power Consumption:** Electricity used by machines.
- **Overheads:** Indirect expenses.

Example Calculation:

Particulars	Amount (₹)
Yarn Cost	150

Particulars	Amount (₹)
Machine Cost	20
Labor Cost	15
Power Consumption	10
Overheads	5
Total per kg	**200**

4.6 Raw Material Requirements for Knitting

Determining the amount of yarn needed for knitting depends on fabric specifications.

Parameters:

- **Fabric GSM (grams per square meter):** Weight of the fabric.
- **Fabric Width:** Width of the fabric roll.
- **Fabric Length:** Desired length.

Formula:

Fabric Area=Width (m)×Length (m)\text{Fabric Area} = \text{Width (m)} \times \text{Length (m)}
Total Weight (kg)=Fabric Area×GSM1000\text{Total Weight (kg)} = \frac{\text{Fabric Area} \times \text{GSM}}{1000}

Example:

Given:

- GSM = 200
- Width = 1.5 meters
- Length = 100 meters

Calculations:

- Fabric Area = 1.5 × 100 = 150 m^2
- Total Weight = (150 × 200) / 1000 = 30 kg

4.7 Cost of Knitted Fabric

The total cost includes yarn, processing, and overheads.

Components:

- **Yarn Cost:** Based on quantity and rate.
- **Knitting Charges:** Machine operation costs.

- **Dyeing and Finishing:** Processing expenses.
- **Overheads:** Indirect costs.

Example Calculation:

Particulars	**Amount (₹)**
Yarn Cost (30 kg × ₹150)	4,500
Knitting Charges (30 kg × ₹20)	600
Dyeing & Finishing (30 kg × ₹30)	900
Overheads	300
Total Cost	**6,300**

Cost per kg = 6,300 / 30 = ₹210

4.8 Processing Cost: Estimating Cost for Bleaching, Dyeing, Printing, and Finishing of Fabric

Processing adds value to the fabric and includes several stages.

Stages and Costs:

1. **Bleaching:**
    - Removes natural color.
    - Cost depends on fabric type and desired whiteness.
2. **Dyeing:**
    - Adds color to the fabric.
    - Cost varies with dye type and shade depth.
3. **Printing:**
    - Applies patterns or designs.
    - Costs influenced by technique (screen, digital) and colors used.
4. **Finishing:**
    - Enhances fabric properties (e.g., softness, wrinkle resistance).
    - Includes processes like calendaring, sanforizing.

Example Calculation per kg:

Process	Cost (₹)
Bleaching	10
Dyeing	25
Printing	30
Finishing	15
Total	**80**

Summary

- **Yarn Conversion Cost:** Includes all expenses from raw fiber to yarn.
- **Waste Selling:** Recovering value from production waste.
- **Yarn Requirements:** Calculated based on fabric specifications.
- **Conversion Costs:** Accumulated from winding to weaving.
- **Knitting Costs:** Encompass yarn, machine, labor, and overheads.
- **Raw Material Needs:** Determined by fabric GSM, width, and length.
- **Knitted Fabric Cost:** Total of all associated expenses.
- **Processing Costs:** Vary based on the specific finishing processes.

Certainly! Here is the comprehensive lecture note for **Unit V: Garment Costing**, encompassing all the specified topics, complete with definitions, formulas, examples, and tables, tailored for the textile and apparel industry.

UNIT V: GARMENT COSTING

5.1 Introduction to Garment Costing

Definition:
Garment costing is the process of determining the total cost incurred in the production of a garment, encompassing all direct and indirect expenses. This includes materials, labor, overheads, and other associated costs.

Importance:

- **Pricing Strategy:** Helps in setting competitive and profitable prices.
- **Budgeting:** Assists in financial planning and control.
- **Profitability Analysis:** Evaluates the cost-effectiveness of products.

- **Decision Making:** Informs make-or-buy and product development decisions.

5.2 Factors Determining the Price of Garments

Several factors influence the pricing of garments:

1. **Fabric Cost:** The primary component, varying with quality, type, and supplier.
2. **Trims and Accessories:** Includes buttons, zippers, labels, etc.
3. **Labor Cost:** Wages paid for cutting, sewing, and finishing operations.
4. **Overheads:** Indirect costs like utilities, rent, and administrative expenses.
5. **Packaging and Shipping:** Costs for packing materials and transportation.
6. **Profit Margin:** Desired profit added to the total cost.
7. **Market Demand and Competition:** Influences pricing strategies.
8. **Order Quantity:** Bulk orders may reduce per-unit costs.
9. **Quality Standards:** Higher quality may entail higher costs.

5.3 Calculation of Cutting, Making, and Trim (CMT) Costs

CMT refers to the combined cost of cutting, sewing (making), and adding trims to a garment.

Components:

- **Cutting Cost:** Expenses related to fabric cutting, including labor and equipment.
- **Making Cost:** Sewing operations, labor, and machine usage.
- **Trim Cost:** Cost of materials like buttons, zippers, threads, etc.

Example Calculation:

Component	**Cost per Garment (₹)**
Cutting	10
Making	30
Trims	15
Total CMT	**55**

5.4 Calculation of Garment Weight for Different Sizes and Styles

Understanding garment weight is crucial for material estimation and shipping cost calculations.

Factors Affecting Weight:

- **Fabric GSM (grams per square meter):** Heavier fabrics increase garment weight.
- **Garment Size:** Larger sizes require more fabric.
- **Design Complexity:** Additional features like linings or embellishments add weight.

Example:

For a T-shirt with:

- Fabric GSM: 180
- Fabric Consumption:
    - Size S: 1.2 meters
    - Size M: 1.4 meters
    - Size L: 1.6 meters

Weight Calculation:

Weight=Fabric Consumption×GSM\text{Weight} = \text{Fabric Consumption} \times \text{GSM}

- Size S: 1.2 × 180 = 216 grams
- Size M: 1.4 × 180 = 252 grams
- Size L: 1.6 × 180 = 288 grams

5.5 Accessories Costing

Accessories include all additional items attached to the garment, such as labels, buttons, zippers, and packaging materials.

Costing Steps:

1. **List Accessories:** Identify all required accessories.
2. **Determine Quantity:** Quantity needed per garment.
3. **Unit Cost:** Cost per accessory item.
4. **Total Cost:** Multiply quantity by unit cost.

Example:

Accessory	Quantity per Garment	Unit Cost (₹)	Total Cost (₹)
Buttons	5	2	10
Zipper	1	15	15
Labels	2	1	2
Packaging Bag	1	5	5

Accessory	Quantity per Garment	Unit Cost (₹)	Total Cost (₹)
Total			**32**

5.6 Costing Calculation for Various Testings

Quality assurance tests are essential to ensure garment standards. These tests incur additional costs.

Common Tests:

- **Color Fastness**
- **Shrinkage**
- **Tensile Strength**
- **Chemical Testing**

Costing Approach:

- **Per Test Cost:** Charges by testing laboratories.
- **Sample Size:** Number of samples tested.
- **Total Testing Cost:** Sum of all test costs divided by total production units.

Example:

- Total Testing Cost: ₹10,000
- Total Garments Produced: 1,000

Testing Cost per Garment=10,0001,000=₹10\text{Testing Cost per Garment} = \frac{10,000}{1,000} = ₹10

5.7 Calculation of HOK (Hours of Operation per Garment) and OHS (Operation Hours per Style)

HOK (Hours of Operation per Garment):
Represents the total time taken to produce one garment.

OHS (Operation Hours per Style):
Total time required to produce all garments of a particular style.

Calculation:

- **HOK:** Sum of time taken for each operation per garment.
- **OHS:** HOK × Total Number of Garments

Example:

- Operations:
    - Cutting: 0.5 hours

  - Sewing: 1.0 hour
  - Finishing: 0.5 hours
- HOK: 0.5 + 1.0 + 0.5 = 2.0 hours
- Total Garments: 500
- OHS: 2.0 × 500 = 1,000 hours

5.8 Comprehensive Garment Costing Example

Scenario:
Producing 1,000 units of a men's shirt.

Cost Breakdown:

Component	**Cost per Unit (₹)**
Fabric	200
Trims and Accessories	50
Cutting	20
Sewing	40
Finishing	15
Testing	10
Packaging	5
Overheads	30
Total Cost	**370**
Profit Margin (20%)	74
Selling Price	**444**

Summary

- **Garment costing** is vital for pricing, budgeting, and profitability analysis.
- **Key cost components** include materials, labor, overheads, accessories, testing, and packaging.
- **Accurate calculations** of garment weight, HOK, and OHS are essential for efficient production planning.
- **Comprehensive cost sheets** aid in transparent and effective cost management.