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GOVERNMENT OF INDIA
MINISTRY OF SKILL DEVELOPMENT
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APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

Facilitator Guide

Sector
Apparel

Sub-Sector
Apparel, Made-Ups & Home Furnishing

Occupation
Department Supervision

Reference ID: AMH/Q0615, Version 4.0
NSQF level: 5

Processing Supervisor (Dyeing & Printing)

Published by

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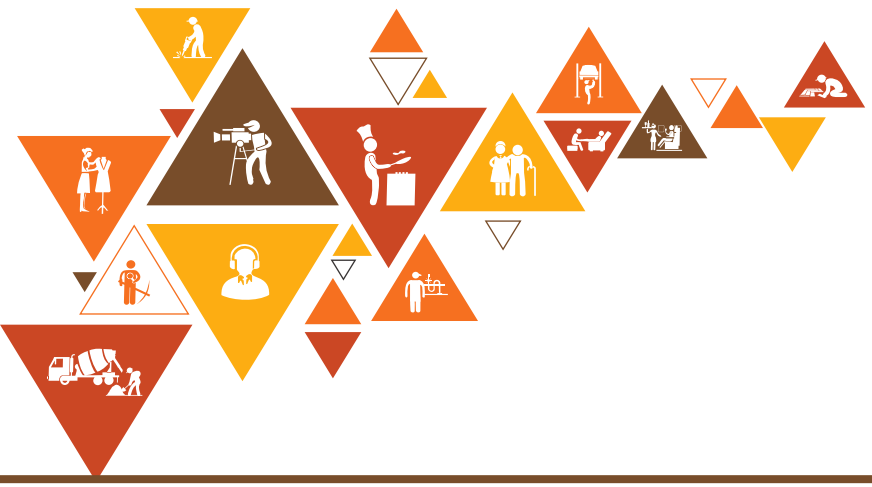
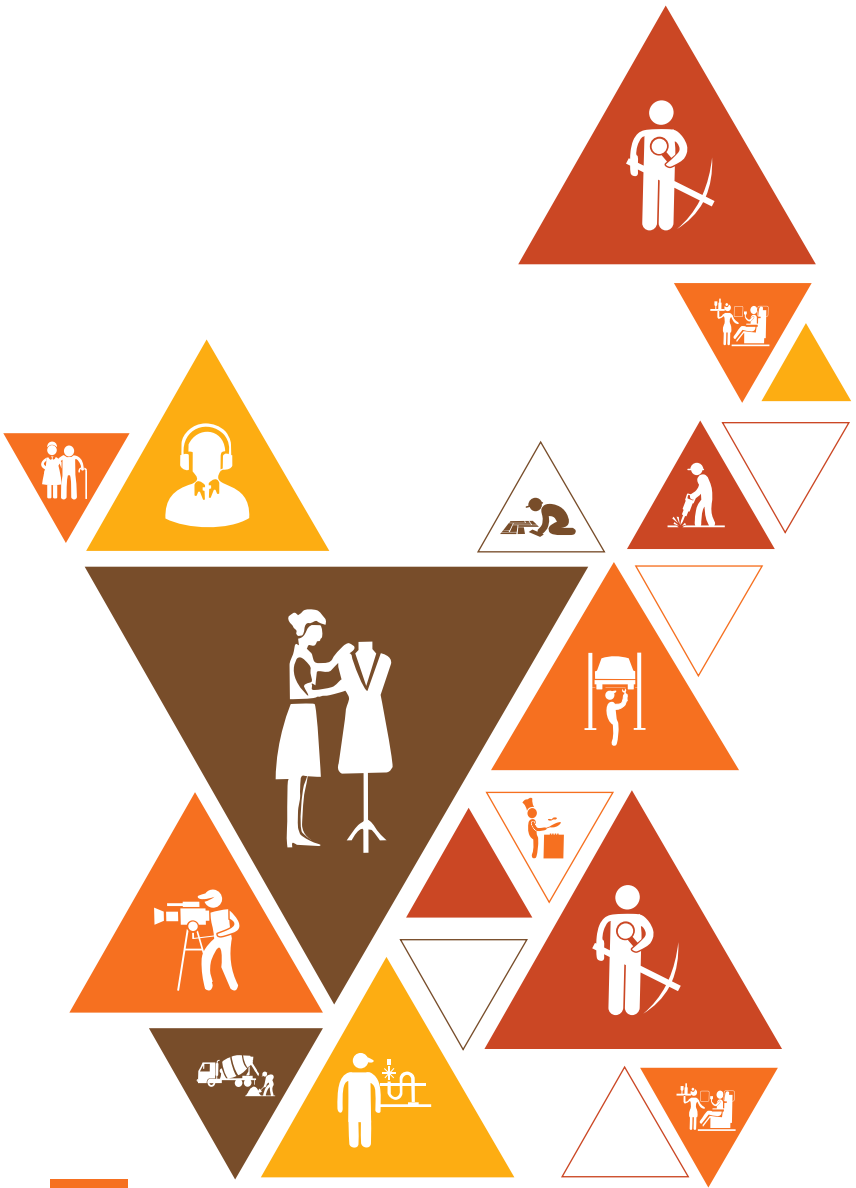


> Skill development of the new generation is a national need and is the foundation of Aatmnirbhar Bharat

Shri Narendra Modi
Prime Minister of India



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The preparation of this facilitator guide would not have been possible without the Apparel Industry's support. Industry feedback has been extremely encouraging from inception to conclusion and it is with their input that we have tried to bridge the skill gaps existing today in the industry.

This facilitator guide is dedicated to the aspiring youth who desire to achieve special skills which will be a lifelong asset for their future endeavours.

About this Guide

This Facilitator Guide is designed for providing skill training and /or upgrading the knowledge level of the Participants to take up the job of an "Processing Supervisor (Dyeing & Printing) " in the Management and Entrepreneurship Sector.

This Facilitator Guide is designed based on the Qualification Pack (QP) under the National Skill Qualification framework (NSQF) and it comprises of the following National Occupational Standards (NOS)/topics and additional topics.

1. AMH/N0615: Plan and organize materials to be dyed and printed as per customer requirements and dyes and chemicals
2. AMH/N0616: Develop recipe for dyeing and printing as per the customer requirement or pantone shade
3. AMH/N0617: Supervise the process of dyeing and printing as per plan received from production planning
4. AMH/N0618: Maintain health, safety and security in the processing department with Gender & PwD Sensitization
5. AMH/N0619: Ensure workplace orderliness and efficiently operate tools and machinery.
6. AMH/N0621: Adhere to industry, regulatory, and organizational standards and embrace environmentally sustainable practices
7. DGT/VSQ/N0102: Employability Skills (60 Hours)

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Explain

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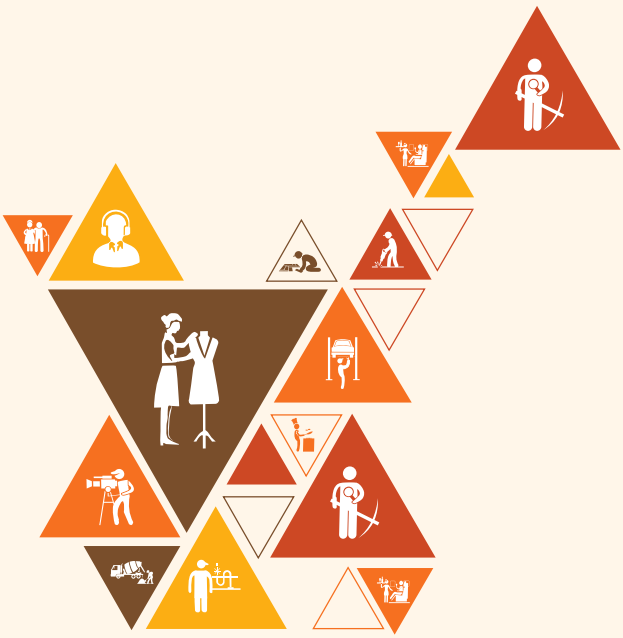
1. Introduction and Orientation to Processing Supervisor

Unit 1.1 - The Apparel Industry and Professional Functions



Bridge Module

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Describe the overall scale and range of activities within the apparel industry.
2. Describe different career opportunities available for a Processing Supervisor in dyeing and printing.
3. Explain the key duties and responsibilities handled by a Processing Supervisor in dyeing and printing.
4. Analyse the stages of apparel production and the contribution of the Processing Supervisor in dyeing and printing.

Unit 1.1: The Apparel Industry and Professional Functions

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the size and scope of the apparel industry.
2. Describe various employment opportunities for a Processing Supervisor (Dyeing & Printing).
3. Explain roles and responsibilities of a Processing Supervisor (Dyeing & Printing).
4. Analyse the apparel production process and the role of the Processing Supervisor (Dyeing & Printing).

Resources to be Used

Participant handbook, notepad and pen, whiteboard and markers, presentation slides, an overhead projector or large screen, a computer or laptop with internet connection, and optionally, fabric swatches, dye samples, printed fabric pieces, images/videos of dyeing and printing units, protective gear (gloves, mask), and examples of common fabric defects after processing.

Do

- Greet participants warmly and introduce yourself by sharing your professional background in apparel, dyeing, or printing processes.
- Clearly state the unit objectives and explain what participants will learn.
- Ensure everyone has their handbook, notepad, and pen for note-taking.
- Check all equipment (whiteboard, laptop, and projector) is working properly.
- Arrange seating for clear visibility of slides and easy interaction.
- Invite participants to introduce themselves and share their familiarity with textile processing, dyeing, or printing.
- Inform participants that the session will include interactive activities such as discussions, role-play, demonstrations, and group exercises.
- Maintain an engaging pace with explanations balanced with participant inputs.
- Encourage participants to share real-life experiences related to fabric dyeing, printing, or apparel processing.
- Conclude the session by summarising key points and motivating participants to see the Processing Supervisor role as vital in the apparel industry.

Say

- Welcome to today's session on the Overview of the Apparel Industry and the Role of the Processing Supervisor (Dyeing & Printing).
- By the end of this session, you will understand the size and scope of the apparel industry, employ-ment opportunities, and the responsibilities of a Processing Supervisor.

- We will explore how the apparel industry provides employment to millions and how dyeing and printing add value to fabrics.
- A Processing Supervisor plays an important role in ensuring the correct use of dyes, chemicals, and machines, maintaining quality and safety.
- I look forward to discussing how this role ensures fabric quality, customer satisfaction, and smooth production in garment manufacturing..

Ask

- Can anyone share what comes to their mind when they hear “dyeing and printing” in fabrics?
- Why do you think dyeing and printing are important steps in the apparel industry?
- What responsibilities do you think a Processing Supervisor has in a dyeing and printing unit?
- What qualities are needed to manage workers and ensure quality in fabric processing?
- How do you see this role creating opportunities for career growth in the apparel sector?

Activity

1. **Name of the Activity:** Colours in Our Clothes
2. **Objective:** To help participants connect personal experiences with dyeing and printing in everyday garments.
3. **Type of activity:** Group activity
4. **Resources:** Participant handbook, notepad, pen, fabric swatches or dyed/printed items (if available).
5. **Duration of the activity:** 15 minutes
6. **Instructions:**
    - Ask each participant to introduce themselves by sharing their name, back-ground, and their favourite clothing item (shirt, saree, kurta, jeans, etc.).
    - Invite them to describe the colour or print of that clothing and share if they ever noticed issues like faded colour, patchy dye, or uneven prints.
    - Encourage them to think about who ensures the quality of such dyeing and printing in factories.
    - If available, show fabric swatches or printed garments to connect their stories with the supervisor’s role.
    - Summarise by highlighting that Processing Supervisors are responsible for en-suring colours, prints, and quality standards are maintained in production.
7. **Outcome:** Participants feel comfortable, connect personal experiences with dye-ing/printing, and recognise the importance of the Processing Supervisor’s role.

Elaborate

- The apparel industry is a global sector employing millions, with dyeing and printing as critical value-adding processes.
- A Processing Supervisor oversees dyeing and printing operations to ensure fabrics meet design and quality standards.
- They check dyes, chemicals, and processes to reduce defects such as uneven colour or misprints.
- Supervisors manage workers, monitor machines, and ensure safety standards in the unit.
- Career growth can move from assistant → operator → supervisor → manager in textile processing units.
- Tools and equipment include dyeing machines, printing screens, measuring tools, and protective gear.
- Proper dyeing and printing enhance fabric appeal, improve durability, and meet buyer requirements.
- Health and safety are important when handling dyes, chemicals, and machines.
- The role demands leadership, observation, and attention to detail.
- Opportunities exist in domestic textile mills, export houses, and international apparel companies.

Explain

- The apparel industry grows by supplying both domestic and export markets, with fabric processing as a core function.
- A Processing Supervisor ensures proper dyeing and printing to achieve customer satisfaction and brand reputation.
- Responsibilities include supervising workers, monitoring quality, scheduling production, and ensur-ing chemical safety.
- Skills like planning, problem-solving, and communication are essential.
- Supervisors coordinate between operators, managers, and quality teams.
- Effective supervision reduces defects, prevents wastage, and increases efficiency.
- Safety measures include protective clothing, proper ventilation, and chemical handling guidelines.
- Employment exists in both small-scale dyeing units and large textile factories.
- With experience, supervisors can move into senior management roles.
- The role offers stable employment, leadership opportunities, and recognition in the industry.

Demonstrate

Participants will observe fabric swatches, videos, or images showing defects in dyeing and printing (col-our bleeding, patchy dye, misaligned prints). Using tools such as colour charts, dye samples, or screen-printing examples, they will learn how supervisors monitor processes to prevent such defects. Slides or videos can show step-by-step dyeing and printing processes, highlighting the supervisor's role in quality checks.

Role Play

1. **Name of the Roleplay:** Quality Check in Dyeing and Printing
2. **Objective of the Roleplay:** To practice identifying defects and suggesting corrective action.
3. **Resources:** Participant handbook, pen, fabric samples or images of defects, dye/print samples.
4. **Time Duration:** 20 minutes
5. **Instructions:**
    - Present a scenario where fabrics show defects like faded colour, smudged prints, or uneven shades.
    - Divide participants into groups; one acts as Processing Supervisor, others act as operators or quality staff.
    - Ask groups to roleplay identifying issues, suggesting corrections, and re-porting to higher management.
    - Facilitate discussion on how supervision prevents large-scale losses and en-sures quality production.
    - Summarise with lessons on leadership, quality assurance, and teamwork in dyeing and printing.
6. **Outcome:** Participants understand the importance of accurate patterns and develop problem-solving skills for garment production.

Notes for Facilitation

- Keep the session practical by showing fabrics, swatches, and videos of dyeing and printing.
- Use visual aids to explain the scope of the apparel industry and the role of Processing Supervisors.
- Encourage participants to share examples of local dyeing/printing practices.
- Maintain a clear pace, checking understanding regularly.
- Summarise each activity with key lessons to reinforce learning objectives, including the ice-breaker activity.

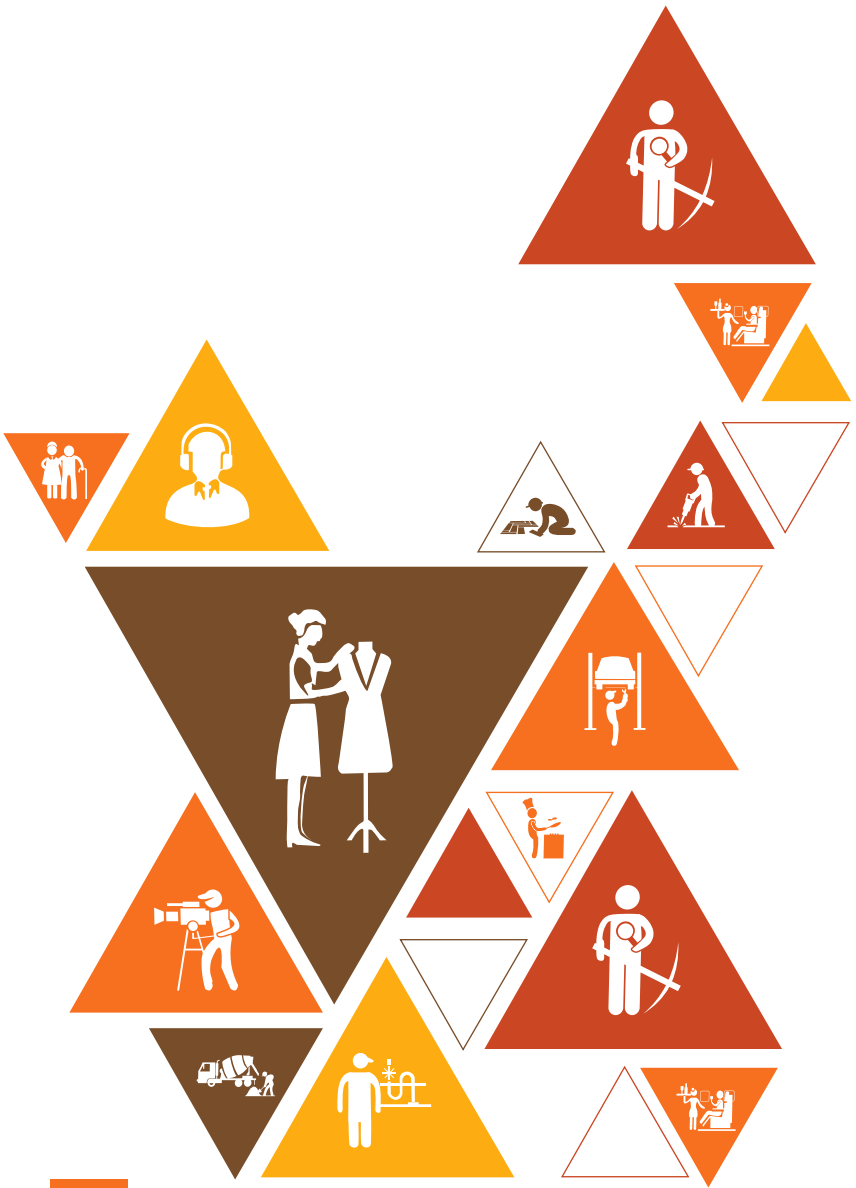
Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. c. $1.5 trillion
2. b. Designing fashion garments
3. c. Sportswear
4. c. Chemical and water discharge
5. b. CAD (Computer-Aided Design)

Answer the following questions briefly.

1. Refer to Unit 1.1: The Apparel Industry and Professional Functions
   Topic 1.1.3 Roles and Responsibilities of a Processing Supervisor (Dyeing & Printing)
2. Refer to Unit 1.1: The Apparel Industry and Professional Functions
   Topic 1.1.2 Employment Opportunities for a Processing Supervisor (Dyeing & Printing)
3. Refer to Unit 1.1: The Apparel Industry and Professional Functions
   Topic 1.1.1 The Size and Scope of the Apparel Industry
4. Refer to Unit 1.1: The Apparel Industry and Professional Functions
   Topic 1.1.1 The Size and Scope of the Apparel Industry
5. Refer to Unit 1.1: The Apparel Industry and Professional Functions
   Topic 1.1.3 Roles and Responsibilities of a Processing Supervisor (Dyeing & Printing)



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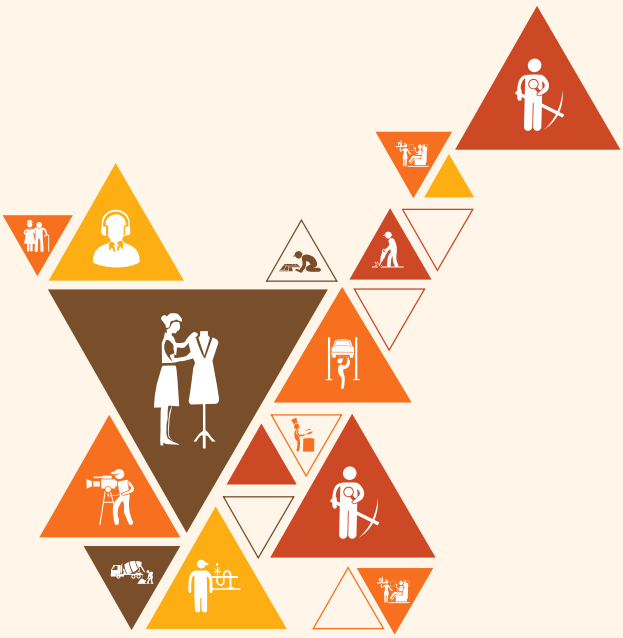
2. Fundamentals of Dyes and Chemicals

Unit 2.1 - Characteristics of Textile Materials and Dyeing

Unit 2.2 - Processes and Organisational Practices in Textile Production



AMH/N0615

Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Elaborate on chemical use and dye consumption in the organisation.
2. Describe dyeing machine operation, product suitability, and key parameters.
3. Explain types of dyes and chemicals, their shelf life, and effects on materials.
4. Analyse the stages of scouring, bleaching, dyeing, printing, and finishing.
5. Highlight fibre, yarn, fabric features, and the need for maintenance and work order clarity.

Unit 2.1: Characteristics of Textile Materials and Dyeing

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the operation and handling of dyeing machines based on capacity and product suitability.
2. Explain the dyeing cycle in relation to fibre types and machinery capabilities.
3. Analyse various types of dyes and chemicals used in the dyeing process.
4. Explain the shelf-life and storage conditions of dyes and chemicals.
5. Examine the effect of chemical composition on solubility, colour fastness, and uniformity of dyeing.
6. Identify the influence of pH, temperature, and time on dyeing and printing outcomes.
7. Describe the features of fibre, yarn, and fabric that affect processing performance.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, projector or large screen, presentation slides, computer or laptop with internet, dyeing machine samples or models, fabric and fibre swatches, charts showing dyeing cycles, chemical samples (where safe), and handouts on pH, temperature, and dyeing effects.

Do

- Greet participants and introduce the importance of understanding textile materials and dyeing characteristics.
- Present the unit objectives clearly to set the learning expectations.
- Ensure participants have handbooks, pens, and notebooks for note-taking.
- Test projector, slides, and arrange display of sample fabrics, fibres, and dyeing machines.
- Organise seating to allow clear visibility for demonstrations and discussions.
- Explain the interactive nature of the session including demonstrations and discussions.
- Relate theoretical concepts with real dyeing processes and participants' experiences.
- Encourage participants to share their workplace experiences with textile materials and dyeing challenges.
- Summarise key learning points after each section to ensure clarity.
- Conclude by linking material characteristics and dyeing knowledge to quality, efficiency, and production outcomes.

Say

- Welcome to the session on Characteristics of Textile Materials and Dyeing.
- Understanding textile material properties is essential for effective dyeing and printing results.
- In this unit, we will learn about dyeing machines, dye cycles, and the effects of chemicals and conditions.
- We will also explore how fibre, yarn, and fabric features influence processing performance.
- By the end of this session, you will be confident in linking material characteristics with dyeing techniques and outcomes.

Ask

- Why is it important to match dyeing machines with product type and capacity?
- How does the dyeing cycle vary with different fibre types?
- What are some common dyes and chemicals used in your workplace?
- Why is proper storage of dyes and chemicals important?
- How do factors like pH, temperature, and time affect dyeing results?
- Can you share an example where fabric characteristics influenced dyeing quality?
- What challenges have you faced with colour fastness or uniformity of dyeing?

Elaborate

- Different dyeing machines are designed for specific capacities and product types such as fabric, yarn, or garments.
- Dyeing cycles must be matched with fibre types like cotton, wool, or synthetics for proper results.
- Common dyes include reactive, natural, and vat dyes, each with unique characteristics and uses.
- Chemicals must be stored under correct conditions to maintain their shelf-life and effectiveness.
- The chemical composition of dyes impacts solubility, colour fastness, and uniform dyeing results.
- Process parameters such as pH, temperature, and time strongly affect colour shade, penetration, and durability.
- Fibre, yarn, and fabric properties such as absorbency, strength, and surface structure influence processing performance.

Explain

- Dyeing machines vary from beaker dyeing machines to large-capacity jet or winch machines, each suited for different materials.
- A dyeing cycle includes pre-treatment, dyeing, washing, and finishing, customised for fibre and machinery type.
- Reactive dyes bond chemically with fibres, while natural dyes provide eco-friendly but less con-sistent results.

- Shelf-life depends on the chemical composition, and improper storage may reduce dye effectiveness.
- Solubility determines how well a dye mixes in water, while colour fastness ensures resistance to washing and sunlight.
- Uniform dyeing depends on both chemical composition and process control.
- pH balance can shift colour shades, temperature affects dye penetration, and time impacts fixation and evenness.
- Fibre properties like hydrophilicity of cotton or hydrophobicity of polyester determine dye absorp-tion.
- Yarn twist and fabric density influence how evenly dyes are distributed.
- Linking these factors ensures consistent and high-quality dyeing outcomes.

Demonstrate

The facilitator will demonstrate how different fabrics (cotton, wool, polyester) react to the same dye under varied conditions of pH, temperature, and time. Participants will observe how machine type and fibre structure affect colour uptake and uniformity. A simple comparison of stored vs. freshly opened dyes will also be shown to highlight shelf-life effects.

Activity

1. **Name of the Activity:** Material and Dyeing Impact Study
2. **Objective of the activity:** To help participants understand the relationship between fibre characteristics, dyeing conditions, and outcomes.
3. **Resources:** Fabric swatches of different fibres, small dye samples, charts on dyeing cycles, pH strips, and temperature charts.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Assign each group a fabric type (cotton, wool, or polyester).
   - Groups discuss which dyeing machine, dye type, and process parameters are most suitable for their fabric.
   - Each group presents their reasoning to the class.
   - Facilitator links responses with correct industry practices..
6. **Outcome:** Participants will be able to identify how fibre, dye, and process conditions interact to achieve uniform and quality dyeing results.

Notes for Facilitation

- Use actual fabric swatches and dye samples for better understanding.
- Link theoretical knowledge with practical industry applications.
- Encourage participants to relate fibre and fabric properties to their daily work.
- Reinforce the importance of process parameters in dyeing success.
- Summarise by highlighting how correct material handling and dyeing techniques improve quality and reduce waste.

Unit 2.2: Processes and Organisational Practices in Textile Production

Unit Objectives

By the end of this unit, the participants will be able to:

1. Identify the sequential processes of scouring, bleaching, dyeing, printing, and finishing.
2. Describe the required interpretation and application of a given work order.
3. Explain the cleaning and maintenance schedules followed in an organisation.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, projector or large screen, presentation slides, computer or laptop with internet, fabric samples at different processing stages (scoured, bleached, dyed, printed, finished), sample work orders, maintenance checklists, and charts showing or-ganisational process flow.

Do

- Greet participants and introduce the importance of processes and organisational practices in textile production.
- Present the unit objectives clearly to set the learning expectations.
- Ensure participants have handbooks, pens, and notebooks for note-taking.
- Test projector, slides, and display sample fabrics, work orders, and process flow charts.
- Arrange seating for clear visibility and group discussion.
- Explain that the session will include demonstrations, discussions, and practical examples.
- Relate theoretical knowledge with participants' practical experiences in textile production.
- Encourage participants to share workplace experiences with process flows and maintenance prac-tices.
- Summarise key points after each section to ensure clarity and understanding.
- Conclude by linking process knowledge and organisational practices to efficiency, quality, and productivity.

Say

- Welcome to the session on Processes and Organisational Practices in Textile Production.
- In this session, we will learn about the sequence of key processes: scouring, bleaching, dyeing, printing, and finishing.
- We will also understand how to interpret and apply work orders accurately in production.

- Finally, we will cover cleaning and maintenance schedules that organisations follow for smooth operations.
- By the end of this unit, you will be confident in identifying processes and organisational practices essential for textile production.

Ask

- Why is it important to follow the sequence of scouring, bleaching, dyeing, printing, and finishing?
- What information is usually found in a textile production work order?
- How can misinterpretation of a work order affect production?
- What types of maintenance schedules are common in textile organisations?
- How do cleaning routines affect machine performance and product quality?
- Can you share an example where poor maintenance affected production?
- Why is organisational discipline important in textile process management?

Elaborate

- Scouring removes natural oils, waxes, and impurities from fabric to improve dye absorption.
- Bleaching whitens the fabric and prepares it for uniform dyeing or printing.
- Dyeing applies colour, while printing adds specific patterns or designs.
- Finishing improves texture, appearance, and usability of fabric, adding value to the product.
- Work orders contain instructions such as fabric type, quantity, process requirements, and deadlines.
- Accurate interpretation ensures processes are followed correctly and resources are used efficiently.
- Cleaning and maintenance schedules include daily checks, lubrication, and periodic servicing of machines.
- Regular maintenance prevents breakdowns, reduces downtime, and improves product quality.
- Organisational practices help maintain discipline, efficiency, and consistency in textile operations.
- Following proper processes and schedules ensures better productivity, reduced waste, and higher customer satisfaction.

Explain

- Textile production follows a step-by-step sequence, starting from scouring to finishing.
- Each process prepares the fabric for the next, ensuring quality and uniformity.
- Work orders act as roadmaps for production, guiding workers with detailed instructions.
- Misinterpreting a work order may cause delays, errors, or quality defects.
- Cleaning routines involve removing lint, dust, and chemical residues from machines.
- Maintenance schedules may include preventive maintenance, routine servicing, and emergency repairs.

- Proper maintenance extends machine life and improves safety in the workplace.
- Organisational practices ensure resources, manpower, and time are utilised effectively.
- Following procedures creates accountability and reliability in production.
- Overall, good process management improves efficiency, quality, and customer trust.

Demonstrate

The facilitator will show fabric samples at different stages: raw, scoured, bleached, dyed, printed, and finished, to help participants visually understand the process sequence. A sample work order will be dis-played and explained step by step, showing how instructions are interpreted. Additionally, a mainte-nance checklist will be demonstrated to highlight cleaning and scheduling practices.

Activity

1. **Name of the Activity:** Process Flow and Work Order Practice
2. **Objective of the activity:** To familiarise participants with textile process se-quences and correct interpretation of work orders.
3. **Resources:** Fabric samples, process flow chart, sample work orders, mainte-nance schedule chart.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into groups.
   - Provide each group with a sample work order and process flow chart.
   - Ask groups to identify the correct process sequence based on the work or-der.
   - Groups discuss how cleaning and maintenance would affect the execution of this order.
   - Each group presents their findings to the class.
6. **Outcome:** Participants will understand textile process sequencing, proper work order interpretation, and the importance of cleaning and maintenance in pro-duction.

Notes for Facilitation

- Use real or sample fabrics at various stages to make the process flow more engaging.
- Display work orders and process charts for clarity.
- Encourage participants to connect organisational practices with their own work settings.
- Reinforce the link between proper process flow, maintenance, and overall production quality.
- Summarise by highlighting how discipline in processes and practices supports efficiency, safety, and cus-tomer satisfaction.

Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. b. Scouring
2. c. To provide instructions for processing a batch
3. b. Disperse dye
4. b. Predictive
5. d. Functional finish

Answer the following questions briefly.

1. Refer to Unit 2.1: Characteristics of Textile Materials and Dyeing
   Topic 2.1.2 The Dyeing Cycle in Relation to Fibre Types and Machinery Capabilities
2. Refer to Unit 2.2: Processes and Organisational Practices in Textile Production
   Topic 2.2.2 Interpretation and Application of a Work Order
3. Refer to Unit 2.2: Processes and Organisational Practices in Textile Production
   Topic 2.2.3 Cleaning and Maintenance Schedules
4. Refer to Unit 2.2: Processes and Organisational Practices in Textile Production
   Topic 2.2.1 Sequential Processes: Scouring, Bleaching, Dyeing, Printing, and Finishing
5. Refer to Unit 2.2: Processes and Organisational Practices in Textile Production
   Topic 2.2.3 Cleaning and Maintenance Schedules

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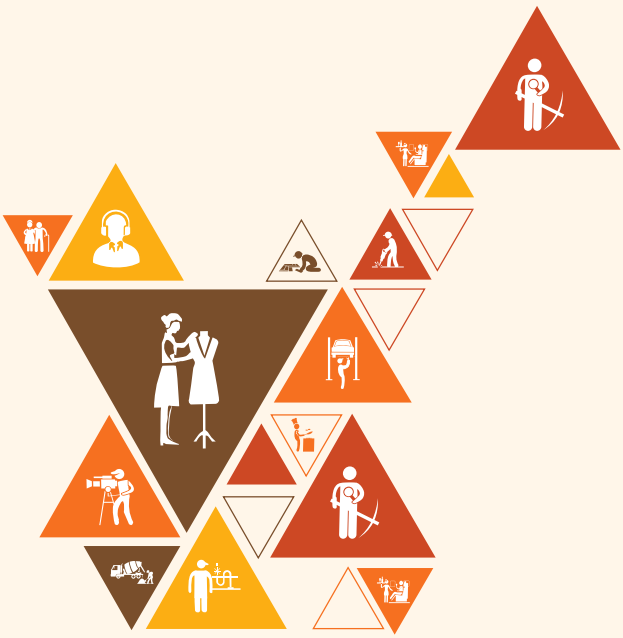
3. Plan and Organise Materials to be Dyed and Printed as per Customer Requirements

Unit 3.1 - Workplace Policies, Standards and Compliance

Unit 3.2 - Operational Planning and Resource Allocation



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Elaborate on identifying customer requirements and work order interpretation.
2. Elucidate the dyeing process and its relation to production activities.
3. Describe organisational rules, codes, quality standards, and operating procedures.
4. Explain ways to reduce consumption of water, dyes, and chemicals.
5. Discuss the use of pantone shade cards and standard reference samples.
6. Highlight preventive maintenance and proper functioning of equipment.
7. Outline the allocation of machines and operators based on requirements.
8. Illustrate the importance of arranging materials, resources, and lot numbers clearly.

Unit 3.1: Workplace Policies, Standards and Compliance

Unit Objectives

By the end of this unit, the participants will be able to:

1. List the organisation's rules, codes, and timekeeping guidelines for dyeing and printing.
2. Describe the quality standards followed in dyeing and printing operations.
3. Explain equipment operating procedures and managerial instructions.
4. Identify pantone shade cards or standard reference samples used in colour matching.
5. Interpret work order requirements related to dyeing and printing tasks.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, organisational policy manuals, timekeeping charts, pantone shade cards or standard reference samples, equipment operation manuals, work or-ders, PPE (apron, gloves, safety shoes, mask).

Do

- Greet participants and introduce the unit by connecting workplace policies, standards, and compli-ance with operational efficiency and safety.
- State the objectives clearly so participants understand the scope of rules, quality standards, and compliance requirements.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and roleplays.
- Balance theoretical explanations with real examples from dyeing and printing operations.
- Invite participants to share experiences of following workplace policies or encountering compliance issues.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of workplace policies, standards, and motivate participants to follow them sys-tematically.

Say

- Welcome to this session on Workplace Policies, Standards, and Compliance in Dyeing and Printing.
- Workplace policies and standards ensure operations are safe, efficient, and consistent with quality expectations.

- In this unit, we will learn about organisational rules, equipment procedures, colour standards, and compliance reporting.
- We will also discuss correct handling procedures and interpreting work orders accurately.
- By the end of this session, you will be able to follow rules, identify quality standards, operate equipment properly, and report work requirements effectively.

Ask

- Why are workplace rules and timekeeping important in dyeing and printing operations?
- What can happen if quality standards are not followed consistently?
- How should equipment procedures and managerial instructions be communicated and followed?
- Why is it important to use pantone shade cards or reference samples?
- How can we interpret and execute work orders correctly to avoid errors?
- Can you share any situation where ignoring workplace standards caused problems?
- How do policies and compliance impact overall productivity and safety?
- What steps can be taken to ensure adherence to standards and compliance in daily operations?

Elaborate

- Workplace rules, codes, and timekeeping guidelines create a structured work environment.
- Quality standards ensure consistency, customer satisfaction, and reduced rework.
- Following equipment operating procedures prevents accidents and equipment damage.
- Pantone shade cards and reference samples help maintain colour accuracy.
- Interpreting work orders correctly ensures tasks are completed as required.
- Policies and standards reduce operational errors and improve efficiency.
- Compliance with safety guidelines protects employees and minimises risks.
- Regular adherence to procedures supports accountability and traceability.
- Correct reporting and documentation strengthen communication between workers and supervi-sors.
- Trained personnel familiar with policies and standards enhance overall production quality.

Explain

- Workplace policies provide rules and guidelines for safe and consistent operations.
- Quality standards guide the processes in dyeing and printing to meet organisational and buyer re-quirements.
- Equipment operating procedures ensure machines function safely and efficiently.
- Reference samples like pantone shade cards maintain uniformity in colour matching.
- Work orders communicate specific instructions and requirements for each task.
- Following policies and standards systematically prevents errors and ensures smooth operations.

- Proper documentation of compliance and quality helps in audits and accountability.
- Understanding and applying standards reduces defects and operational risks.
- Employees adhering to procedures contribute to workplace discipline and productivity.
- Compliance is not only legal but builds trust with customers and management.

Demonstrate

The facilitator will show how to read and follow a work order, interpret pantone shade cards, and follow equipment operating procedures. Participants will observe how to check adherence to organisational rules, quality standards, and safety compliance. A live or video demonstration will include examples of correct colour matching, proper use of machinery, and documenting compliance.

Activity

1. **Name of the Activity:** Policies and Compliance Practice
2. **Objective of the Activity:** To train participants in applying workplace rules, quality standards, and interpreting work orders accurately.
3. **Resources:** Participant handbook, organisational policy manuals, work or-ders, pantone shade cards, equipment manuals, notepad, pen, PPE.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Provide each group with a sample work order, reference samples, and equipment instruction sheets.
   - Ask them to identify relevant policies, standards, and procedures applicable to the task.
   - Groups will prepare a short presentation explaining how they will follow the rules, operate equipment, and meet quality standards.
   - Facilitator gives feedback on understanding, application, and clarity of com-pliance demonstration.
6. **Outcome:** Participants will be able to follow workplace policies, operate equipment safely, use colour reference samples correctly, and interpret work orders accurately.

Notes for Facilitation

- Keep participants engaged by showing real examples of policies, reference samples, and equipment.
- Use slides and diagrams to explain rules, standards, and compliance steps.
- Encourage participants to share experiences of workplace compliance challenges.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

Unit 3.2: Operational Planning and Resource Allocation

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the overall dyeing and printing production process and related tasks.
2. Explain methods to reduce consumption of dyes, chemicals, water, and other resources.
3. Assess the arrangement of dyes and chemicals by verifying lot numbers.
4. Examine the cleanliness of weighing scales, mixers, tanks, and related equipment.
5. Follow and explain the preventive maintenance schedule and equipment checks.
6. Ensure and assess availability of dyes, chemicals, and materials, including location and contact de-tails.
7. Allocate dyeing machines by analysing dyeing cycles, urgency, and shade priority.
8. Allocate operators based on evaluating technical and skill suitability for dyeing and printing work.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, fabric and garment samples, dye and chemi-cal samples, measuring scales, mixers, tanks, equipment checklists, preventive maintenance schedules, dyeing machine allocation charts, operator skill matrices, PPE (apron, gloves, safety shoes, mask).

Do

- Greet participants and introduce the unit by connecting operational planning and resource allocation with efficient production and cost savings.
- State the objectives clearly so participants understand the scope of planning, resource management, and machine/operator allocation.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and case studies.
- Balance theoretical explanations with real examples from dyeing and printing production.
- Invite participants to share experiences of resource shortages, machine scheduling issues, or opera-tor allocation challenges.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of operational planning techniques and motivate participants to adopt systematic resource management practices.

Say

- Welcome to this session on Operational Planning and Resource Allocation in Dyeing and Printing.
- Operational planning ensures that machines, materials, and personnel are optimally allocated for smooth production.
- In this unit, we will learn how to plan production processes, manage resources, and allocate ma-chines and operators efficiently.
- We will also discuss preventive maintenance, cleanliness, and verification of materials to ensure quality and safety.
- By the end of this session, you will be confident in planning operations, managing resources, and al-locating machines and operators effectively.

Ask

- Why is operational planning important in dyeing and printing production?
- How can overuse of dyes, chemicals, or water be reduced effectively?
- What steps should be followed to verify lot numbers and chemical arrangements?
- Why is cleanliness of weighing scales, mixers, and tanks critical?
- How does preventive maintenance improve production efficiency and reduce downtime?
- How do you ensure availability of materials, including dyes, chemicals, and auxiliaries?
- What factors should be considered when allocating dyeing machines?
- How should operators be assigned based on technical skills and experience?

Elaborate

- Operational planning ensures that production tasks are scheduled efficiently and resources are uti-lised optimally.
- Reducing consumption of dyes, chemicals, and water lowers costs and environmental impact.
- Verifying lot numbers ensures consistency and prevents mix-ups in production.
- Clean equipment prevents contamination and ensures accurate measurements.
- Preventive maintenance and regular equipment checks reduce breakdowns and production delays.
- Availability of materials with clear location and contact information supports smooth operations.
- Allocating machines based on dyeing cycles, urgency, and shade priority improves workflow.
- Assigning operators according to skills and technical suitability ensures better quality and efficiency.
- Systematic planning prevents bottlenecks and promotes timely delivery.
- Proper resource management contributes to cost savings and consistent product quality.

Explain

- Planning the dyeing and printing process ensures that tasks are completed in sequence and on time.
- Monitoring and reducing resource consumption prevents wastage and improves sustainability.
- Arranging and verifying chemicals and dyes maintains production accuracy and avoids errors.
- Cleaning and inspecting equipment ensures safety and measurement accuracy.
- Following preventive maintenance schedules prolongs equipment life and prevents unexpected failures.
- Ensuring material availability reduces downtime and supports continuous production.
- Allocating machines according to production priorities optimises throughput.
- Operator allocation based on skills improves quality and reduces operational errors.
- Documenting and following resource allocation plans improves accountability and traceability.
- Systematic operational planning enhances overall productivity and efficiency.

Demonstrate

The facilitator will show how to verify lot numbers, check cleanliness of equipment, and follow preventive maintenance schedules. Participants will observe how to check resource availability, allocate dyeing machines based on production cycles and shade priority, and assign operators according to skill levels. A live or video demonstration will include planning a small batch production, managing resources, and scheduling operators efficiently.

Activity

1. **Name of the Activity:** Plan and Allocate
2. **Objective of the Activity:** To train participants in operational planning, re-source management, and allocation of machines and operators.
3. **Resources:** Participant handbook, sample dyes and chemicals, equipment checklists, preventive maintenance schedules, machine allocation charts, operator skill matrix, PPE.
4. **Time Duration:** 20 minutes
5. **Instructions:**
    - Divide participants into small groups.
    - Provide each group with a sample production order and available resources.
    - Ask them to plan the production sequence, allocate machines and opera-tors, and ensure resource availability.
    - Groups will present their plan and explain the rationale behind allocation de-cisions.
    - Facilitator gives feedback on accuracy, efficiency, and practicality of planning and allocation.
6. **Outcome:** Participants will be able to plan production, allocate resources and machines efficiently, and assign operators based on skill and task requirements.

Notes for Facilitation

- Keep participants engaged by showing real examples of dyes, chemicals, and machines.
- Use slides and diagrams to explain operational planning steps and resource allocation techniques.
- Encourage participants to share experiences of challenges in planning or allocation.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. c. Increased carbon emissions
2. a. Reduce, Reuse, Recycle
3. c. Organic textile standards
4. c. Blue
5. c. Leakage of toxic metals

Answer the following questions briefly.

1. Refer to Unit 3.2: Operational Planning and Resource Allocation
   Topic 3.2.2 Methods to Reduce Consumption of Dyes, Chemicals, Water, and Other Re-sources
2. Refer to Unit 3.2: Operational Planning and Resource Allocation
   Topic 3.2.2 Methods to Reduce Consumption of Dyes, Chemicals, Water, and Other Re-sources
3. Refer to Unit 3.1: Workplace Policies, Standards and Compliance
   Topic 3.1.3 Equipment Operating Procedures and Managerial Instructions
4. Refer to Unit 3.1: Workplace Policies, Standards and Compliance
   Topic 3.1.3 Equipment Operating Procedures and Managerial Instructions
5. Refer to Unit 3.2: Operational Planning and Resource Allocation
   Topic 3.2.6 Availability of Dyes, Chemicals, and Materials (Location and Contact Details)

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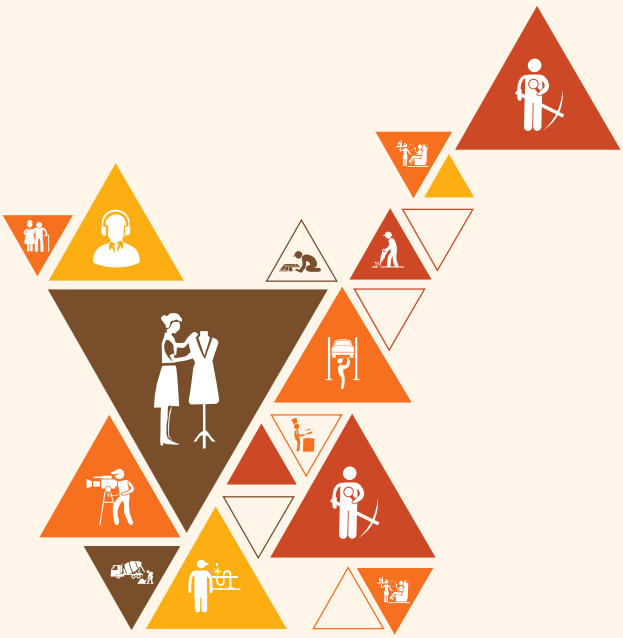
4. Develop Recipe for Dyeing and Printing

Unit 4.1 - Materials, Equipment, and Techniques in Dyeing and Printing



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Elaborate on identifying the right quantity and reaction of chemicals in dyeing.
2. Elucidate the types of dyes and chemicals used such as reactive, natural, and disperse dyes.
3. Describe the materials to be dyed including cotton, wool, and synthetics.
4. Explain the use of PPE before and during dyeing work.
5. Discuss the development of dyeing recipes with parameters like cycle and MLR.
6. Highlight the use of different machines for sample, beaker, or garment dyeing.
7. Illustrate the process parameters for effective dyeing and printing.

Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe various types of dyes and chemicals such as reactive dyes, natural dyes, and discharge dyes.
2. Describe materials suitable for dyeing such as cotton, wool, and synthetic fibres.
3. Describe the appropriate use of Personal Protective Equipment (PPE) before and during dyeing work.
4. Identify various types of printing and dyeing machines such as beaker dyeing machines, garment dyeing machines, and sample printing machines.
5. Identify key process parameters for effective dyeing and printing operations.
6. Explain the procedure for developing a dyeing recipe with minimal data using a recipe bank while ensuring flexibility.
7. Develop a detailed dyeing recipe including elements such as dyeing cycle, Material to Liquor Ratio (MLR), and other essential parameters.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, projector or large screen, computer or laptop with internet, fabric swatches, dye and chemical samples (reactive dyes, natural dyes, discharge dyes), printed fabric samples, PPE kits (gloves, masks, aprons), measuring tools, recipe bank examples, and images/videos of dyeing and printing machines.

Do

- Greet participants and introduce the importance of dyes, materials, machines, and techniques in dyeing and printing.
- Present the unit objectives clearly to outline the scope of materials, equipment, PPE, and recipe preparation.
- Ensure participants have handbooks, pens, and notebooks for notes.
- Check setup of projector, slides, fabric samples, and PPE kits before the session.
- Organise seating so participants can clearly view demonstrations and sample displays.
- Explain the interactive nature of the session – discussions, demonstrations, and practical group activities.
- Relate theoretical concepts with participants' real-life dyeing or textile experiences.
- Invite participants to share their own experiences in fabric dyeing, printing, or handling chemicals.
- Summarise key points after each section to ensure understanding.
- Conclude with a recap, linking the use of dyes, machines, PPE, and recipes to efficiency, safety, and fab-ric quality.

Say

- Welcome to the session on Materials, Equipment, and Techniques in Dyeing and Printing.
- Understanding dyes, chemicals, and materials is crucial for producing high-quality fabrics.
- In this unit, we will learn about different types of dyes, fabrics suitable for dyeing, and the use of PPE.
- We will also cover printing and dyeing machines, process parameters, and steps for creating dyeing rec-ipes.
- By the end of this session, you will be confident in selecting materials, handling equipment, and preparing dyeing recipes effectively.

Ask

- What are some dyes you have heard of or seen being used in fabric processing?
- Why is PPE important when working with dyes and chemicals?
- Can you name fabrics that take dye better than others?
- Have you seen a dyeing or printing machine in operation? What was your observation?
- Why do you think process parameters are important in dyeing and printing?
- How do you think a recipe bank helps in creating dyeing recipes?
- What could happen if the Material to Liquor Ratio (MLR) is not followed correctly?
- Can you share an experience where improper dyeing or printing affected fabric quality?

Elaborate

- Reactive, natural, and discharge dyes are commonly used in textile dyeing depending on fabric type and desired effect.
- Cotton, wool, and synthetic fibres each require different dyes and processes for effective colouring.
- PPE like gloves, masks, and aprons protect workers from chemical hazards during dyeing and printing.
- Machines such as beaker dyeing machines, garment dyeing machines, and sample printing machines streamline production.
- Process parameters like temperature, pH, and MLR are critical for consistent results.
- A recipe bank helps in creating dyeing recipes with minimal trial-and-error and improves efficiency.
- Detailed recipes include cycle time, MLR, and other specifications to ensure repeatable quality.
- Proper machine handling and recipe control prevent fabric damage and wastage.
- Supervisors ensure balance between efficiency, safety, and fabric quality in production.
- Mastery of materials, machines, and recipes leads to professional growth in textile processing.

Explain

- Dyes are classified into categories like reactive, natural, and discharge, each with specific uses.
- Natural fibres like cotton absorb dyes differently from synthetics like polyester, requiring specific methods.
- PPE ensures safety while handling chemicals and prevents health risks.

- Beaker dyeing machines are used for lab trials, while garment dyeing machines and sample printing ma-chines are used for bulk or test runs.
- Process parameters control colour fastness, shade consistency, and fabric strength.
- A recipe bank provides tried-and-tested formulas that save time and resources.
- Developing a dyeing recipe requires balancing dyes, auxiliaries, and MLR.
- Recipes must include cycle times and other technical details to maintain quality.
- Following recipes ensures minimal errors and predictable results in production.
- Overall, knowledge of materials, machines, and recipes leads to safe, efficient, and high-quality dyeing and printing.

Demonstrate

Participants will observe fabric samples dyed with reactive, natural, and discharge dyes to compare re-sults. They will be shown different PPE items and how to use them correctly. Videos or live demonstra-tions of dyeing machines (beaker and garment dyeing machines) and printing machines will highlight process parameters. A sample recipe from a recipe bank will be shared to show how minimal data can be used to create effective dyeing cycles with proper MLR and timings.

Activity

1. **Name of the Activity:** Recipe Preparation and PPE Practice
2. **Objective of the activity:** To train participants in using PPE correctly and devel-oping a sample dyeing recipe.
3. **Resources:** Fabric swatches, dyes, PPE kits, recipe bank samples, measuring tools, and notebooks.
4. **Time Duration:** 20 minutes
5. **Instructions:**
    - Divide participants into small groups.
    - Each group wears PPE correctly before handling dye samples.
    - Using a recipe bank example, they create a simple dyeing recipe including dye type, MLR, and cycle.
    - Present their recipe to the facilitator for review.
    - Facilitator provides feedback on accuracy, safety, and practicality.
6. **Outcome:** Participants will be able to use PPE properly, identify dyes and fab-rics, and prepare a detailed dyeing recipe with correct parameters.

Notes for Facilitation

- Emphasise hands-on practice with dye samples, fabrics, and PPE.
- Use visual aids (slides, videos, or projector) to explain dyes, fabrics, and machines.
- Encourage sharing of workplace experiences with dyeing or printing challenges.
- Maintain a balance between theory, demonstration, and practical activity.
- Reinforce the importance of safety, accuracy, and recipe control in dyeing and printing processes.

Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. c. Reactive dye
2. b. Wool
3. d. Beaker dyeing machine
4. c. Prevents staining from metal ions
5. c. Enhances uniform dye absorption

Answer the following questions briefly.

1. Refer to Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing
   Topic 4.1.1 Types of Dyes and Chemicals: Reactive, Natural, and Discharge Dyes
2. Refer to Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing
   Topic 4.1.2 Materials Suitable for Dyeing: Cotton, Wool, and Synthetic Fibres
3. Refer to Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing
   Topic 4.1.3 Use of Personal Protective Equipment (PPE) in Dyeing Work
4. Refer to Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing
   Topic 4.1.6 Procedure for Developing a Dyeing Recipe Using a Recipe Bank
5. Refer to Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing
   Topic 4.1.5 Key Process Parameters for Effective Dyeing and Printing

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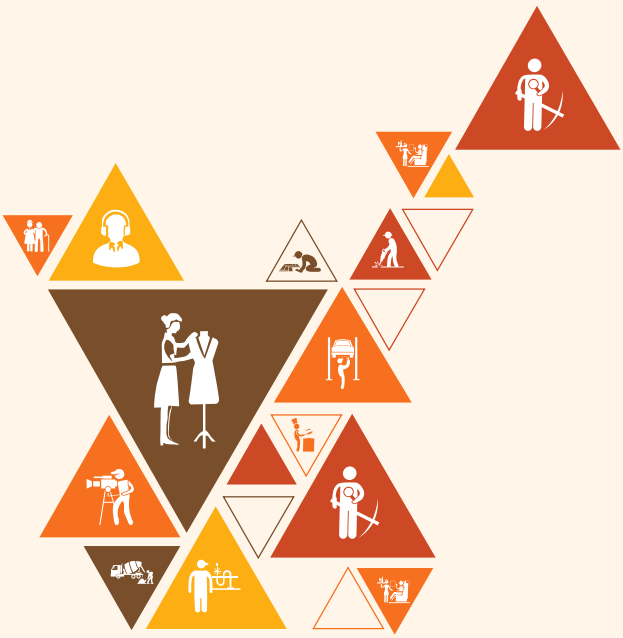
5. The Process of Dyeing

Unit 5.1 - Key Workplace Practices and Compliance

Unit 5.2 - Technical Aspects of Dyeing and Printing



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Elaborate on prioritising the dyeing and printing plan to minimise resource consumption.
2. Elucidate the correction methods for dyeing issues like patchiness and shade variation.
3. Describe the effects of dyeing on fabric attributes such as harshness and shrinkage.
4. Explain the execution of dyeing and printing cycles as per defined process steps.
5. Highlight the washing, hydro-extraction, and drying of materials after dyeing.
6. Illustrate corrective actions required in case of deviations during dyeing or printing.

Unit 5.1: Key Workplace Practices and Compliance

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the importance of complying with written instructions in dyeing and printing operations.
2. Discuss the significance of using appropriate personal protective equipment (PPE) before and during work in the colour store.
3. Explain how to weigh dyestuff in descending order of quantity, beginning with larger amounts and ending with smaller amounts.
4. Describe how to weigh dyestuff below 20 grams using a precision balance.
5. Analyse the correct procedure for weighing dyestuff separately to avoid cross-contamination.
6. Examine how to check that all operational controls are functioning properly.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, dyestuff samples, precision balance, stand-ard weighing scales, PPE (apron, gloves, safety shoes, mask, goggles), operational control checklists, measuring spoons, containers for weighing, spill trays.

Do

- Greet participants and introduce the unit by connecting workplace compliance with safety, accuracy, and efficiency in dyeing and printing.
- State the objectives clearly so participants understand the importance of following instructions, PPE use, and proper weighing procedures.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and roleplays.
- Balance theoretical explanations with real examples from the colour store and weighing procedures.
- Invite participants to share experiences where PPE use or weighing errors affected production.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of key workplace practices and motivate participants to adopt accurate and safe procedures consistently.

Say

- Welcome to this session on Key Workplace Practices and Compliance in Dyeing and Printing.
- Compliance with written instructions ensures accuracy, safety, and operational efficiency.
- In this unit, we will learn how to use PPE correctly, weigh dyestuff accurately, and check operational controls.
- We will also discuss methods to prevent cross-contamination and ensure safe handling of chemicals.
- By the end of this session, you will be able to follow workplace procedures, handle dyestuff safely, and ensure operational controls function correctly.

Ask

- Why is it important to comply with written instructions in dyeing and printing?
- What PPE should be worn in the colour store, and why?
- What is the correct sequence for weighing dyestuff in descending order of quantity?
- How do you weigh small quantities of dyestuff accurately using a precision balance?
- Why is it necessary to weigh dyestuff separately to prevent cross-contamination?
- How can you check if operational controls are working properly before starting work?
- Can you share any experience of a weighing error or PPE misuse in your work?
- How do these practices affect safety, quality, and efficiency?

Elaborate

- Following written instructions ensures that tasks are completed accurately and consistently.
- Using appropriate PPE protects workers from chemical exposure and workplace hazards.
- Weighing dyestuff in descending order prevents errors and ensures correct dye quantities.
- Precision balances are essential for weighing dyestuff below 20 grams accurately.
- Separating dyestuff prevents cross-contamination and maintains colour purity.
- Checking operational controls ensures equipment functions safely and efficiently.
- Correct handling of dyestuff and equipment reduces accidents and material wastage.
- Systematic workplace practices improve productivity and product quality.
- Compliance builds a safe work environment and supports regulatory standards.
- Trained personnel following procedures ensure reliability and consistency in dyeing operations.

Explain

- Key workplace practices start with reading and following written instructions carefully.
- PPE such as gloves, aprons, masks, and goggles must be worn before and during work in the colour store.
- Dyestuff should be weighed in descending order, starting with larger amounts first.
- For small quantities below 20 grams, use a precision balance for accurate measurement.

- Weigh dyestuff separately in clean containers to avoid cross-contamination.
- Operational controls must be examined before starting to ensure equipment safety and functionality.
- Following these procedures prevents accidents, errors, and product defects.
- Systematic weighing and equipment checks support overall quality and compliance standards.
- Correct documentation and handling enhance traceability and accountability.
- Adhering to these practices ensures safe, efficient, and accurate dyeing operations.

Demonstrate

The facilitator will show how to wear PPE correctly, weigh dyestuff in descending order, and use a preci-sion balance for small quantities. Participants will observe the procedure for weighing dyestuff separate-ly to avoid cross-contamination and how to check operational controls before starting work. A live or video demonstration will include examples of accurate weighing, safe handling, and inspection of equipment controls.

Activity

1. **Name of the Activity:** Weighing and Compliance Practice
2. **Objective of the activity:** To train participants in correct PPE usage, accurate weighing of dyestuff, and checking operational controls.
3. **Resources:** Participant handbook, dyestuff samples, precision balance, stand-ard weighing scales, PPE, operational control checklists, containers, measuring spoons.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Provide each group with dyestuff samples and weighing equipment.
   - Ask them to wear PPE, weigh dyestuff in descending order, and handle small quantities using a precision balance.
   - Groups will also inspect operational controls and demonstrate measures to avoid cross-contamination.
   - Facilitator gives feedback on safety compliance, accuracy, and handling proce-dures.
6. **Outcome:** Participants will be able to follow PPE protocols, weigh dyestuff accurately, prevent cross-contamination, and ensure operational controls are functioning.

Notes for Facilitation

- Keep participants engaged by showing real dyestuff, weighing tools, and PPE.
- Use slides and diagrams to explain weighing sequences, precision measurement, and operational checks.
- Encourage participants to share experiences of safe or unsafe handling.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

Unit 5.2: Technical Aspects of Dyeing and Printing

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the process parameters for dyeing and printing, including technicalities and technologies.
2. Explain the mechanism of dye fixation in textile substrates.
3. Describe the various types of dye fastness, such as water fastness and colour fastness.
4. Assess the developed shades by comparing them with a standard sample or pantone shade card.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, fabric and garment samples, dyed and print-ed samples, pantone shade cards or standard reference samples, dyeing and printing equipment manu-als, measuring tools, PPE (apron, gloves, safety shoes, mask), sample chemicals, colour evaluation charts.

Do

- Greet participants and introduce the unit by connecting technical knowledge with accurate dyeing and printing outcomes.
- State the objectives clearly so participants understand the importance of process parameters, dye fixation, and shade evaluation.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and shade comparison exercises.
- Balance theoretical explanations with real examples from dyeing and printing processes.
- Invite participants to share experiences of shade variations or dyeing issues they have encountered.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of technical aspects and motivate participants to apply correct process parameters and shade evaluation systematically.

Say

- Welcome to this session on Technical Aspects of Dyeing and Printing.
- Understanding technical parameters ensures consistent and high-quality dyeing and printing results.
- In this unit, we will learn about dye fixation, types of fastness, and evaluating developed shades.

- We will also discuss the use of standard samples and pantone shade cards for accurate shade matching.
- By the end of this session, you will be able to manage process parameters, assess dye fastness, and compare shades effectively.

Ask

- Why is it important to follow process parameters in dyeing and printing?
- What is the mechanism of dye fixation on textile substrates?
- Can you name the different types of dye fastness and why they matter?
- How do you compare developed shades with standard samples or pantone shade cards?
- What can happen if process parameters are not followed correctly?
- Have you noticed variations in shade during production? How were they addressed?
- How does assessing fastness improve product quality and customer satisfaction?
- Why is standard shade comparison critical in dyeing and printing operations?

Elaborate

- Process parameters control temperature, time, chemical concentration, and machine settings for consistent dyeing.
- Dye fixation mechanisms ensure the dye bonds correctly with the textile substrate for durability.
- Dye fastness, including water and colour fastness, indicates how well the colour withstands washing, light, and friction.
- Comparing developed shades with standard samples ensures accuracy and consistency.
- Correct process parameters reduce waste and improve reproducibility of shades.
- Fastness testing identifies potential issues before products reach customers.
- Standard shade cards or pantone references provide a reliable benchmark for colour evaluation.
- Understanding technical aspects improves decision-making during production and shade adjustments.
- Accurate shade evaluation ensures customer satisfaction and brand reliability.
- Technically trained personnel reduce errors and enhance overall production quality.

Explain

- Process parameters include temperature, time, chemical dosage, and machine settings for dyeing and printing.
- Dye fixation is the chemical or physical bonding of dye to textile fibres for long-lasting colour.
- Types of dye fastness, like water fastness and colour fastness, determine durability under different conditions.
- Developed shades must be assessed by comparing with standard samples or pantone shade cards for accuracy.
- Following process parameters prevents shade variations and ensures reproducibility.

- Fastness testing identifies weaknesses in dyeing that could affect product quality.
- Using standard references ensures consistency across production batches.
- Technical understanding reduces material wastage and improves efficiency.
- Accurate shade evaluation ensures that customer expectations are met.
- Implementing these practices supports high-quality, reliable dyeing and printing operations.

Demonstrate

The facilitator will show how to monitor and adjust process parameters for dyeing and printing, demon-strate dye fixation mechanisms, and assess fastness properties. Participants will observe how to com-pare developed shades with pantone shade cards or standard samples to ensure accuracy. A live or vid-eo demonstration will include examples of dyeing small fabric samples and evaluating shade and fast-ness.

Activity

1. **Name of the Activity:** Shade Evaluation and Process Practice
2. **Objective of the activity:** To train participants in managing dyeing parameters, assessing dye fastness, and evaluating developed shades accurately.
3. **Resources:** Participant handbook, dyed and printed samples, pantone shade cards, measuring tools, PPE, equipment manuals, sample chemicals.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Provide each group with dyed samples, fastness charts, and standard reference shades.
   - Ask them to evaluate shade accuracy, test fastness where applicable, and dis-cuss process parameter adjustments.
   - Groups will present findings and explain how to achieve accurate dyeing re-sults.
   - Facilitator gives feedback on accuracy, technical understanding, and evaluation methods.
6. **Outcome:** Participants will be able to manage process parameters, assess dye fastness, and evaluate developed shades against standard references effectively.

Notes for Facilitation

- Keep participants engaged by showing real dyed and printed samples and pantone shade cards.
- Use slides and diagrams to explain process parameters, dye fixation, and fastness testing.
- Encourage participants to share experiences of shade variations and solutions.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

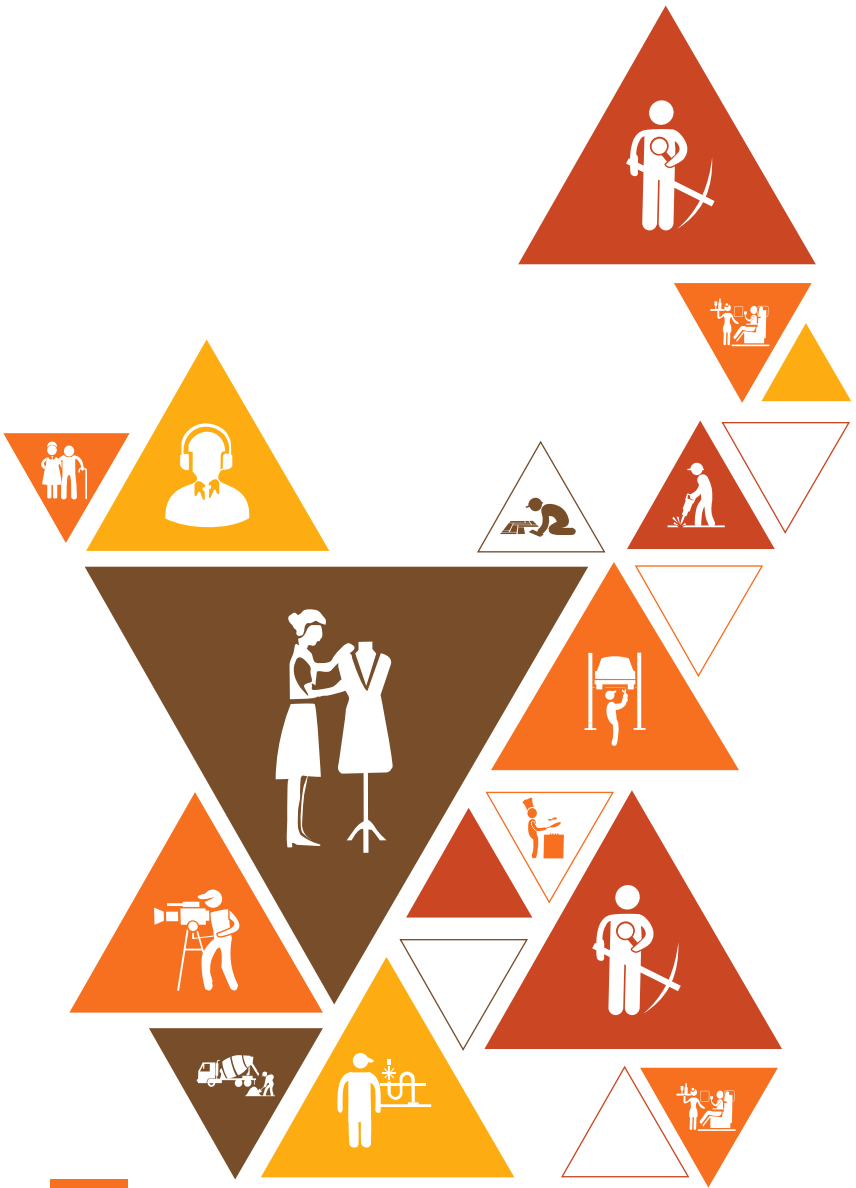
Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. c. Improved collaboration and innovation
2. c. To understand the speaker's message completely
3. c. To-do lists and planners
4. c. Ambiguous instructions
5. b. Distributing workload efficiently

Answer the following questions briefly.

1. Refer to Unit 5.1: Key Workplace Practices and Compliance
   Topic 5.1.1 Importance of Complying with Written Instructions in Dyeing and Printing Oper-ations
2. Refer to Unit 5.2: Technical Aspects of Dyeing and Printing
   Topic 5.2.1 Process Parameters in Dyeing and Printing: Technicalities and Technologies
3. Refer to Unit 5.1: Key Workplace Practices and Compliance
   Topic 5.1.1 Importance of Complying with Written Instructions in Dyeing and Printing Oper-ations
4. Refer to Unit 5.1: Key Workplace Practices and Compliance
   Topic 5.1.1 Importance of Complying with Written Instructions in Dyeing and Printing Oper-ations
5. Refer to Unit 5.1: Key Workplace Practices and Compliance
   Topic 5.1.1 Importance of Complying with Written Instructions in Dyeing and Printing Oper-ations



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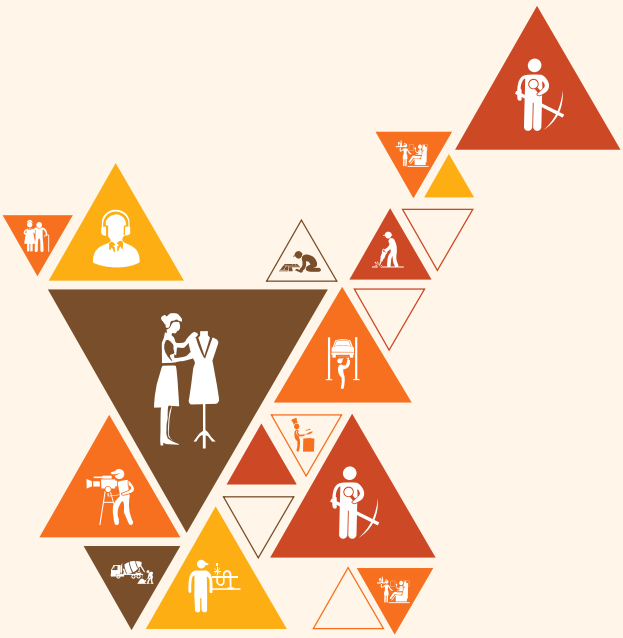
A National Initiative with NSDC
APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

6. Supervise the Process of Dyeing and Printing as per Plan Received from Production Planning

Unit 6.1 - Planning and Execution in Dyeing and Printing

Unit 6.2 - Quality Control and Process Improvement



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Elaborate on prioritising the dyeing and printing plan to minimise resource consumption.
2. Elucidate the correction methods for dyeing issues like patchiness and shade variation.
3. Describe the effects of dyeing on fabric attributes such as harshness and shrinkage.
4. Explain the execution of dyeing and printing cycles as per defined process steps.
5. Highlight the washing, hydro-extraction, and drying of materials after dyeing.
6. Illustrate corrective actions required in case of deviations during dyeing or printing.

Unit 6.1: Planning and Execution in Dyeing and Printing

Unit Objectives

By the end of this unit, the participants will be able to:

1. Assess how to prioritise the dyeing and printing sequence to minimise the use of dyes, chemicals, and water.
2. Explain the steps involved in executing dyeing and printing processes as per the defined operational cycle.
3. Ensure that post-dyeing washing is carried out according to the prescribed washing cycle.
4. Ensure that hydro-extraction of dyed materials is conducted as per process specifications.
5. Ensure that drying of dyed materials is performed following the correct process parameters.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, dyed fabric and garment samples, dyeing and printing equipment, chemical samples, washing machines, hydro-extraction machines, dryers, measur-ing tools, PPE (apron, gloves, safety shoes, mask), process cycle charts, operation manuals.

Do

- Greet participants and introduce the unit by connecting planning and execution with resource efficiency and consistent production quality.
- State the objectives clearly so participants understand the importance of sequence planning, operational cycles, and post-dyeing processes.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and process sequencing exercises.
- Balance theoretical explanations with real examples from dyeing, washing, hydro-extraction, and drying processes.
- Invite participants to share experiences of inefficient sequencing or post-dyeing process challenges.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of planning and execution steps and motivate participants to follow operational cycles systematically.

Say

- Welcome to this session on Planning and Execution in Dyeing and Printing.
- Proper planning and execution ensure efficient use of dyes, chemicals, and water while maintaining quality.
- In this unit, we will learn about sequencing, executing dyeing and printing processes, and managing post-dyeing operations.
- We will also discuss washing, hydro-extraction, and drying processes according to prescribed cycles.
- By the end of this session, you will be able to plan dyeing and printing sequences and execute processes effectively and accurately.

Ask

- Why is it important to prioritise the dyeing and printing sequence?
- What steps are involved in executing a dyeing or printing operation according to the operational cy-cle?
- How should post-dyeing washing be carried out to maintain quality?
- What is the correct procedure for hydro-extraction of dyed materials?
- How should drying be performed according to process specifications?
- Can you share examples of inefficiencies caused by incorrect sequencing?
- How does following process cycles impact resource consumption and quality?
- What are the risks of deviating from prescribed operational steps in post-dyeing processes?

Elaborate

- Prioritising the dyeing and printing sequence reduces consumption of dyes, chemicals, and water.
- Executing processes as per the operational cycle ensures consistency and efficiency.
- Post-dyeing washing removes excess dye and chemicals according to prescribed parameters.
- Hydro-extraction must follow specifications to remove water without damaging the fabric.
- Drying processes are critical to maintain colour quality and fabric integrity.
- Systematic planning and execution minimise errors and material wastage.
- Following operational cycles improves productivity and ensures uniform quality.
- Monitoring each stage prevents rework and reduces downtime.
- Correct execution supports compliance with buyer and organisational standards.
- Trained personnel following proper steps enhance overall production reliability and efficiency.

Explain

- Planning the sequence of dyeing and printing helps optimise resource use and process efficiency.
- Operational cycles define the step-by-step procedure for executing dyeing and printing tasks.
- Post-dyeing washing is essential for removing unbound dyes and maintaining colour fastness.
- Hydro-extraction removes excess water in a controlled manner to protect fabric quality.

- Drying ensures the fabric reaches the correct moisture level and preserves shade integrity.
- Following prescribed cycles reduces risks of damage and ensures consistent output.
- Monitoring process parameters at each stage prevents quality deviations.
- Accurate execution supports resource conservation and operational efficiency.
- Adherence to cycles contributes to product quality and customer satisfaction.
- Systematic planning and execution are key to reliable and efficient dyeing and printing operations.

Demonstrate

The facilitator will show how to plan and prioritise the dyeing and printing sequence, execute dyeing processes according to operational cycles, and carry out post-dyeing washing, hydro-extraction, and drying correctly. Participants will observe process monitoring and resource optimisation techniques. A live or video demonstration will include examples of dyeing a batch, washing, hydro-extracting, and dry-ing fabrics while following the correct cycles.

Activity

1. **Name of the Activity:** Plan and Execute Process Cycle
2. **Objective of the Activity:** To train participants in sequencing, executing dye-ing and printing operations, and managing post-dyeing processes correctly.
3. **Resources:** Participant handbook, fabric samples, dyeing and printing equipment, washing machines, hydro-extraction machines, dryers, process cycle charts, PPE.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Provide each group with a sample batch and process cycle chart.
   - Ask them to prioritise the sequence, execute the dyeing process, and per-form washing, hydro-extraction, and drying according to the prescribed steps.
   - Groups will present their process plan and demonstrate execution.
   - Facilitator gives feedback on efficiency, adherence to cycles, and quality out-comes.
6. **Outcome:** Participants will be able to prioritise processes, execute dyeing and printing operations, and manage post-dyeing steps efficiently and accurately.

Notes for Facilitation

- Keep participants engaged by showing real examples of process cycles, dyed samples, and equip-ment.
- Use slides and diagrams to explain sequencing, operational steps, and post-dyeing processes.
- Encourage participants to share experiences of process inefficiencies and solutions.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

Unit 6.2: Quality Control and Process Improvement

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the method of correcting dyeing faults such as patchy dyeing and shade variation.
2. Examine the impact of dyeing on material attributes including harshness and shrinkage.
3. Identify appropriate corrective actions in case of deviations during the dyeing or printing process.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, fabric and garment samples with defects, dyed and printed samples, pantone shade cards or standard reference samples, chemical samples, measuring tools, defect recording sheets, PPE (apron, gloves, safety shoes, mask), process manuals, cor-rection procedure charts.

Do

- Greet participants and introduce the unit by connecting quality control with product consistency and process improvement.
- State the objectives clearly so participants understand how to identify, analyse, and correct dyeing faults.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and fault correction exercis-es.
- Balance theoretical explanations with real examples from dyeing and printing operations.
- Invite participants to share experiences of encountering dyeing faults or deviations.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of quality control steps and motivate participants to adopt systematic process im-provement practices.

Say

- Welcome to this session on Quality Control and Process Improvement in Dyeing and Printing.
- Quality control ensures that dyeing and printing meet the required standards and specifications.
- In this unit, we will learn about identifying dyeing faults, assessing material attributes, and imple-menting corrective actions.
- We will also discuss methods to prevent recurrence of defects and improve process consistency.
- By the end of this session, you will be able to detect, analyse, and correct dyeing faults effectively.

Ask

- What are common dyeing faults such as patchy dyeing or shade variations?
- How do dyeing operations impact material attributes like harshness and shrinkage?
- What corrective actions can be taken when deviations occur during dyeing or printing?
- Can you share experiences where a dyeing fault affected product quality?
- Why is it important to take corrective measures immediately?
- How do quality control practices improve overall process efficiency?
- What tools or methods are used to detect and record defects?
- How can process improvements prevent recurring faults?

Elaborate

- Correcting dyeing faults ensures consistent shades and quality in the final product.
- Dyeing can affect fabric attributes, so monitoring harshness and shrinkage is important.
- Identifying deviations quickly allows appropriate corrective measures to be applied.
- Fault recording sheets help track recurring issues and improvement areas.
- Corrective actions may include adjusting dye concentration, temperature, or process sequence.
- Preventing recurrence improves efficiency and reduces material wastage.
- Systematic quality control ensures customer satisfaction and product reliability.
- Regular assessment of process outcomes identifies areas for improvement.
- Analysing faults helps optimise operational parameters and chemical usage.
- Trained personnel in quality control contribute to consistent and high-quality production.

Explain

- Dyeing faults like patchy dyeing or shade variation occur due to process deviations or equipment issues.
- Monitoring material attributes ensures that harshness and shrinkage are within acceptable limits.
- Corrective actions must be taken immediately to prevent quality defects.
- Using defect recording sheets supports analysis and tracking of faults.
- Adjustments to dyeing parameters can correct issues like uneven shade or colour bleeding.
- Preventive measures reduce the likelihood of recurring faults in future batches.
- Quality control enhances efficiency by reducing rework and material wastage.
- Comparing with standard samples or pantone shade cards ensures accuracy in colour matching.
- Continuous process improvement maintains high standards and customer satisfaction.
- Adherence to quality control practices ensures reliable and consistent production outcomes.

Demonstrate

The facilitator will show how to detect dyeing faults such as patchy dyeing and shade variations, assess material attributes like harshness and shrinkage, and implement corrective actions. Participants will ob-serve examples of fault identification, recording defects, and taking corrective steps. A live or video demonstration will include analysing samples, comparing with standard references, and applying ad-justments to rectify.

Activity

1. **Name of the Activity:** Identify and Correct Dyeing Faults
2. **Objective of the Activity:** To train participants in detecting dyeing faults, as-sessing material attributes, and implementing corrective actions.
3. **Resources:** Participant handbook, fabric samples with defects, dyed sam-ples, pantone shade cards, defect recording sheets, measuring tools, PPE, correction procedure charts.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Provide each group with fabric samples showing common dyeing faults.
   - Ask them to identify faults, assess material attributes, and suggest correc-tive actions.
   - Groups will present their analysis and explain how they would implement corrections.
   - Facilitator gives feedback on accuracy, fault analysis, and suitability of cor-rective actions.
6. **Outcome:** Participants will be able to detect, analyse, and correct dyeing faults and contribute to process improvement effectively.

Notes for Facilitation

- Keep participants engaged by showing real defective samples and tools for fault analysis.
- Use slides and diagrams to explain common faults, material effects, and corrective procedures.
- Encourage participants to share experiences of quality control challenges and solutions.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. c. Uneven dye distribution or chemical application
2. b. Over-dyeing with a darker shade
3. c. Improper dyeing or finishing methods
4. c. During or immediately after dyeing
5. b. Rubbing or washing fastness test

Answer the following questions briefly.

1. Refer to Unit 6.2: Quality Control and Process Improvement

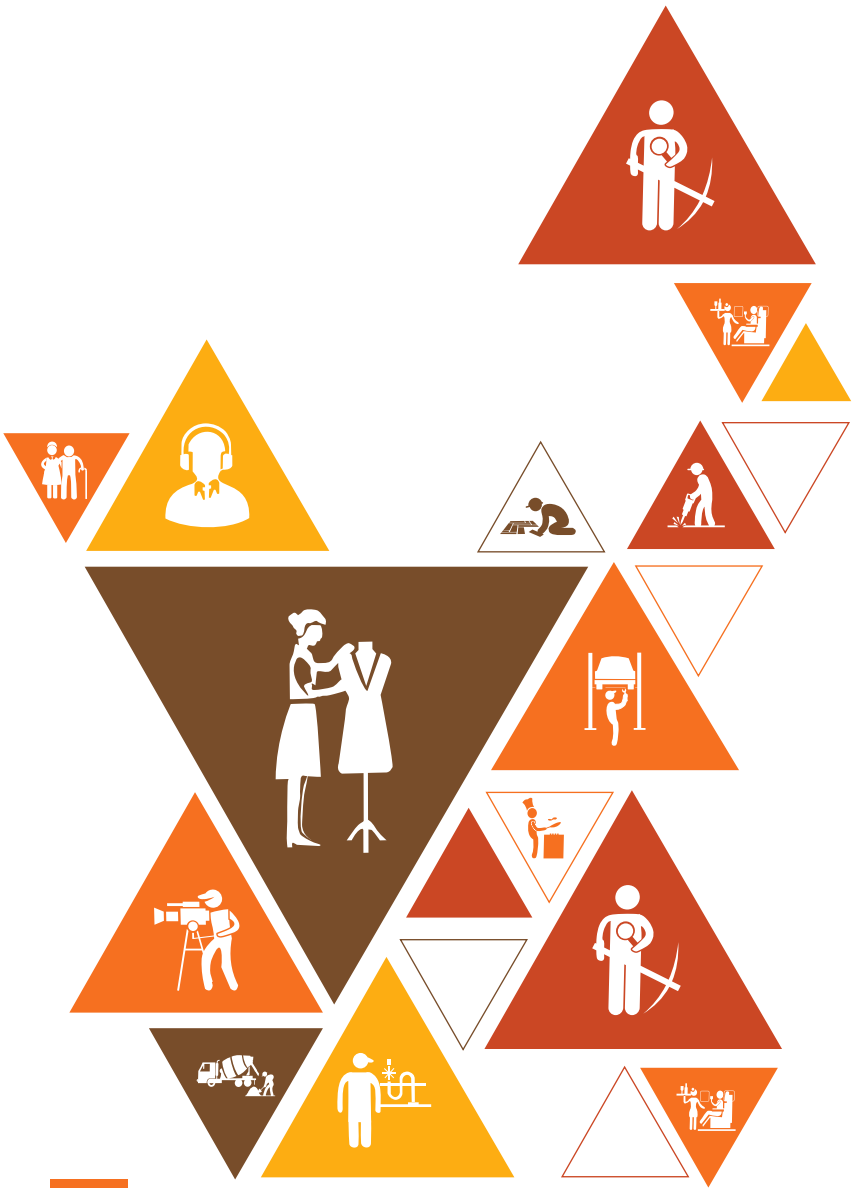
   Topic 6.2.1 Correcting Dyeing Faults such as Patchy Dyeing and Shade Variation
2. Refer to Unit 6.2: Quality Control and Process Improvement

   Topic 6.2.2 Impact of Dyeing on Material Attributes Including Harshness and Shrinkage
3. Refer to Unit 6.2: Quality Control and Process Improvement

   Topic 6.2.3 Identifying Appropriate Corrective Actions in Case of Deviations During the Dye-ing or Printing Process
4. Refer to Unit 6.2: Quality Control and Process Improvement

   Topic 6.2.3 Identifying Appropriate Corrective Actions in Case of Deviations During the Dye-ing or Printing Process
5. Refer to Unit 6.2: Quality Control and Process Improvement

   Topic 6.2.1 Correcting Dyeing Faults such as Patchy Dyeing and Shade Variation



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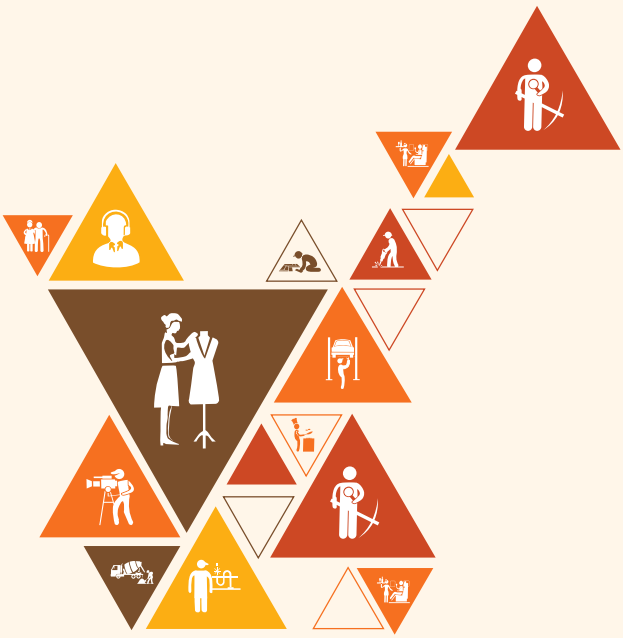
7. Maintain a Healthy, Safe and Secure Working Environment with Gender and PWD Sensitisation

Unit 7.1 - Workplace Practices for Health, Safety, and Inclusivity

Unit 7.2 - Environmental Sustainability and Compliance



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Explain the health and safety practices applicable at the workplace.
2. Elaborate on the importance of complying with health, safety, gender, and PWD-related instructions.
3. Discuss the significance of gender equality in the apparel industry and its methods.
4. Outline the environmental compliance requirements related to effluents.
5. Ensure that procedures related to environment management systems are being followed.
6. State the compliance requirements for handling dyes and chemicals.
7. Ensure effluents are monitored periodically for compliance with set standards.
8. Describe treatment processes that influence BOD, COD, pH, and colour of effluents.
9. Ensure dyeing effluents before discharge comply with industrial and environmental requirements.
10. Highlight the health and safety requirements for handling dyes and chemicals.
11. Ensure safe and secure handling of dyeing equipment, tools, and machinery.
12. Monitor the workplace and work processes for potential risks and threats.
13. Describe the operating processes of effluent treatment plants (ETP).
14. Illustrate the use of personal protective equipment like masks, gloves, and boots.
15. Demonstrate basic first aid procedures.
16. Demonstrate the process of administering CPR in emergencies.
17. Discuss the importance of gender and PWD sensitisation programs at the workplace.
18. Identify signage related to workplace health and safety measures.
19. Explain the correct usage of personal protective equipment during operations.
20. Ensure workers' participation in mock drills, first-aid, firefighting, and emergency training.

Unit 7.1: Workplace Practices for Health, Safety, and Inclusivity

Unit Objectives

By the end of this unit, the participants will be able to:

1. Explain health and safety related practices applicable at the workplace.
2. Describe the health and safety requirements related to handling of dyes and chemicals.
3. Identify signage related to health and safety measures.
4. Explain the correct usage of personal protective equipment.
5. Describe various personal protective equipment like nose mask, hand gloves, gum boots, etc.
6. Monitor the workplace and work processes for potential risks and threats.
7. Assess the importance of complying with health, safety, gender, and PWD-related instructions at the workplace.
8. Discuss the importance of training sensitisation programmes for gender and PWD awareness organised at the workplace.
9. Explain gender equality in the apparel industry and associated methods.
10. Ensure workers' participation in mock drills and evacuation procedures organised at the workplace.
11. Ensure workers undertake first-aid, firefighting, and emergency response training.
12. Demonstrate basic first aid.
13. Demonstrate basic CPR.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, PPE samples (nose mask, gloves, gum boots, goggles, aprons), health and safety signage, first-aid kits, CPR mannequins, fire extinguishers, emergen-cy response charts, mock drill plans, measuring tools, PPE checklist, hazard identification charts.

Do

- Greet participants and introduce the unit by connecting health, safety, and inclusivity practices with overall workplace well-being.
- State the objectives clearly so participants understand the importance of safety, PPE, gender, and PWD inclusivity.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, roleplays, and mock drills.
- Balance theoretical explanations with real examples from health, safety, and inclusivity practices in the workplace.

- Invite participants to share experiences of safety incidents or gender/PWD awareness initiatives.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of workplace practices and motivate participants to follow health, safety, and inclusivity measures consistently.

Say

- Welcome to this session on Workplace Practices for Health, Safety, and Inclusivity.
- Health and safety practices protect workers from risks and hazards in the workplace.
- In this unit, we will learn about PPE usage, signage, risk monitoring, and emergency procedures.
- We will also discuss gender equality, PWD awareness, and the importance of training and sensitisa-tion programmes.
- By the end of this session, you will be able to apply health and safety measures, demonstrate first aid and CPR, and participate in inclusive workplace practices.

Ask

- Why are health and safety practices important in the workplace?
- What precautions should be taken when handling dyes and chemicals?
- Can you identify common health and safety signage?
- How should PPE like masks, gloves, and gum boots be used correctly?
- Why is monitoring the workplace for potential risks necessary?
- How does compliance with gender and PWD instructions improve the work environment?
- Why are mock drills and emergency response training essential?
- How can gender equality be promoted in the apparel industry?
- What are the key steps in basic first aid and CPR?
- Have you experienced or witnessed a workplace safety incident? How was it handled?

Elaborate

- Health and safety practices prevent accidents, injuries, and occupational hazards.
- Proper handling of dyes and chemicals avoids exposure, contamination, and health issues.
- Signage provides clear visual instructions to guide safe practices in the workplace.
- PPE protects workers from physical, chemical, and environmental hazards.
- Monitoring workplace processes identifies potential risks before they cause harm.
- Complying with gender and PWD instructions ensures an inclusive and fair workplace.
- Training and sensitisation programmes raise awareness and promote safe, inclusive practices.
- Participation in mock drills and evacuation procedures prepares workers for emergencies.
- Basic first aid and CPR save lives during workplace accidents.
- Health, safety, and inclusivity together foster a productive and responsible work environment.

Explain

- Health and safety practices include following SOPs, wearing PPE, and monitoring hazards.
- PPE like masks, gloves, gum boots, and aprons protect workers from chemical and physical risks.
- Signage indicates hazards, emergency exits, and safety instructions clearly.
- Monitoring processes ensures early detection of unsafe conditions or practices.
- Compliance with gender and PWD policies creates a respectful and inclusive workplace.
- Mock drills, emergency response, and firefighting training prepare workers for real incidents.
- Basic first aid covers treating cuts, burns, and minor injuries promptly.
- CPR maintains blood circulation and breathing during cardiac emergencies.
- Training and awareness programmes reduce workplace incidents and promote safety culture.
- Implementing these practices ensures worker well-being, efficiency, and regulatory compliance.

Demonstrate

The facilitator will show correct PPE usage, identify health and safety signage, and demonstrate risk monitoring. Participants will observe mock drills, first-aid procedures, and CPR on mannequins. A live or video demonstration will include handling dyes and chemicals safely, emergency response procedures, and basic first-aid steps.

Activity

1. **Name of the Activity:** Safety Walk-through and Mock Drill
2. **Objective of the Activity:** To train participants in identifying hazards, follow-ing emergency procedures, and managing environmental responsibilities.
3. **Resources:** PPE, emergency signage, fire extinguisher, first-aid kit, waste bins, maintenance checklist, images/videos of hazards.
4. **Time Duration:** 25 minutes
5. **Instructions:**
    - Divide participants into small groups.
    - Conduct a walk-through of the training area or simulated workplace to identify potential hazards.
    - Practice a mock drill including evacuation, shutdown, and emergency re-sponses.
    - Demonstrate proper disposal of waste and handling of reusable materials.
    - Groups discuss findings, report hazards, and suggest preventive measures.
    - Facilitator provides feedback on safety measures, emergency readiness, and environmental practices.
6. **Outcome:** Participants will be able to identify hazards, follow safety proce-dures, manage waste responsibly, and maintain a safe and healthy work envi-ronment.

Notes for Facilitation

- Emphasise practical demonstrations of PPE, emergency procedures, and hazard identification.
- Use real or simulated scenarios to make safety practices relatable.
- Encourage sharing of workplace safety experiences and lessons learned.
- Maintain balance between theory, demonstration, and practical activity.
- Reinforce that safety, hygiene, and environmental responsibility are essential for personal wellbeing, productivity, and sustainable operations.

Unit 7.2: Environmental Sustainability and Compliance

Unit Objectives

By the end of this unit, the participants will be able to:

1. State the environmental compliance requirements related to effluents.
2. Explain the compliance requirements related to dyes and chemicals.
3. Ensure that procedures related to the environmental management system are being followed.
4. Ensure effluents are monitored periodically for compliance.
5. Describe the treatment processes which influence BOD, COD, pH, colour, etc., of the effluents.
6. Ensure dyeing effluents before discharge comply with industrial and environmental requirements like BOD, COD, pH, and colour.
7. Describe the operating processes of the Effluent Treatment Plant (ETP).
8. Identify the best use of materials to minimise waste.
9. Dispose waste safely in the designated location.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, sample effluent charts, ETP operation manuals, measuring tools for BOD, COD, pH, and colour, PPE (apron, gloves, safety shoes, mask, goggles), waste segregation bins, chemical samples, environmental compliance checklists, process flow diagrams, treatment process samples.

Do

- Greet participants and introduce the unit by connecting environmental sustainability with regulato-ry compliance and responsible dyeing practices.
- State the objectives clearly so participants understand effluent management, ETP operations, and waste minimisation.
- Ensure participants have their handbook, notepad, and pen ready for active note-taking.
- Check the setup of projector, laptop, whiteboard, and markers before starting.
- Arrange seating so participants can engage in discussions and view slides clearly.
- Explain the interactive method, including demonstrations, group work, and case study discussions.
- Balance theoretical explanations with real examples from environmental compliance and effluent management.
- Invite participants to share experiences of waste management or environmental practices in the workplace.
- Keep participants engaged by summarising key points after each major section.
- End with a recap of sustainability practices and motivate participants to follow environmental compliance consistently.

Say

- Welcome to this session on Environmental Sustainability and Compliance in Dyeing and Printing.
- Compliance with environmental regulations ensures safe handling and disposal of effluents and chemicals.
- In this unit, we will learn about effluent monitoring, treatment processes, ETP operations, and waste minimisation.
- We will also discuss best practices for using materials efficiently and disposing of waste safely.
- By the end of this session, you will be able to manage environmental compliance and contribute to sustainable operations.

Ask

- What are the key environmental compliance requirements related to effluents?
- How should dyes and chemicals be handled to meet compliance standards?
- Why is it important to follow procedures of the environmental management system?
- How often should effluents be monitored for compliance?
- Can you describe the treatment processes that influence BOD, COD, pH, and colour of effluents?
- How should effluents be managed before discharge to comply with industrial and environmental norms?
- What are the operating processes of an Effluent Treatment Plant (ETP)?
- How can materials be used efficiently to minimise waste?
- Where should waste be safely disposed of in the workplace?

Elaborate

- Environmental compliance ensures that effluents and chemical usage do not harm the ecosystem.
- Proper handling of dyes and chemicals reduces pollution and ensures safety.
- Following environmental management system procedures maintains regulatory standards.
- Periodic monitoring of effluents helps detect deviations and prevent environmental damage.
- Treatment processes control BOD, COD, pH, colour, and other properties before discharge.
- Ensuring compliance prior to effluent discharge protects water bodies and meets industrial norms.
- Operating the ETP correctly optimises treatment efficiency and resource use.
- Efficient use of materials reduces waste generation and lowers environmental impact.
- Disposing of waste safely in designated areas prevents contamination and accidents.
- Awareness and adherence to sustainability practices improve overall environmental responsibility.

Explain

- Effluent compliance involves checking BOD, COD, pH, colour, and other quality parameters.
- Compliance with chemical handling regulations ensures worker safety and environmental protection.
- Environmental management system procedures standardise monitoring and corrective actions.

- Regular effluent monitoring ensures deviations are identified and corrected promptly.
- Treatment processes in the ETP remove harmful substances before discharge.
- Dyeing effluents must meet industrial and environmental standards before release.
- ETP operations include screening, sedimentation, chemical dosing, and biological treatment.
- Efficient material use reduces chemical and water consumption while minimising waste.
- Waste must be segregated and disposed of in designated locations to prevent hazards.
- Sustainability practices contribute to regulatory compliance, cost savings, and environmental stewardship.

Demonstrate

The facilitator will show how to monitor effluents, measure BOD, COD, pH, and colour, and explain ETP operation processes. Participants will observe examples of correct effluent management, treatment process steps, and safe waste disposal. A live or video demonstration will include checking effluent parameters, ETP operation workflow, and best practices for material usage and waste handling.

Activity

1. **Name of the Activity:** Effluent Monitoring and Waste Management
2. **Objective of the Activity:** To train participants in monitoring effluents, op-erating ETP processes, and managing materials and waste sustainably.
3. **Resources:** Participant handbook, effluent charts, measuring tools, PPE, ETP operation manuals, waste segregation bins, chemical samples, process flow diagrams, environmental compliance checklists.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Provide each group with sample effluent data, charts, and ETP process dia-grams.
   - Ask participants to monitor effluent parameters, identify deviations, and suggest corrective actions.
   - Groups will also discuss best use of materials and demonstrate safe disposal of waste.
   - Facilitator gives feedback on compliance understanding, monitoring accura-cy, and sustainability practices...
6. **Outcome:** Participants will be able to ensure environmental compliance, moni-tor effluents, operate ETP processes, and manage waste sustainably.

Notes for Facilitation

- Keep participants engaged by showing real effluent samples, ETP process charts, and waste disposal methods.
- Use slides and diagrams to explain monitoring, treatment, and compliance processes.
- Encourage participants to share experiences of sustainable practices or challenges in the workplace.
- Maintain a balance between explanation, demonstration, and group activity.
- Reinforce learning with clear summaries and feedback after each section and the activity.

Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. c. To protect workers from chemical exposure
2. c. Treat wastewater before discharge
3. c. Leaving spilled chemicals unattended
4. c. Improved safety and performance
5. c. Report the deviation to the concerned authority

Answer the following questions briefly.

1. Refer to Unit 7.1: Workplace Practices for Health, Safety, and Inclusivity

   Topic 7.1.5 Describe Various Personal Protective Equipment Like Nose Mask, Hand Gloves, Gum Boots, etc.

2. Refer to Unit 7.2: Environmental Sustainability and Compliance

   Topic 7.2.3 Ensuring That Procedures Related to the Environmental Management System (EMS) Are Being Followed

3. Refer to Unit 7.1: Workplace Practices for Health, Safety, and Inclusivity

   Topic 7.1.1 Health and Safety Practices Applicable at the Workplace

4. Refer to Unit 7.2: Environmental Sustainability and Compliance

   Topic 7.2.1 Environmental Compliance Requirements Related to Effluents

5. Refer to Unit 7.1: Workplace Practices for Health, Safety, and Inclusivity

   Topic 7.1.10 Worker Participation in Mock Drills and Evacuations

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RE IMAGINE FUTURE

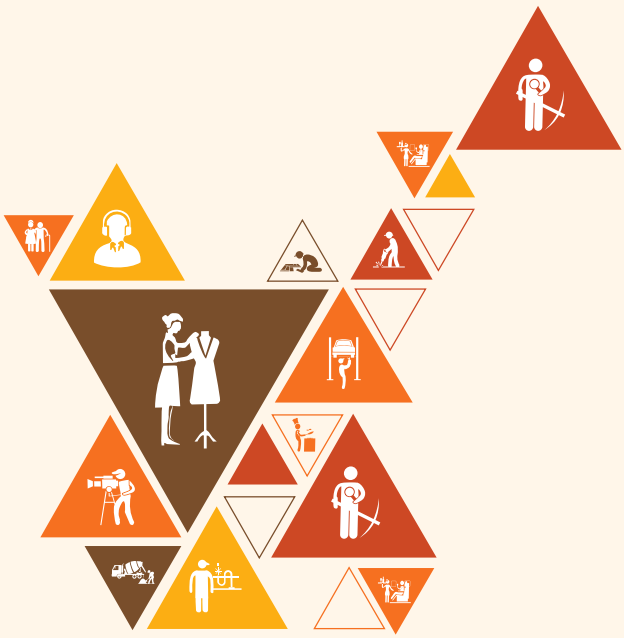
A National Initiative with NSDC
APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

8. Manage the Workspace, Operate Tools, and Handle Machinery Efficiently

Unit 8.1 - Ethical Values and Workplace Conduct

Unit 8.2 - Regulatory, Legal and Organisational Frameworks

Unit 8.3 - Quality Control and Process Improvement



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Explain the importance of optimising material and resource usage at the workplace.
2. Discuss the process of safe handling and storage of waste materials.
3. Describe the importance of punctuality and regular attendance at work.
4. Elaborate on the need for an ethical and value-based approach in workplace governance.
5. Highlight the benefits of practicing values and ethics for self and the organisation.
6. Interpret legal, regulatory, and ethical requirements specific to the apparel industry.
7. Explain customer-specific requirements that must be followed in work processes.
8. Outline country and customer regulations in the apparel sector and their importance.
9. Describe the reporting procedure for deviations within the organisation.
10. Explain the limits of personal responsibility at the workplace.
11. Illustrate the significance of conserving energy in the apparel sector.
12. Discuss the importance of switching off machines when not in use.
13. Demonstrate correct methods for handling and storing different types of workplace waste.
14. Identify procedures to follow if legal, regulatory, or ethical requirements are not met.
15. Explain the importance of greening solutions, policies, legislation, and regulations in operations.
16. Describe how to provide support to supervisors and team members in enforcing organisational practices.

Unit 8.1: Ethical Values and Workplace Conduct

Unit Objectives

By the end of this unit, the participants will be able to:

1. Describe the importance of having an ethical and value-based approach to governance.
2. Explain the benefits to self and the organisation of practising ethics and values.
3. Discuss the importance of punctuality and regular attendance.
4. Assess the limits of personal responsibility in a professional environment.
5. Identify procedures within limits of self-authority.
6. Explain how to report deviations in regulatory compliance to the concerned authority.
7. Describe the organisational reporting procedure in case of deviations.
8. Obtain clarifications on policies and procedures from the supervisor or authorised personnel.
9. Provide support to supervisors and team members in implementing organisational practices.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, projector or large screen, computer or laptop with internet, case study handouts, roleplay scenarios, organisational policy samples (leave policy, code of conduct, compliance forms), and examples of workplace reporting for-mats.

Do

- Greet participants and introduce the importance of ethical values and workplace conduct.
- Present the unit objectives clearly to outline the scope of ethics, punctuality, responsibility, and re-porting procedures.
- Ensure participants have handbooks, pens, and notebooks for notes.
- Check setup of projector, slides, and case study handouts before the session.
- Organise seating so participants can clearly view presentations and participate in roleplay activities.
- Explain the interactive nature of the session – discussions, case studies, and roleplay.
- Relate theoretical concepts with participants' real workplace experiences.
- Invite participants to share their own examples of ethical practices, punctuality, or workplace con-duct.
- Summarise key points after each section to ensure understanding.
- Conclude with a recap, linking ethics, values, and workplace conduct to professionalism, growth, and organisational success.

Say

- Welcome to the session on Ethical Values and Workplace Conduct.
- Ethics and values are the foundation of trust, integrity, and professionalism in any workplace.
- In this unit, we will learn the benefits of ethical conduct, punctuality, responsibility, and compliance.
- We will also cover organisational procedures for reporting deviations and obtaining clarifications.
- By the end of this session, you will be confident in practising ethics and supporting your supervisors and team in maintaining workplace discipline.

Ask

- Why do you think ethics and values are important at the workplace?
- What benefits do you think practising ethics brings to you personally and to the organisation?
- How does punctuality affect teamwork and productivity?
- Can you share an example of taking responsibility in your past work?
- What should you do if you notice a deviation in compliance?
- How would you clarify a policy if you are unsure about it?
- Why is it important to stay within the limits of your self-authority?
- How can supporting your supervisor and team members improve workplace conduct?

Elaborate

- An ethical and value-based approach strengthens governance and builds trust in organisations.
- Practising ethics benefits both individuals (self-respect, growth) and organisations (integrity, efficiency).
- Punctuality and regular attendance show discipline and respect for others' time.
- Personal responsibility is important, but one must also know the limits of authority.
- Employees should follow proper procedures for tasks within their authority.
- Any deviations in compliance should be reported promptly to concerned authorities.
- Organisations usually have clear reporting procedures to handle such situations.
- Employees should seek clarifications on policies from supervisors or authorised personnel.
- Supporting supervisors and team members helps in smooth implementation of organisational practices.
- Ethical conduct creates a culture of trust, accountability, and professional growth.

Explain

- Ethics refers to moral principles guiding workplace behaviour.
- Value-based governance ensures fairness, honesty, and transparency in decisions.
- Punctuality improves productivity and builds a culture of discipline.
- Responsibility means performing duties sincerely but not exceeding given authority.
- Following procedures avoids errors and ensures accountability.

- Reporting deviations helps in maintaining compliance and avoiding risks.
- Clarifying doubts on policies prevents misunderstandings and mistakes.
- Supporting supervisors strengthens teamwork and workplace harmony.
- Ethical behaviour leads to long-term organisational success.
- Practising workplace conduct builds professional reputation and growth opportunities.

Demonstrate

Participants will review real or sample case studies on workplace ethics, punctuality, and compliance is-sues. Using organisational reporting formats or examples, they will observe how deviations are documented and escalated. The facilitator will demonstrate how to seek clarification from a supervisor using a simple scenario, showing effective workplace communication.

Activity

1. **Name of the Activity:** Workplace Ethics Roleplay
2. **Objective of the Activity:** To practice applying ethical values, reporting devi-ations, and clarifying policies.
3. **Resources:** Case study handouts, reporting procedure samples, participant handbook, and pens.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Assign scenarios (e.g., late attendance, compliance deviation, unclear policy, or conflict in responsibility).
   - One participant acts as employee, another as supervisor, and others as team members.
   - Groups roleplay the situation, showing how to respond ethically and re-sponsibly.
   - Facilitator observes and provides feedback on ethical decision-making, communication, and responsibility.
6. **Outcome:** Participants will be able to demonstrate ethical behaviour, report is-sues correctly, and clarify workplace policies effectively.

Notes for Facilitation

- Emphasise practical examples of ethics and punctuality from everyday work.
- Use visual aids (slides, scenarios, or handouts) to explain compliance and reporting procedures.
- Encourage sharing of participants' own workplace conduct experiences.
- Maintain a balance between discussion, roleplay, and facilitator input.
- Reinforce the importance of ethics, responsibility, and teamwork for professional and organisational success.

Unit 8.2: Regulatory, Legal and Organisational Frameworks

Unit Objectives

By the end of this unit, the participants will be able to:

1. Interpret legal, regulatory and ethical requirements specific to the apparel industry.
2. Explain customer-specific requirements mandated in the work process.
3. Describe country- or customer-specific regulations for the apparel sector and their relevance.
4. Identify actions to take if legal, regulatory or ethical requirements are not met.
5. Carry out work functions in accordance with legislation, regulations, organisational guidelines and procedures.
6. Follow organisational policies related to quality, conduct, and performance.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, projector or large screen, presentation slides, computer or laptop with internet, copies of labour laws and compliance guidelines, organisational policy samples (quality policy, code of conduct, performance standards), and case study handouts relat-ed to regulatory compliance in the apparel industry.

Do

- Greet participants and introduce the importance of legal, regulatory, and organisational frame-works.
- Present the unit objectives to set the scope for understanding compliance in the apparel sector.
- Ensure participants have handbooks, pens, and notebooks ready for notes.
- Check projector setup, slides, and distribute case study handouts before the session.
- Arrange seating for group discussions and case study activities.
- Explain how legal and regulatory requirements affect everyday work in the apparel industry.
- Share examples of organisational policies and their application at the workplace.
- Encourage participants to connect their work experience with compliance practices.
- Summarise each section with key takeaways on legal, regulatory, and organisational frameworks.
- Conclude by linking compliance with professionalism, quality, and organisational reputation.

Say

- Welcome to the session on Regulatory, Legal, and Organisational Frameworks.
- Every industry operates under certain laws, regulations, and organisational policies, and the apparel industry is no exception.
- Understanding and following these requirements ensures safety, quality, and trust.

- In this unit, we will learn about legal and regulatory compliance, customer-specific requirements, and organisational guidelines.
- By the end of this session, you will be able to carry out your work responsibly and within the re-quired frameworks.

Ask

- What do you understand by legal and regulatory requirements in the apparel sector?
- Can you give examples of customer-specific requirements that must be followed?
- Why do you think country-specific regulations are important in the apparel industry?
- What actions should you take if compliance requirements are not met?
- How do organisational policies on quality and conduct affect your work?
- Why is it important to follow both regulations and organisational guidelines?

Elaborate

- Legal, regulatory, and ethical requirements in apparel include labour laws, safety standards, and en-vironmental regulations.
- Customer-specific requirements can include product quality, delivery timelines, or social compliance audits.
- Country- or customer-specific regulations ensure that apparel products meet international stand-ards and build customer trust.
- If compliance is not met, employees must report issues and follow corrective procedures.
- Work must always align with laws, regulations, organisational guidelines, and procedures.
- Organisational policies related to quality, conduct, and performance help maintain discipline and ac-countability.
- Compliance ensures smooth operations, reduces risks, and builds credibility with customers and regulators.

Explain

- Legal requirements in apparel cover aspects like wages, working conditions, and health and safety.
- Regulatory compliance ensures that processes follow industry standards and government rules.
- Ethical requirements involve fair treatment of workers and responsible production practices.
- Customer-specific requirements often come as part of contracts, audits, or buyer codes of conduct.
- Country-specific rules vary – for example, export restrictions, labelling requirements, or safety certifi-cations.
- Failure to comply can lead to penalties, loss of contracts, or reputational damage.
- Organisational guidelines create internal consistency and help employees work effectively.

- Following policies on quality and conduct ensures customer satisfaction and workplace discipline.
- Regulations and policies protect both employees and the organisation from risks.
- Compliance is a shared responsibility and must be taken seriously at all levels.

Demonstrate

Participants will review a sample case study where an apparel order fails to meet customer-specific re-quirements due to non-compliance with safety standards. The facilitator will demonstrate how to identi-fy the gaps, report deviations, and align actions with organisational guidelines. Sample organisational policies and compliance checklists will be shown to explain practical applications.

Activity

1. **Name of the Activity:** Compliance in Action
2. **Objective of the Activity:** To help participants apply legal, regulatory, and organisational frameworks in practical workplace scenarios.
3. **Resources:** Case study handouts, compliance checklist samples, organisa-tional policies, pens, and participant handbooks.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Assign case studies highlighting issues like missing safety labels, quality fail-ure, or violation of labour law.
   - Each group discusses actions required to meet compliance.
   - Groups present their solutions on how they would report and resolve the is-sue.
   - Facilitator provides feedback on correctness and completeness of responses.
6. **Outcome:** Participants will be able to identify compliance requirements, take corrective action, and follow organisational guidelines effectively.

Notes for Facilitation

- Use real examples from the apparel industry to explain compliance requirements.
- Highlight the risks of non-compliance – financial, legal, and reputational.
- Encourage participants to think critically about their own role in compliance.
- Keep explanations simple and link legal requirements with daily workplace practices.
- Reinforce the importance of following both external regulations and internal policies.

Unit 8.3: Quality Control and Process Improvement

Unit Objectives

By the end of this unit, the participants will be able to:

1. Discuss the significance of specified resource usage at the workplace.
2. Evaluate different ways to conserve energy in the apparel sector.
3. Explain the importance of switching off machines when not in use.
4. Explain the significance of greening solutions, procedures, policies, legislation and regulations.
5. Carry out work functions in alignment with greening principles and sustainability guidelines.
6. Demonstrate proper methods for handling and storing waste materials such as paper, sketches, colouring tools and e-waste.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, projector or large screen, presentation slides, computer or laptop with internet, case study handouts, organisational sustainability and waste-handling policies, charts showing energy conservation methods, and examples of greening procedures and regulations.

Do

- Greet participants and introduce the importance of quality control and process improvement with a focus on sustainability.
- Present the unit objectives to set expectations for learning resource usage, energy conservation, and greening solutions.
- Ensure participants have handbooks, pens, and notebooks ready.
- Test projector setup, slides, and distribute handouts before the session.
- Arrange seating to encourage discussion and group activities.
- Explain the link between workplace practices and sustainability.
- Share real-life examples of how the apparel industry saves energy and resources.
- Engage participants in discussions about their own experiences with resource usage.
- Summarise key learning points after each section.
- Conclude with the importance of aligning work functions with sustainability principles.

Say

- Welcome to the session on Quality Control and Process Improvement.
- Quality at the workplace is not only about products but also about using resources responsibly.
- Today we will learn how to use resources efficiently, conserve energy, and follow greening solutions.

- We will also understand proper waste-handling methods that support sustainability.
- By the end of this session, you will be able to carry out your work in alignment with quality, green-ing, and sustainability principles.

Ask

- Why is it important to use resources carefully in the workplace?
- Can you think of ways to save energy in apparel production?
- What happens when machines are left on without use?
- Why do you think greening solutions and sustainability guidelines are becoming important today?
- What are some examples of workplace waste, and how can it be handled properly?
- How does quality control link with process improvement and sustainability?

Elaborate

- Using resources properly reduces wastage and saves costs for the organisation.
- Conserving energy in the apparel sector includes using efficient lighting, switching off machines, and optimising production processes.
- Machines left on when not in use waste electricity, increase costs, and reduce machine life.
- Greening solutions include eco-friendly procedures, recycling, and compliance with environmental regulations.
- Carrying out work as per sustainability guidelines ensures long-term benefits for the company and the environment.
- Proper waste handling of materials like paper, sketches, colouring tools, and e-waste prevents pol-lution and promotes recycling.
- Quality control and process improvement are linked to sustainability because efficient systems re-duce errors and resource wastage.

Explain

- Resource usage includes raw materials, machines, electricity, and water, all of which should be used responsibly.
- Energy conservation helps lower operational costs and reduces the environmental footprint.
- Switching off machines prevents energy loss and improves workplace safety.
- Greening solutions involve following eco-friendly policies, industry regulations, and company sus-tainability initiatives.
- Aligning work with sustainability ensures compliance with both customer expectations and govern-ment rules.
- Waste handling methods include segregating paper, reusing materials, and safely disposing of e-waste.
- Process improvement through quality control ensures that resources are used efficiently with mini-mal errors.

- Small daily actions, like careful use of tools and machines, make a big impact on sustainability.
- Organisations that follow greening practices build a positive reputation with customers.
- Sustainability practices contribute to long-term growth and environmental protection.

Demonstrate

The facilitator will demonstrate examples of energy conservation by showing how switching off ma-chines, using energy-efficient lighting, and proper maintenance improve efficiency. A practical demon-stration of segregating waste into categories like paper, plastic, and e-waste will also be shown. Partici-pants will observe and note proper waste-handling and resource-saving practices.

Activity

1. **Name of the Activity:** Green Workplace Practices
2. **Objective of the Activity:** To apply principles of resource usage, energy con-servation, and waste handling in practical scenarios.
3. **Resources:** Case study handouts, waste-handling charts, sample organisa-tional sustainability policy, participant handbooks, and pens.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Divide participants into small groups.
   - Assign each group a scenario (e.g., excessive paper wastage, machines left on, improper disposal of e-waste).
   - Groups discuss resource-saving and process improvement actions for the scenario.
   - Each group presents solutions to conserve energy, follow greening princi-ples, and handle waste properly.
   - Facilitator provides feedback and links responses to sustainability guide-lines..
6. **Outcome:** Participants will be able to demonstrate methods for conserving en-ergy, handling waste responsibly, and aligning work functions with sustainabil-ity practices.

Notes for Facilitation

- Use simple examples to explain greening and sustainability concepts.
- Encourage participants to share their own workplace practices for saving resources.
- Highlight how sustainability directly links to cost savings and environmental protection.
- Reinforce the importance of small actions like switching off machines or reducing paper use.
- Emphasise that quality control and process improvement are key to achieving sustainability goals.

Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. b. Enhanced company reputation
2. c. Report it to the authorised personnel
3. c. Minimising environmental impact
4. c. Guide responsible use of resources
5. c. Turn off equipment when not in use

Answer the following questions briefly.

1. Refer to Unit 8.1: Ethical Values and Workplace Conduct
   Topic 8.1.3 Importance of Punctuality and Regular Attendance
2. Refer to Unit 8.1: Ethical Values and Workplace Conduct
   Topic 8.1.1 Importance of Having an Ethical and Value-Based Approach to Governance
3. Refer to Unit 8.2: Regulatory, Legal and Organisational Frameworks
   Topic 8.2.4 Actions to Take if Legal, Regulatory, or Ethical Requirements Are Not Met
4. Refer to Unit 8.3: Quality Control and Process Improvement
   Topic 8.3.5 Carrying Out Work Functions in Alignment with Greening Principles and Sustain-ability Guidelines
5. Refer to Unit 8.3: Quality Control and Process Improvement
   Topic 8.3.5 Carrying Out Work Functions in Alignment with Greening Principles and Sustain-ability Guidelines

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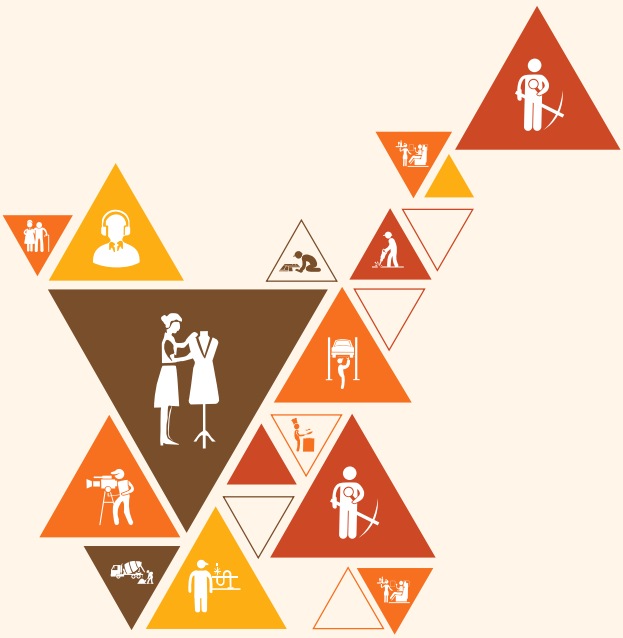
9. Adhere to Industry, Regulatory, and Organisational Standards and Embrace Environmentally Sustainable Practices

Unit 9.1 - Ethical Practices, Compliance, and Governance

Unit 9.2 - Workplace Responsibility, Efficiency, and Environmental Sustainability

Unit 9.3 - Safe Handling, Maintenance, and Documentation



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Key Learning Outcomes

By the end of this module, the participants will be able to:

1. Uphold ethical and value-based governance to benefit both individuals and the organisation.
2. Follow punctuality, attendance, and customer-specific requirements in the work process.
3. Comply with country-specific apparel regulations and report any deviations.
4. Understand and follow organisational reporting procedures and limits of personal responsibility.
5. Clarify doubts on policies and procedures and support team members in enforcing organisational guidelines.
6. Ensure compliance with legal, regulatory, and ethical requirements within work practices.
7. Follow sustainable consumption practices and contribute to environmentally friendly processes.
8. Handle materials, equipment, and software safely to maintain a clean, hazard-free workspace.
9. Perform routine maintenance, report unsafe equipment, and manage work interruptions effectively.
10. Maintain and back up digital design files for future reference and request software upgrades as needed.

Unit 9.1: Ethical Practices, Compliance, and Governance

Unit Objectives

By the end of this unit, the participants will be able to:

1. Discuss the importance of an ethical and value-based approach to governance and its benefits to self and the organisation.
2. Explain the follow legal, regulatory, and ethical requirements specific to the apparel industry.
3. Identify procedures to follow if legal, regulatory, and ethical requirements are not met.
4. Interpret country/customer-specific regulations and customer-specific requirements mandated in the apparel sector.
5. List of organisational policies and procedures within self-authority and report any deviations to regulatory requirements.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection.

Do

- Greet the participants warmly and introduce yourself, sharing your experience with governance, compliance, or ethical practices to build credibility.
- Clearly communicate the unit objectives and highlight the importance of ethics and compliance in the apparel industry.
- Ensure all participants have their handbook, pen, and notepad ready for note-taking.
- Check that the whiteboard, projector, and laptop are functioning and ready with prepared slides.
- Arrange seating to encourage participation, interaction, and clear visibility.
- Encourage participants to briefly introduce themselves and share any prior knowledge or experience with ethics or compliance challenges.
- Highlight the interactive nature of the session and explain the balance between discussions, explanations, and activities.
- Move steadily through each concept, ensuring participants grasp one topic before proceeding to the next.
- Involve participants in practical examples and encourage them to apply concepts to real or simulat-ed apparel industry situations.
- Conclude the session by summarising key takeaways and linking them to participants' professional responsibilities in governance and compliance.

Say

- Welcome to today's session on ethical practices, compliance, and governance, which are the back-bone of sustainable and responsible apparel exports.
- By the end of this session, you will understand the value of ethics and why organisations benefit from adopting a governance framework based on trust and accountability.
- We will discuss legal, regulatory, and ethical requirements specific to the apparel industry and the procedures to follow if they are not met.
- You will also learn how to interpret country- or customer-specific requirements and align them with organisational policies.
- Together, we will explore how ethical practices safeguard your role, strengthen your organisation, and build credibility with customers and stakeholders.

Ask

- Why do you think an ethical approach is essential in the apparel industry?
- Can anyone share examples of legal or regulatory requirements they are aware of in garment ex-ports?
- What do you think should happen if an organisation fails to meet ethical or regulatory require-ments?
- How do customer-specific requirements differ from general trade regulations?
- Why is it important to report deviations in organisational policies to the right authority?

Elaborate

- Ethical and value-based governance fosters trust, integrity, and accountability in organisations, benefiting both employees and external stakeholders.
- Legal and regulatory requirements in apparel include labour laws, environmental standards, work-place safety, and trade policies.
- When requirements are not met, corrective procedures, reporting, and preventive measures are es-sential to avoid penalties and reputational damage.
- Country-specific regulations may include import duties, safety standards, or labelling norms, while customers may mandate their own codes of conduct.
- Organisational policies and procedures are tools for ensuring compliance, and deviations must be reported promptly to maintain transparency.
- Ethical practices also cover fair wages, safe working conditions, and eco-friendly production pro-cesses.
- Compliance ensures apparel products meet buyer expectations and avoid rejection at ports or by retailers.
- Governance provides a structured decision-making framework that aligns employee behaviour with organisational goals.
- Customers increasingly demand ethical sourcing, which strengthens brand loyalty and long-term business.
- Strong ethics and compliance frameworks protect the company from legal risks and support sus-tainable growth.

Explain

- Ethical governance means acting with fairness, honesty, and accountability in all business dealings.
- Legal and regulatory requirements in apparel include adherence to labour laws, environmental sustainability guidelines, and export documentation standards.
- Non-compliance can result in fines, export rejections, or blocklisting, hence, corrective steps are mandatory.
- Country-specific regulations may vary; for example, EU garment imports may require REACH compliance for chemicals.
- Customer-specific requirements include codes of conduct, social audits, or quality certifications demanded by buyers.
- Organisational policies guide employees in handling compliance; these must be followed at every level.
- Reporting deviations ensures problems are addressed before they escalate into violations.
- Ethical practices enhance the reputation of the company and attract global buyers who prioritise responsible sourcing.
- Compliance is not just about avoiding penalties but about strengthening long-term sustainability in the industry.
- Governance frameworks integrate ethics, compliance, and policies into daily operations, supporting consistent decision-making.

Demonstrate

Participants will review a sample Code of Conduct, compliance checklist, and customer-specific requirement document. They will work in groups to identify potential non-compliance areas and suggest corrective actions. This hands-on simulation will help participants understand how ethical practices and governance are applied in real scenarios.

Activity

1. **Name of the Activity:** Ethics in Action
2. **Objective of the Activity:** To help participants connect ethical principles with practical decision-making in apparel operations.
3. **Resources:** Participant handbook, case study handouts, and projector.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Provide a short case study where a company faces an ethical dilemma (e.g., underreporting working hours, ignoring safety gear).
   - Ask participants to discuss in groups what the ethical response should be.
   - Groups present their solutions to the class.
   - Facilitate a discussion comparing ethical vs. unethical decisions.
   - Summarise the importance of ethics in governance and long-term credibility.
6. **Outcome:** Participants will be able to apply ethical principles to workplace deci-sions.

Activity

1. **Name of the Activity:** Compliance Gap Finder
2. **Objective of the Activity:** To train participants in identifying compliance gaps and corrective procedures.
3. **Resources:** Sample compliance checklist, country-specific requirement sheet, and mock organisational policy.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Provide participants with a compliance checklist and sample documents that intentionally include gaps.
   - Ask them to identify missing elements or non-compliance issues.
   - Groups will list corrective actions to close the gaps.
   - Each group shares findings with peers.
   - Summarise the risks of ignoring compliance gaps.
6. **Outcome:** Participants will develop skills to recognise non-compliance and rec-ommend corrective measures.

Notes for Facilitation

- Keep examples specific to the apparel industry for better relevance.
- Encourage participants to share personal experiences of compliance challenges.
- Use real-world buyer codes of conduct or trade requirements as a basis for discussion.
- Provide visual aids such as compliance flowcharts or ethics decision trees.
- Adjust the depth of discussion based on participant familiarity with compliance topics.
- Reinforce learning by connecting ethics and compliance to the daily roles of participants.
- Encourage group discussions to simulate real workplace decision-making.
- Share examples of companies penalised for non-compliance to highlight risks.
- Emphasise how strong ethics improve long-term buyer relationships.
- Reiterate that governance is not only about rules but about values guiding daily practices.

Unit 9.2: Workplace Responsibility, Efficiency, and Environmental Sustainability

Unit Objectives

By the end of this unit, the participants will be able to:

1. Discuss the importance of punctuality, attendance, and personal responsibility in workplace performance.
2. List of support to supervisors and team members in enforcing organisational considerations.
3. Illustrate the work functions in accordance with organisational standards, greening solutions, policies, and regulations.
4. Build participate in improving organisational performance and support environmentally friendly processes.
5. Apply sustainable consumption practices in daily work activities.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection.

Do

- Greet participants warmly and introduce yourself, emphasising your experience with workplace efficiency and sustainability to build credibility.
- Clearly communicate the unit objectives and highlight why responsibility, efficiency, and environ-mental practices matter in the apparel industry.
- Ensure participants have their handbook, pen, and notepad ready for active note-taking.
- Check that the projector, whiteboard, and laptop are ready with slides and materials.
- Arrange seating to encourage interaction, visibility, and group participation.
- Ask participants to briefly introduce themselves and share their daily workplace responsibilities.
- Emphasise that the session will include discussions, examples, and activities to make learning practi-cal.
- Move step-by-step through the topics, checking understanding before continuing.
- Use real-life examples and case discussions to connect concepts with participants' roles.
- Conclude with a summary linking punctuality, teamwork, and sustainability to long-term organisational growth.

Say

- Welcome to today's session on workplace responsibility, efficiency, and environmental sustainabil-ity, which are essential for professional growth and organisational success.
- By the end of this session, you will understand the importance of punctuality, attendance, and re-sponsibility in workplace performance.
- We will also look at how supporting supervisors and team members helps build a strong and effi-cient work culture.
- You will learn about organisational standards, policies, and eco-friendly practices that are shaping the apparel industry.
- Together, we will explore how daily sustainable actions improve workplace efficiency and protect the environment.

Ask

- Why do you think punctuality and attendance are important in the workplace?
- How can employees support supervisors and team members in daily operations?
- Can you give an example of eco-friendly practices that can be followed in the apparel industry?
- What are the risks to an organisation if employees do not follow organisational standards or poli-cies?
- How can sustainable consumption practices be applied in small daily tasks at work?

Elaborate

- Punctuality and attendance reflect personal responsibility and directly influence organisational effi-ciency.
- Supporting supervisors and team members ensures smooth operations and strengthens teamwork.
- Work functions should align with organisational standards, including safety, quality, and environ-mental policies.
- Participation in performance improvement activities builds ownership and encourages innovation at work.
- Sustainable practices include reducing waste, conserving energy, and reusing materials where pos-sible.
- Environmental sustainability in apparel includes eco-friendly dyes, recycling fabric scraps, and re-ducing packaging waste.
- Efficiency comes from disciplined work habits, responsibility, and adherence to processes.
- Organisational policies on sustainability often link to global buyer requirements.
- Personal responsibility includes taking initiative, being accountable, and maintaining consistent per-formance.
- Greening solutions not only benefit the environment but also reduce costs and improve company reputation.

Explain

- Workplace responsibility covers punctuality, regular attendance, and accountability in daily tasks.
- Efficiency is achieved by coordinating with supervisors, respecting deadlines, and minimising errors.
- Supporting team members builds cooperation, reduces conflicts, and ensures workflow continuity.
- Organisational standards include safety rules, quality benchmarks, and sustainability commitments.
- Environmental sustainability requires following green practices like energy saving and waste reduc-tion.
- Sustainable consumption means using resources responsibly, such as switching off unused ma-chines and reducing paper use.
- Compliance with policies ensures smooth audits and long-term buyer trust.
- Employees can contribute to performance improvements by suggesting solutions and reporting is-sues early.
- Eco-friendly practices are now an expectation from global buyers, not just an option.
- A balance of responsibility, efficiency, and sustainability leads to stronger organisational perfor-mance.

Demonstrate

Participants will use a sample export shipping checklist and mock invoice documents to simulate the en-tire process. Participants will review a sample workplace responsibility checklist and an environmental sustainability guideline. In small groups, they will identify actions employees can take daily to improve efficiency (e.g., reducing idle time, saving electricity, minimising fabric waste). Groups will present their solutions, demonstrating practical application of workplace responsibility and sustainability.

Activity

1. **Name of the Activity:** Responsibility Role-Play
2. **Objective of the Activity:** To help participants practice workplace responsi-bility through scenarios.
3. **Resources:** Participant handbook, scenario cards, whiteboard.
4. **Time Duration:** 20 minutes
5. **Instructions:**
    - Provide groups with role-play scenarios (e.g., arriving late, missing dead-lines, ignoring eco-rules).
    - Ask each group to act out the scenario and provide a responsible alternative.
    - Groups present their role-plays to the class.
    - Facilitate a discussion on the outcomes of responsible vs. irresponsible be-haviour.
    - Summarise key behaviours that build efficiency and responsibility.
6. **Outcome:** Participants will understand the impact of responsibility on work-place efficiency.

Activity

1. **Name of the Activity:** Green Workplace Challenge
2. **Objective of the Activity:** To encourage participants to apply sustainable practices in their work environment.
3. **Resources:** Sample sustainability checklist, flip charts, and markers.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Provide each group with a checklist of workplace processes (e.g., lighting, fabric cutting, and waste disposal).
   - Ask them to identify eco-friendly alternatives for each process.
   - Groups record ideas on flip charts and present them to the class.
   - Discuss how these practices can be implemented daily.
   - Conclude by connecting green practices to long-term business benefits.
6. **Outcome:** Participants will learn how to apply sustainable consumption and eco-friendly practices in their daily work.

Notes for Facilitation

- Use real-life examples from apparel factories for better relevance.
- Encourage open discussions and sharing of workplace challenges.
- Use visual aids such as responsibility charts and sustainability posters to enhance your presentation.
- Adjust explanations to suit participants' experience levels.
- Reinforce learning with examples of cost savings through eco-friendly practices.
- Highlight how punctuality and teamwork directly impact production timelines.
- Share success stories of apparel units that improved efficiency with sustainability.
- Encourage participants to commit to at least one green practice daily.
- Make activities interactive to build ownership among learners.
- Reiterate that responsibility and sustainability are shared duties, not just management's role.

Unit 9.3: Safe Handling, Maintenance, and Documentation

Unit Objectives

By the end of this unit, the participants will be able to:

1. Analyse handle materials, equipment, computers, and software safely to maintain a clean and hazard-free workspace.
2. Select routine maintenance and cleaning tasks while effectively dealing with work interruptions.
3. Explain unsafe equipment and other dangerous occurrences to concerned personnel.
4. List of appropriate cleaning equipment and methods for the work to be carried out.
5. Modify system or software upgrades when necessary and maintain backup files for digital design work.
6. Discuss the soft copies of design work for future reference.

Resources to be Used

Participant handbook, notepad, pen, whiteboard, markers, presentation slides, overhead projector or large screen, computer or laptop with internet connection, sample cleaning equipment, maintenance checklist, and sample backup storage devices (USB, external drive).

Do

- Greet the participants warmly and introduce yourself, highlighting your experience in safe equipment handling and documentation.
- Clearly communicate the unit objectives and stress the importance of safety, maintenance, and record-keeping in the apparel industry.
- Ensure participants have their handbook, pen, and notepad ready for notes.
- Check that the projector, whiteboard, and laptop are set up with prepared slides.
- Arrange seating to allow participants to see demonstrations and participate in activities.
- Invite participants to share prior experiences of handling equipment or workplace hazards.
- Highlight that the session includes interactive discussions, practical examples, and simulations.
- Move through each concept gradually, confirming participant understanding before moving on.
- Provide practical demonstrations wherever possible to connect theory to practice.
- Conclude with a recap linking safe handling, maintenance, and documentation to professional responsibilities and workplace efficiency.

Say

- Welcome to today's session on safe handling, maintenance, and documentation, which is critical for creating a safe and efficient work environment.
- By the end of this session, you will understand how to handle materials, equipment, and software safely while keeping the workspace hazard-free.

- We will also discuss routine maintenance, cleaning practices, and responding effectively to interruptions.
- You will learn how to report unsafe equipment, use correct cleaning tools, and manage sys-tem/ software upgrades.
- Finally, we will explore how digital documentation, backups, and design records support both safety and productivity.

Ask

- Why is it important to handle materials and equipment safely at the workplace?
- What routine maintenance tasks do you think are necessary for embroidery machines or software systems?
- How should unsafe equipment or accidents be reported?
- What cleaning tools or methods are most effective in preventing hazards?
- Why is it necessary to back up design work and maintain digital records?

Elaborate

- Safe handling prevents accidents, protects equipment, and ensures smooth workflow.
- Routine maintenance like cleaning lint, oiling machines, or updating software reduces breakdowns.
- Unsafe equipment must be reported immediately to supervisors to prevent injuries or production delays.
- Correct cleaning methods—such as using soft brushes, vacuum cleaners, or non-toxic solutions—maintain equipment without damage.
- System/software upgrades improve efficiency but must be planned with proper backups.
- Backup files safeguard digital design work from loss due to crashes or viruses.
- Soft copies of designs provide easy retrieval and reference for repeat orders or modifications.
- Proper documentation ensures accountability and smooth audits.
- Dealing with work interruptions calmly and responsibly maintains productivity.
- A clean, hazard-free workplace boosts morale and reduces downtime.

Explain

- Safe handling includes the correct lifting of materials, proper use of equipment, and following digital software safety protocols.
- Maintenance involves scheduled cleaning tasks and preventive care to extend the lifespan of ma-chines.
- Reporting unsafe conditions ensures corrective action and prevents recurrence.
- Cleaning equipment should be appropriate to the task—cloth for dusting, a vacuum for fine parti-cles, and non-abrasive tools for sensitive machines.
- Upgrading systems or software improves productivity but requires compatibility checks and data backups.

- Backing up files protects valuable designs from accidental deletion or corruption.
- Documentation of designs in soft copy ensures consistent quality and easy communication with buyers.
- Keeping digital and manual logs supports better control and monitoring of work.
- Effective handling of interruptions requires prioritisation and coordination with supervisors.
- Combining safe handling, proper maintenance, and systematic documentation ensures smooth workflow and long-term efficiency.

Demonstrate

The facilitator will demonstrate safe equipment cleaning (e.g., dust removal from embroidery machines using a brush/vacuum) and show how to back up design files on an external device. Participants will practice identifying correct cleaning tools and creating a mock backup of digital files, simulating work-place safety and documentation practices.

Activity

1. **Name of the Activity:** Safety Spot-Check
2. **Objective of the Activity:** To help participants identify unsafe practices and suggest corrective actions.
3. **Resources:** Sample hazard photos/slides, whiteboard, markers.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Show participants images of unsafe handling (e.g., tangled wires, dirty ma-chines, and unlabelled chemicals).
   - Ask groups to identify hazards and suggest safety measures.
   - Groups present their findings.
   - Facilitate discussion on the risks of ignoring hazards.
   - Conclude by reinforcing the role of safety checks in daily operations.
6. **Outcome:** Participants will be able to recognise hazards and apply safe handling practices.

Activity

1. **Name of the Activity:** Backup Builder
2. **Objective of the Activity:** To train participants in backing up digital files and maintaining documentation.
3. **Resources:** Computers/laptops, sample design files, USB drives/external storage.
4. **Time Duration:** 20 minutes
5. **Instructions:**
   - Provide participants with a sample design file on the computer.
   - Ask them to create a backup on external storage and document the process.
   - Groups share their backup steps and compare approaches.

- Facilitate discussion on the importance of backups in preventing data loss.
- Summarise with best practices for maintaining soft copies of designs.

6. **Outcome:** Participants will be confident in handling digital backups and docu-mentation for design work.

Notes for Facilitation

- Keep examples specific to garment export to ensure participants relate easily.
- Encourage group discussions to simulate real-life teamwork in shipment operations.
- Provide visual aids such as flowcharts and checklists for clarity.
- Adjust explanations according to participant familiarity with shipping terms.
- Reinforce learning at each stage with practical connections to embroidery machine operator responsibilities in shipment readiness.

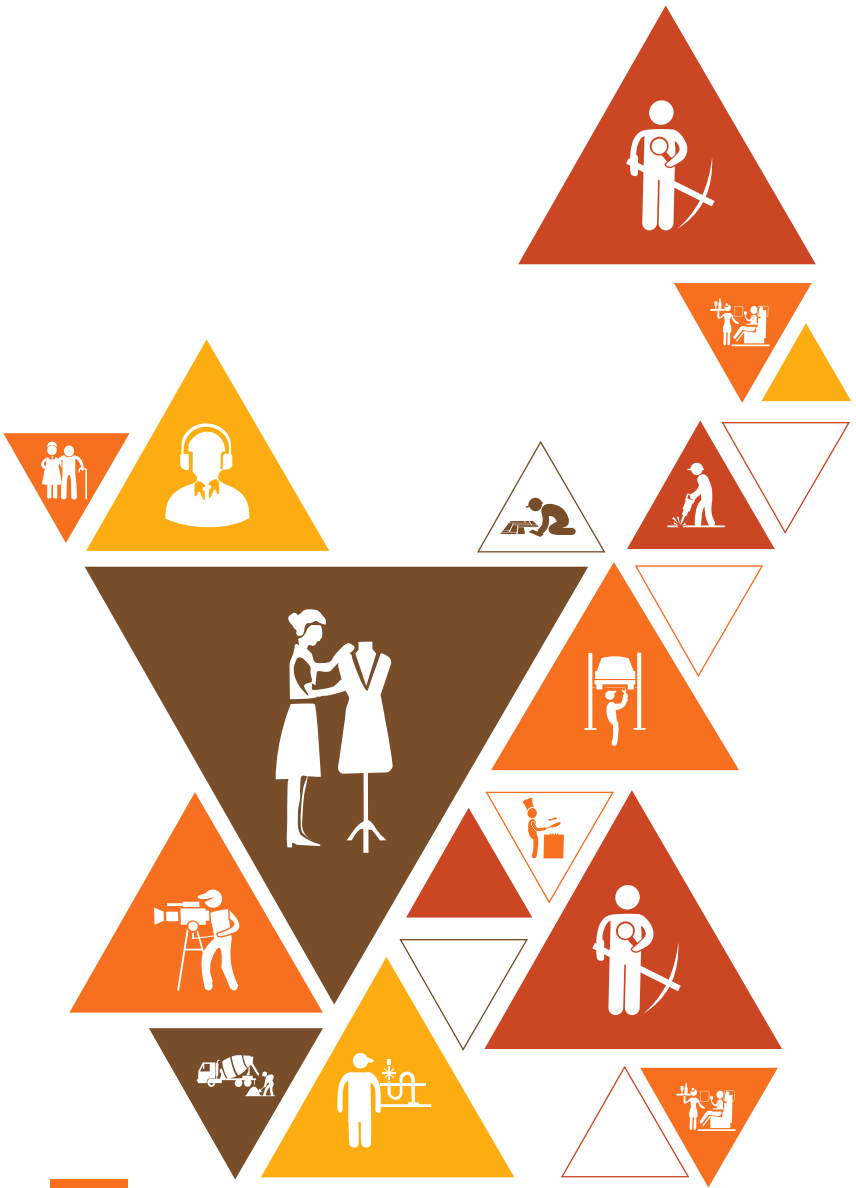
Answers to Exercises for PHB

Answer the following questions by choosing the correct option:

1. b. Improved trust and integrity
2. b. Report and follow corrective procedures
3. a. It helps maintain efficiency and productivity
4. c. Implementing sustainable consumption practices
5. b. To prolong equipment lifespan and maintain safety

Answer the following questions briefly.

1. Refer to Unit 9.1: Ethical Practices, Compliance, and Governance
   Topic 9.1.1 Importance of an Ethical and Value-Based Approach to Governance
2. Refer to Unit 9.1: Ethical Practices, Compliance, and Governance
   Topic 9.1.3 Procedures to Follow When Legal, Regulatory, and Ethical Requirements Are Not Met
3. Refer to Unit 9.2: Workplace Responsibility, Efficiency, and Environmental Sustainability
   Topic 9.2.1 Importance of Personal Responsibility in Workplace Performance
4. Refer to Unit 9.2: Workplace Responsibility, Efficiency, and Environmental Sustainability
   Topic 9.2.5 Implementation of Sustainable Consumption Practices in Daily Work
5. Refer to Unit 9.3: Safe Handling, Maintenance, and Documentation
   Topic 9.3.2 Routine Maintenance and Cleaning Tasks



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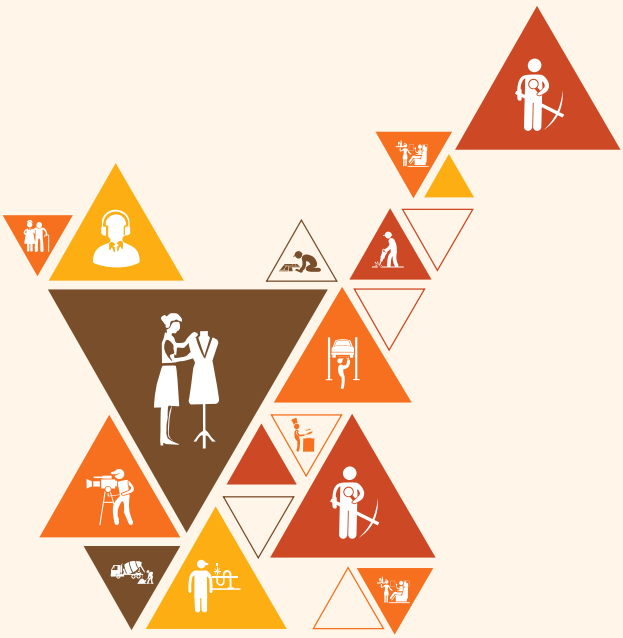
APPAREL MADE-UPS HOME FURNISHING
SECTOR SKILL COUNCIL

10. Employability Skills



DGT/VSQ/N0102

Employability Skills is available at the following location

https://www.skillindiadigital.gov.in/content/list

Employability Skills

Skill India
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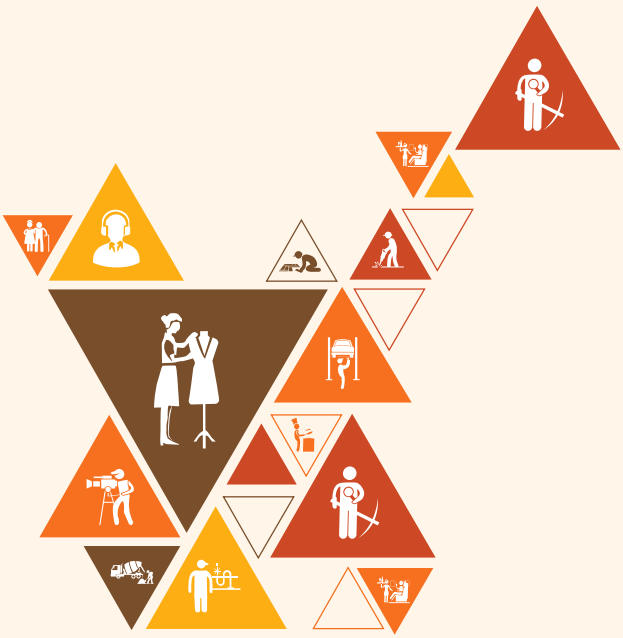
SECTOR SKILL COUNCIL

11. Annexures

Annexure I: Training Delivery Plan

Annexure II: Assessment Criteria

Annexure III: List of QR Codes Used in PHB



Annexure I

Training Delivery Plan

Training Delivery Plan			
Program Name:	Processing Supervisor (Dyeing & Printing)		
Qualification Pack Name & Ref. ID	Processing Supervisor (Dyeing & Printing) , AMH/Q0615		
Version No.	4.0	**Version Update Date**	18/02/2028
Pre-requisites to Training (if any)	Training in Export Marketing Procedures and Documentation		
Training Outcomes	**After completing this programme, participants will be able to:** 1. Elaborate on planning the process of dyeing and printing according to customer requirements. 2. Describe how to organise materials for dyeing and printing based on customer needs and chemicals. 3. Develop and elucidate recipes for dyeing and printing to match customer or pantone shades. 4. Discuss supervising the dyeing and printing process as per the production plan. 5. Explain maintaining health, safety, and security in the processing department. 6. Highlight the importance of keeping work areas, tools, and machines clean and organised. 7. Illustrate compliance with industry, regulatory, and organisational requirements during processing..		

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
1.	**Introduction and Orientation to Processing Supervisor**	**Overview and Orientation of Processing Supervisor Role**	• Elaborate on various employment opportunities for a 'Processing Supervisor (Dyeing & Printing)' in the apparel industry. • Describe the apparel production process and the role that the 'Processing Supervisor (Dyeing & Printing)' plays in the process. • Explain the roles and responsibilities of a 'Processing Supervisor (Dyeing & Printing)'. Bridge Module	Bridge Module		Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	3 Theory (03:00) Practical (00:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
2	**Fundamentals of dyes and chemicals**	**Operational Planning and Resource Allocation**	• Describe the process of understanding the task mentioned in a work order. • Elaborate on the allocation of dyeing machines based on dyeing cycle, machine availability, colour type, urgency, and priority of shade required. • Illustrate how to allocate operators based on their skill sets for dyeing technicalities and printing sophistications.	AMH/N0615 - PC1, PC5, PC6, KU6	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	7 Theory (02:00) Practical (05:00)
		Material and Equipment Management	• Outline the procedures for ensuring that all weighing scales, mixers, and mixing tanks are clean and well-maintained. • Elucidate the process of ensuring the availability of dyes and chemicals with distinct lot numbers, materials for dyeing and printing with their location, and contact persons. • Describe the equipment operating procedures and manager's instructions, and how they relate to the handling of dyeing machines.	AMH/N0615 - PC2, PC4, KU5, KU7			6 Theory (01:00) Practical (05:00)
		Quality and Maintenance Control	• Elaborate on the company's quality standards and how they are applied throughout the production process. • Illustrate the use of a Pantone shade card and/ or standard reference sample to maintain quality.	AMH/N0615 - PC3, KU4, KU8			6 Theory (01:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			• Describe the process of following a preventive maintenance and cleaning schedule and ensuring that equipment controls are functioning properly, while also taking corrective measures if required.				
		Sustainable Practices and Efficiency	• Elaborate on how to organise a plan to ensure the consumption of dyes, chemicals, and water is reduced to a minimum. • Outline the production process and the specific work activities that relate to the whole process. • Describe the effects of chemical types on solubility, colour fastness, and uniformity of dyeing with respect to the materials being dyed.	AMH/N0615 - KU1, KU2, KU10, KU11			6 Theory (01:00) Practical (05:00)
		Process and Technical Knowledge	• Elucidate the parameters that affect dyeing and printing, such as pH, temperature, and time. • Illustrate the process of scouring, bleaching, dyeing, printing, and finishing. • Describe the properties of different fibres, yarns, and fabrics being processed.	AMH/N0615 - KU9, KU12, KU13			6 Theory (01:00) Practical (05:00)
		Organisational and Procedural Compliance	• Describe the organisation's rules, codes, and guidelines, including timekeeping, and their importance in maintaining a smooth workflow. • Illustrate how to ensure the consumption of dyes, chemicals, and water is minimised while adhering to company procedures.	AMH/N0615 - KU2, KU3, KU1			6 Theory (01:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			• Elucidate the importance of understanding the production process and specific work activities as they relate to the overall process.				
3	**Plan and organise materials to be dyed and printed as per customer requirements**	**Operational Planning and Work Order Interpretation**	• Describe how to understand the task mentioned in the work order. • Elaborate on the production process and the specific work activities that relate to the whole process. • Illustrate the operating and handling of a dyeing machine based on its capacity and suitability for different product types.	AMH/N0615 - PC1, KU2, KU6	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	8 Theory (03:00) Practical (05:00)
		Resource and Material Management	• Elucidate the process of ensuring the availability of resources such as dyes and chemicals with distinct lot numbers. • Outline the required knowledge about dyes and chemicals, including their shelf-life. • Describe the characteristics of the fibre, yarn, and fabric that are being processed.	AMH/N0615 - PC4, KU7, KU12			8 Theory (03:00) Practical (05:00)
		Equipment Maintenance and Procedures	• Describe how to ensure all weighing scales, mixers, and mixing tanks are clean. • Illustrate the process of following a preventive maintenance and cleaning schedule and taking corrective measures when required. • Elucidate the equipment operating procedures and manager's instructions.	AMH/N0615 - PC2, PC3, KU5			8 Theory (03:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Machine and Personnel Allocation	• Describe the process of allocating dyeing machines based on dyeing cycle, machine availability, and colour type. • Elaborate on how to allocate operators based on their skill sets for dyeing technicalities and printing sophistications. • Illustrate the operating and handling of a dyeing machine based on its dyeing cycle.	AMH/N0615 - PC5, PC6, KU6			8 Theory (03:00) Practical (05:00)
		Process Control and Parameters	• Elucidate the parameters that affect dyeing and printing, such as pH, temperature, and time. • Describe the process of scouring, bleaching, dyeing, printing, and finishing. • Illustrate the effect of different chemical types on the uniformity of dyeing.	AMH/N0615 - KU9, KU13, KU11			6 Theory (01:00) Practical (05:00)
		Chemical Interaction with Materials	• Elaborate on the effect of chemical types on solubility and colour fastness with respect to the materials being dyed. • Describe the effect of chemical types on the uniformity of dyeing. • Outline the knowledge required about the fibre, yarn, and fabric being processed.	AMH/N0615 - KU10, KU11, KU12			6 Theory (01:00) Practical (05:00)
		Quality and Standards Compliance	• Describe the company's quality standards. • Elucidate the use of a Pantone shade card and/or a standard reference sample. • Illustrate how to understand the task mentioned in the work order to ensure quality requirements are met.	AMH/N0615 - KU4, KU8, PC1			6 Theory (01:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Efficiency and Resource Optimisation	• Elucidate how to organise a plan to ensure the consumption of dyes, chemicals, and water is reduced to a minimum. • Describe the overall production process and the specific work activities that relate to it. • Outline the process of scouring, bleaching, dyeing, printing, and finishing in relation to resource efficiency.	AMH/N0615 - KU1, KU2, KU13			6 Theory (01:00) Practical (05:00)
		Organisational and Procedural Adherence	• Describe the organisation's rules, codes, and guidelines, including timekeeping. • Elaborate on the importance of following equipment operating procedures and manager's instructions. • Illustrate the need to follow the preventive maintenance and cleaning schedule.	AMH/N0615 - KU3, KU5, PC3			6 Theory (01:00) Practical (05:00)
		Advanced Planning and Resource Management	• Describe the process of allocating dyeing machines based on colour type, urgency, and priority of the required shade. • Elucidate how to allocate operators based on their skill set for printing sophistications. • Outline the parameters affecting the dyeing and printing process, such as pH and temperature.	AMH/N0615 - PC5, PC6, KU9			6 Theory (01:00) Practical (05:00)
		Chemical Properties and Application	• Describe the properties of dyes and chemicals, including their shelf-life. • Elucidate the effect of chemical types on solubility and colour fastness with respect to materials being dyed. • Illustrate how chemical types affect the uniformity of dyeing.	AMH/N0615 - KU7, KU10, KU11			6 Theory (01:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Holistic Process Management	• Describe the entire production process and how specific work activities contribute to it. • Elaborate on organising a plan to ensure the consumption of dyes, chemicals, and water is reduced to a minimum. • Elucidate the process of ensuring the availability of resources like dyes and chemicals with distinct lot numbers.	AMH/N0615 - KU2, KU1, PC4			6 Theory (01:00) Practical (05:00)
4	**Develop recipe for dyeing and printing**	**Safety and Maintenance Protocols**	• Describe the use of Personal Protective Equipment (PPE) while working in the colour store. • Elucidate the importance of ensuring all safety measures are in consideration. • Illustrate how to check that all controls are functioning properly and take corrective measures in case of a deviation.	AMH/N0616 - PC2, PC6	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	8 Theory (03:00) Practical (05:00)
		Recipe Development and Technicalities	• Elaborate on the process parameters for dyeing and printing, including all technicalities and technologies. • Describe how to develop a dyeing recipe with details such as fabric type, dyeing cycle, MLR, pH, and other parameters. • Elucidate how to develop a recipe with a minimum recipe data bank and the highest flexibility.	AMH/N0616 - PC1, PC4, KU1			8 Theory (03:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Weighing and Material Handling	• Describe the correct procedure for weighing dyestuff, specifically weighing bigger quantities first and smaller quantities last. • Elucidate the process of weighing quantities below 20 gms on a precision balance. • Illustrate the importance of complying with written instructions during the weighing process.	AMH/N0616 - PC3, KU3, KU2			8 Theory (03:00) Practical (05:00)
		Dye and Chemical Knowledge	• Describe the different types of dyes and chemicals, such as reactive dyes, natural dyes, and disperse dyes. • Elucidate the types of materials to be dyed, including cotton, wool, and synthetics. • Illustrate the importance of complying with written instructions when handling these materials.	AMH/N0616 - KU4, KU5, KU2			8 Theory (03:00) Practical (05:00)
		Quality Control and Testing	• Describe the process of checking developed shades against a standard sample and/or Pantone shade card. • Elucidate the various types of fastness of dyes, such as water fastness and colour fastness. • Illustrate the proper use and handling of sample printing machines and dyeing machines.	AMH/N0616 - PC5, KU8, KU6			7 Theory (02:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Process and Equipment Understanding	• Describe the process parameters for dyeing and printing with all technicalities and technologies. • Elucidate the mechanism of dye fixation. • Illustrate the correct use of different dyeing machines, such as beaker dyeing and garment dyeing machines.	AMH/N0616 - PC1, KU7, KU6			6 Theory (01:00) Practical (05:00)
5	**The process of dyeing**	**Material Planning for Dyeing and Printing**	• Illustrate how to understand and interpret the task mentioned in the work order. • Elaborate on ensuring all weighing scales, mixers, mixing tanks, and related equipment are clean and properly maintained. • Describe allocation of dyeing machines and operators based on dyeing cycle, machine availability, colour type, urgency, and skill set.	AMH/N0615 – PC1, PC2, PC3, PC5, PC6, KU2, KU5, KU6	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	8 Theory (03:00) Practical (05:00)
		Preventive Maintenance and Equipment Care	• Describe the importance of following preventive maintenance and cleaning schedules for dyeing and printing equipment. • Elaborate on taking corrective measures when equipment controls are not functioning properly. • Outline equipment operating procedures and the manager's instructions for safe handling.	AMH/N0615 – PC3, KU5			7 Theory (02:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Resource Availability and Organisation	• Elaborate on ensuring the availability of dyes, chemicals with distinct lot numbers, and materials for dyeing and printing. • Describe the importance of recording location and contact person details for each resource. • Outline methods to minimise the consumption of dyes, chemicals, and water.	AMH/N0615 – PC4, KU1			6 Theory (01:00) Practical (05:00)
		Operator Allocation and Skill Utilisation	• Elaborate on allocating operators based on technical skills in dyeing and printing. • Describe how skill-based allocation improves efficiency and product quality. • Outline ways to match printing sophistications with operator expertise.	AMH/N0615 – PC6			6 Theory (01:00) Practical (05:00)
		Production Process Knowledge	• Elaborate on production processes and their relation to specific work activities. • Describe the entire workflow of scouring, bleaching, dyeing, printing, and finishing. • Outline how individual tasks integrate into the overall production process.	AMH/N0615 – KU2, KU13			6 Theory (01:00) Practical (05:00)
		Organisational Standards and Guidelines	• Describe the organisation's rules, codes, guidelines, and quality standards. • Elaborate on timekeeping, reporting, and compliance procedures in daily operations. • Outline how adherence to organisational standards ensures consistency and customer satisfaction.	AMH/N0615 – KU3, KU4			6 Theory (01:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Under-standing Dyeing Machines	• Describe the operation and handling of dyeing machines based on capacity and suitability for product types. • Elaborate on how machine choice depends on dyeing cycle and material. • Outline the manager's operating instructions to ensure proper usage.	AMH/N0615 – KU5, KU6			6 Theory (01:00) Practical (05:00)
		Knowledge of Dyes and Chemicals	• Describe different types of dyes and chemicals and their shelf-life. • Elaborate on the effect of chemical types on solubility, colour fastness, and uniformity of dyeing. • Outline safety measures and storage guidelines for dyes and chemicals.	AMH/N0615 – KU7, KU10, KU11			6 Theory (01:00) Practical (05:00)
		Shade and Colour Matching	• Illustrate how to use Pantone shade cards and standard reference samples for colour matching. • Elaborate on parameters affecting dyeing and printing such as pH, temperature, and time. • Describe the effect of these parameters on achieving accurate shades.	AMH/N0615 – KU8, KU9			6 Theory (01:00) Practical (05:00)
		Fibre, Yarn, and Fabric Knowledge	• Describe different fibres, yarns, and fabrics used in dyeing and printing. • Elaborate on the impact of fibre type on dyeing and printing outcomes. • Outline preparation processes needed for different materials.	AMH/N0615 – KU12			6 Theory (01:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Process Optimisation	• Illustrate ways to reduce waste by optimising dye, chemical, and water consumption. • Elaborate on how preventive planning improves production efficiency. • Describe methods to ensure uniform dyeing and printing results.	AMH/N0615 – KU1, KU11			6 Theory (01:00) Practical (05:00)
		End-to-End Process Understanding	• Elaborate on the sequential processes of scouring, bleaching, dyeing, printing, and finishing. • Describe how each step contributes to final fabric quality. • Outline the interconnectedness of different processes for smooth workflow.	AMH/N0615 – KU13			6 Theory (01:00) Practical (05:00)
6	**Supervise the process of dyeing and printing as per plan received from production planning**	**Process Execution and Adherence**	• Describe how to ensure the dyeing and printing process is executed as per the defined dyeing cycle and printing process. Elucidate how to ensure materials after dyeing are washed and hydro-extracted according to the defined washing cycle. Illustrate how to ensure materials after dyeing are dried as per the defined process parameters.	AMH/N0617 - PC1, PC2, PC3	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	8 Theory (03:00) Practical (05:00)
		Corrective Action and Quality Control	• Elucidate how to take corrective action in case of any deviation in the dyeing/printing process. • Describe how to correct dyeing issues such as patchy dyeing and shade variation. • Illustrate the effects of dyeing on material attributes like harshness and shrinkage.	AMH/N0617 - PC4, KU2, KU3			8 Theory (03:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Resource Optimisation and Planning	• Elaborate on how a dyeing and printing plan is prioritised in a sequence to minimise the consumption of resources such as dyes, chemicals, and water. • Outline the steps to ensure the dyeing and printing process is executed as per the defined dyeing cycle and printing process. • Describe how to ensure all chemicals and solutions are disposed of in the prescribed manner.	AMH/N0617 - KU1, PC1, PC5			8 Theory (03:00) Practical (05:00)
		Post-Dyeing Material Handling	• Describe how to ensure materials after dyeing are washed and hydro-extracted as per the defined washing cycle. • Illustrate how to ensure materials after dyeing are dried as per defined process parameters. • Elucidate the effects of dyeing on material attributes such as harshness and shrinkage.	AMH/N0617 - PC2, PC3, KU3			8 Theory (03:00) Practical (05:00)
		Problem Solving and Deviation Management	• Elucidate how to take corrective action in case of any deviation in the dyeing/printing process. • Describe the methods for correcting dyeing issues like patchy dyeing and shade variation. • Illustrate how to ensure the dyeing and printing process is executed according to the defined plan to prevent deviations.	AMH/N0617 - PC4, KU2, PC1			8 Theory (03:00) Practical (05:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Sustainable Practices and Compliance	• Describe how to ensure that all chemicals, dyeing, and printing solutions are disposed of in the prescribed manner. • Elucidate how a dyeing and printing plan is prioritised in a sequence to minimise the consumption of resources like dyes, chemicals, and water. • Illustrate how to ensure materials are dried as per defined process parameters, contributing to overall efficiency.	AMH/N0617 - PC5, KU1, PC3			8 Theory (03:00) Practical (05:00)
		Process Supervision and Control	• Describe how to supervise the dyeing and printing process to ensure it is executed as per the defined cycle and process. • Elucidate how to ensure materials are washed and hydro-extracted according to the defined cycle. • Illustrate the procedure for taking corrective action in case of any deviation in the process.	AMH/N0617 - PC1, PC2, PC4			7 Theory (02:00) Practical (05:00)
		Material Attributes and Quality Assurance	• Elaborate on the effects of dyeing on material attributes such as material harshness and shrinkage. • Describe the methods for correcting common dyeing issues like patchy dyeing and shade variation. • Outline the process to ensure materials are dried as per defined process parameters to maintain quality.	AMH/N0617 - KU3, KU2, PC3			5 Theory (01:00) Practical (04:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
7	**Maintain a healthy, safe and secure working environment with Gender and PWD Sensitisation**	**Environmental and Safety Compliance**	• Describe how to ensure that procedures related to the environment, health, and safety are being followed. • Elaborate on the process of monitoring dyeing effluents for compliance with industrial and environmental requirements like BOD, COD, and pH before discharge. • Illustrate the operating processes of an Effluent Treatment Plant (ETP) to ensure compliance.	AMH/N0618 - PC1, PC2, KU4, KU5	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	6 Theory (03:00) Practical (03:00)
		Workplace and Equipment Safety	• Elucidate how to ensure the safe and secure handling of dyeing equipment, tools, and machinery. • Outline the process of monitoring the workplace and work processes for potential risks and threats. • Describe the various types of personal protective equipment (PPE), such as a nose mask, hand gloves, and gum boots, and their correct usage.	AMH/N0618 - PC3, PC4, KU6, KU7			6 Theory (03:00) Practical (03:00)
		Emergency Preparedness and Training	• Describe how to ensure workers participate in mock drills, evacuation procedures, and emergency response training. • Elaborate on the importance of workers undertaking first-aid and fire-fighting training. • Illustrate how to monitor the workplace and work processes for potential risks and threats to enhance emergency preparedness.	AMH/N0618 - PC4, PC5, PC6			6 Theory (03:00) Practical (03:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Gender and Disability Sensitisation	• Describe how to ensure workers participate in training and sensitisation programs for gender and PwD awareness. • Elaborate on the importance of gender equality and the policies for reporting harassment or inappropriate behaviour. • Elucidate how to accommodate employees with disabilities, including the proper language and terminology to use.	AMH/N0618 - PC5, KU8, KU9, KU10, KU11			6 Theory (03:00) Practical (03:00)
		Effluent Treatment and Chemical Handling	• Describe the treatment processes that influence the BOD, COD, and pH of effluents. • Elaborate on the compliance requirements related to handling dyes and chemicals. • Illustrate how to ensure dyeing effluents are monitored periodically to comply with industrial and environmental requirements.	AMH/N0618 - PC2, KU1, KU2, KU3, KU4			6 Theory (03:00) Practical (03:00)
8	**Manage the workspace, operate tools, and handle machinery efficiently**	**Workplace Safety and Ergonomics**	• Describe how to implement safe and precise methods for handling materials, machinery, equipment, and tools, ensuring a workplace that is clean and free from hazards. • Elucidate the correct protocols for lifting and handling during operations. • Illustrate the importance of maintaining a comfortable and ergonomically sound working posture.	AMH/N0619 - PC1, PC2, PC7, KU1, KU2	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	6 Theory (03:00) Practical (03:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Maintenance and Hazard Reporting	• Describe how to carry out routine maintenance and cleaning duties within assigned roles and schedules. • Elaborate on the process for immediately reporting any unsafe or damaged equipment or hazardous incidents to authorised personnel. • Elucidate the importance of confirming the presence of appropriate machine guards to maintain operational safety.	AMH/N0619 - PC4, PC5, PC6, KU14, KU15, KU16, KU17, KU18			6 Theory (03:00) Practical (03:00)
		Material and Waste Management	• Outline how to optimise material usage to minimise waste and ensure the safe disposal of any excess material at designated locations. • Describe the different ways of minimising waste and the proper disposal system for waste and by-products. • Elucidate the use of appropriate cleaning equipment and techniques tailored to the specific tasks at hand, as well as the safe working practices for cleaning.	AMH/N0619 - PC3, PC8, KU13, KU19, KU20			6 Theory (03:00) Practical (03:00)
		Operational and Communication Protocol	• Describe the production process and the specific work activities that relate to the whole process. • Elaborate on the importance of effective communication with superiors and colleagues. • Elucidate the organisation's rules, codes, quality standards, and reporting procedures, including timekeeping.	AMH/N0619 - KU4, KU5, KU6, KU11			6 Theory (03:00) Practical (03:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Problem-Solving and Work Instructions	• Describe the importance of complying with written instructions and equipment operating procedures. • Elucidate how to accurately interpret work instructions and specifications. • Illustrate the importance of taking action when problems are identified, as well as the methods to rectify common equipment faults.	AMH/N0619 - PC5, KU7, KU8, KU9, KU10, KU12			6 Theory (03:00) Practical (03:00)
9	**Adhere to industry, regulatory, and organisational standards and embrace environmentally sustainable practices**	**Eco-Friendly Job Execution**	• Elaborate on executing job responsibilities according to organisational standards with a focus on eco-friendly solutions while adhering to procedures, policies, and legal regulations. • Describe how to implement and uphold organisational policies and procedures while integrating sustainable consumption practices into daily operations. • Outline conscious and sustainable decisions required for creating an effective green workplace, and explain the importance of safe working practices and code of conduct in the industry.	AMH/N0621 – PC1, PC2, KU1, KU2	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	6 Theory (03:00) Practical (03:00)
		Sustainable Performance Enhancement	• Illustrate ways to actively engage in enhancing organisational performance by driving environmentally friendly processes and practices. • Elaborate on production procedures and specific work activities in relation to the whole process.	AMH/N0621 – PC3, KU3, KU4			6 Theory (03:00) Practical (03:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			• Describe the organisation's rules, codes, quality standards, reporting procedures, and guidelines, including their role in maintaining sustainability.				
		Safe Handling and Maintenance	• Describe how to safely handle materials, equipment, computers, and software to maintain a clean and hazard-free work environment while supporting eco-friendly practices. • Elaborate on the importance of running maintenance and cleaning tasks, following assigned schedules, and managing interruptions. • Outline the effects of contamination on products such as machine oil or dirt, and illustrate ways of minimising waste.	AMH/N0621 – PC4, PC5, KU8, KU9			6 Theory (03:00) Practical (03:00)
		Hazard and Risk Management	• Outline the process of reporting unsafe equipment or hazardous incidents to appropriate personnel for swift resolution and risk mitigation. • Elaborate on the importance of taking action when problems are identified in compliance with work instructions and specifications. • Describe common equipment faults and methods to rectify them while ensuring sustainable practices.	AMH/N0621 – PC6, KU5, KU6, KU7, KU10			6 Theory (03:00) Practical (03:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Efficient Workplace Practices	• Describe how to utilise appropriate cleaning equipment and techniques tailored to specific tasks for efficiency and sustainability. • Elaborate on the process of requesting system or software upgrades to optimise work efficiency while maintaining data integrity through backups. • Outline the practice of maintaining digital copies of design work in organised files for accessibility and preservation of project assets.	AMH/N0621 – PC7, PC8, PC9			6 Theory (03:00) Practical (03:00)
10	**Employability Skills**	**Introduction to Employability Skills**	• Describe the employability skills required for jobs in various industries. • Elaborate on different learning and employability related GOI and private portals and their usage. • Elucidate the constitutional values, including civic rights and duties, citizenship, responsibility towards society and personal values and ethics such as honesty, integrity, caring, and respecting others that are required to become a responsible citizen.	DGT/VSQ/ N0102, PC1, KU1, KU2, KU3, KU4	Classroom lecture/ PowerPoint Presentation/Question & Answer and Group Discussion	Whiteboard and markers, Chart paper and sketch pens, an LCD Projector and Laptop for presentations, PCs/ Laptops, and Internet with Wi-Fi (at Least 2 Mbps Dedicated).	6 Theory (06:00) Practical (00:00)
		Becoming a Professional in the 21st Century	• Describe the importance of relevant 21st century skills. • Elucidate the benefits of continuous learning for personal and career growth.	DGT/VSQ/ N0102, PC2, KU5, KU6, KU7			6 Theory (06:00) Practical (00:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
			• Elaborate on exhibiting 21st century skills like self-awareness, behavioural skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, and emotional awareness in personal or professional life.				
		Basic English Skills	• Describe how to use basic English sentences for everyday conversation in different contexts, in person and over the telephone. • Elaborate on reading and interpreting text written in basic English. • Elucidate how to write short notes, paragraphs, letters, or emails using basic English.	DGT/VSQ/ N0102, PC3, KU8, KU9, KU10			6 Theory (06:00) Practical (00:00)
		Career Development & Goal Setting	• Describe the process to create a career development plan with well-defined short- and long-term goals. • Elaborate on identifying personal strengths and areas for improvement. • Elucidate methods to monitor and adjust career goals as per opportunities and progress.	DGT/VSQ/ N0102, PC4, KU11, KU12, KU13			6 Theory (06:00) Practical (00:00)
		Communication Skills	• Describe how to communicate effectively using verbal and nonverbal communication etiquette. • Elaborate on the importance of active listening for effective communication. • Elucidate the significance of working collaboratively with others in a team.	DGT/VSQ/ N0102, PC5, KU14, KU15, KU16			6 Theory (06:00) Practical (00:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Diversity & Inclusion	• Describe how to behave, communicate, and conduct oneself appropriately with all genders and Persons with Disabilities (PwD). • Elaborate on the significance of escalating sexual harassment issues as per the POSH Act. • Elucidate methods to promote an inclusive and respectful workplace.	DGT/VSQ/ N0102, PC6, KU17, KU18, KU19			6 Theory (06:00) Practical (00:00)
		Financial and Legal Literacy	• Describe the importance of selecting the right financial institution, product, and service. • Elaborate on how to carry out offline and online financial transactions safely and securely. • Elucidate the components of salary, computation of income, expenditure, taxes, investments, and understanding legal rights.	DGT/VSQ/ N0102, PC7, KU20, KU21, KU22			6 Theory (06:00) Practical (00:00)
		Essential Digital Skills	• Describe the role of digital technology in today's life. • Elaborate on operating digital devices and using the associated applications safely and securely. • Elucidate responsible online behaviour while browsing, using social media platforms, emails, and creating basic Word, Excel, and PowerPoint documents.	DGT/VSQ/ N0102, PC8, KU23, KU24, KU25			6 Theory (06:00) Practical (00:00)

SL	Module Name	Session name	Session Objectives	NOS	Methodology	Training Tools/Aids	Duration (hours)
		Entrepreneurship	• Describe the types of entrepreneurship and enterprises. • Elaborate on identifying business opportunities, sources of funding, and mitigating financial and legal risks. • Elucidate the application of the 4Ps of Marketing (Product, Price, Place, Promotion) and how to create a sample business plan.	DGT/VSQ/ N0102, PC9, KU26, KU27, KU28			6 Theory (06:00) Practical (00:00)
		Customer Service & Apprenticeship Readiness	• Describe the significance of analysing different types and needs of customers. • Elaborate on identifying customer needs and responding professionally. • Elucidate the steps for creating a professional CV, searching for apprenticeship opportunities, and performing confidently in interviews.	DGT/VSQ/ N0102, PC10, KU29, KU30, KU31			6 Theory (06:00) Practical (00:00)
Total Duration							**Theory: 126:00** **Practical: 264:00**
Employability Skills (DGT/VSQ/N0102) **https://www.skillindiadigital.gov.in/content/list**							**60:00**
OJT Duration (Mandatory)							**30:00**
Total							**Theory + Practical + ES 480:00**

Annexure II

Assessment Criteria

CRITERIA FOR ASSESSMENT OF TRAINEES

Assessment Criteria for Processing Supervisor (Dyeing & Printing)	
Job Role	**Processing Supervisor (Dyeing & Printing)**
Qualification Pack	**AMH/Q0615 , V4.0**
Sector Skill Council	**Apparel**

S. No.	Guidelines for Assessment
1	Criteria for assessment for each Qualification Pack will be created by the Sector Skill Council. Each Performance Criteria (PC) will be assigned marks proportional to its importance in NOS. SSC will also lay down proportion of marks for Theory and Skills Practical for each PC.
2	The assessment for the theory part will be based on knowledge bank of questions created by the SSC.
3	Individual assessment agencies will create unique question papers for theory part for each candidate at each examination/training center (as per assessment criteria below.)
4	Individual assessment agencies will create unique evaluations for skill practical for every student at each examination/ training center based on these criteria.
5	To pass the Qualification Pack, every trainee should score a minimum of 70% in every NOS.
6	In case of successfully passing only certain number of NOSs, the trainee is eligible to take subsequent assessment on the balance NOS's to pass the Qualification Pack.
7	In case of unsuccessful completion, the trainee may seek reassessment on the Qualification Pack.

Assessment Outcomes	Assessment Criteria for Outcomes	Marks Allocation		
		Theory	Practical	Viva
AMH/N0615: Plan and organize materials to be dyed and printed as per customer requirements and dyes and chemicals	To plan different activities related to dyeing and printing and ensuring the availability of dyes, chemicals and other accessories related to processing	14	49	7
	PC1. Understand the task mentioned in the work order	2	2	1
	PC2. Ensure that all weighing scales, mixers, mixing tanks, etc. are clean	2	9	1
	PC3. Follow the preventive maintenance and cleaning schedule and ensure that controls of the equipment are functioning properly; and take corrective measures if required	5	20	2
	PC4. Ensure availability of resources (dyes & chemicals) with distinct lot number, materials for dyeing and printing with location and contact person etc.	3	10	1
	PC5. Allocate dyeing machines based on dyeing cycle, machine availability, colour type, urgency and priority of shade required	1	4	1
	PC6. Allocate operators based on skill set for dyeing technicalities and printing sophistications	1	4	1
	NOS Total	**14**	**49**	**7**

AMH/N0616: Develop recipe for dyeing and printing as per the customer requirement or pantone shade	Recipe for dyeing and printing of textile products	16	56	8
	PC1.. Understand the process parameters for dyeing and printing with all technicalities and technologies	2	2	1
	PC2. Use PPE before and while working in colour store and ensure all safety measures are in consideration	1	4	1
	PC3. Weigh all dyestuff separately (bigger quantity first and smaller quantity last, below 20 gms. Should be weighed on precision balance)	3	8	1
	PC4. . Develop dyeing recipe with details like fabric type, dyeing cycle, MLR, ph and other parameters	4	20	1
	PC5. . Check the shades developed against standard sample and/or pantone shade card	3	10	2
	PC6. . Check that all controls are functioning properly; and take corrective measures in case of deviation	3	12	2
	NOS Total	**16**	**56**	**8**
AMH/N0617: Supervise the process of dyeing and printing as per plan received from production planning	Supervision of different processes of dyeing cycle, printing process, washing cycle, hydro-extractor, etc	15	60	10
	PC1. Ensure dyeing and printing process is executed as per defined dyeing cycle and printing process	3	15	2
	PC2. Ensure materials after dyeing are washed and hydro-extracted as per defined washing cycle	4	15	2
	PC3. Ensure materials after dyeing are dried as per defined process parameters	4	15	2
	PC4. Take corrective action in case of any deviation in the dyeing/printing process	2	7	2
	PC5. Ensure that all chemicals/ dyeing/printing solutions are disposed off in the prescribed manner	2	8	2
	NOS Total	**15**	**60**	**10**
AMH/N0618: Maintain health, safety and security in the processing department with Gender & PwD Sensitization	Maintain the work area as compliant to health, safety, security needs and gender & PwD requirements	11	39	5
	PC1. Ensure that procedures related to environment management system health safety, gender and PwD (People with disability) are being followed	2	9	1
	PC2. Ensure dyeing effluents are monitored periodically for compliance before discharge complies with industrial and environmental requirements like BOD,COD, PH, colour, etc.	3	10	1
	PC3. Ensure safe and secure handling of dyeing equipment, tools and machineries	3	12	1
	PC4. Monitor the workplace and work processes for potential risks and threats	1	2	0.5
	PC5. Ensure workers participation in mock-drills/evacuation procedures group discussions, training sensitization programs for gender and PwD awareness organized at the workplace	1	5	1
	PC6. Ensure workers undertake first-aid, fire-fighting, and emergency response training	1	1	0.5
	NOS Total	**11**	**39**	**5**

AMH/N0619: Ensure workplace orderliness and efficiently operate tools and machinery.	Ensure workplace orderliness and efficiently operate tools and machinery.	14	49	7
	PC1. Implement safe and precise methods to handle materials, machinery, equipment, and tools, ensuring a workplace environment that is clean and free from hazards.	3	10	1
	PC2. Follow correct protocols for lifting and handling during operations.	2	7	1
	PC3. Optimize material usage to minimize waste and ensure safe disposal of any excess material at designated locations.	2	4	1
	PC4. Carry out routine maintenance and cleaning duties within assigned roles and agreed-upon schedules.	2	10	1
	PC5. Immediately report any unsafe or damaged equipment, as well as hazardous incidents, to authorized personnel.	1	2	0.5
	PC6. Confirm the presence of appropriate machine guards to maintain operational safety.	2	2	0.5
	PC7. Maintain a working posture that is both comfortable and ergonomically sound.	1	7	1
	PC8. Employ appropriate cleaning equipment and techniques tailored to the specific tasks at hand.	1	7	1
	NOS Total	**14**	**49**	**7**
AMH/N0621: Adhere to industry, regulatory, and organizational standards and embrace environmentally sustainable practices	Adhere to industry, regulatory, and organizational standards and embrace environmentally sustainable practices	20	10	10
	PC1. Execute job responsibilities according to organizational standards, with a strong emphasis on eco-friendly solutions, while strictly adhering to established procedures, policies, and legal regulations.	2	1	1
	PC2. Implement and uphold organizational policies and procedures, integrating sustainable consumption practices into daily operations.	2	1	1
	PC3. Actively engage in enhancing organizational performance by driving the transition towards environmentally friendly processes and practices.	2	1	1
	PC4. Safely handle materials, equipment, computers, and software to maintain a clean and hazard-free work environment, actively supporting the adoption of eco-friendly practices throughout the workplace.	3	2	2
	PC5. Perform routine maintenance and cleaning tasks within assigned duties and agreed-upon schedules, effectively managing any interruptions to workflow.	3	1	1
	PC6. Immediately report any instances of unsafe equipment or hazardous incidents to the appropriate personnel to ensure swift resolution and mitigate risks.	2	1	1
	PC7. Utilize appropriate cleaning equipment and techniques tailored to specific tasks, promoting efficiency and sustainability in workplace maintenance.	2	1	1
	PC8. Proactively request system or software upgrades as necessary to optimize work efficiency, while also maintaining backup files to ensure data integrity and security when using various design software.	2	1	1
	PC9. Maintain digital copies of design work in organized files for future reference, ensuring accessibility and preservation of valuable project assets.	2	1	1
	NOS Total	**20**	**10**	**10**

DGT/VSQ/N0102: Employability Skills (60 Hours)	Introduction to Employability Skills	1	1	-
	PC1. identify employability skills required for jobs in various industries	-	-	-
	PC2. identify and explore learning and employability portals	-	-	-
	Constitutional values – Citizenship	1	1	-
	PC3. recognize the significance of constitutional values, including civic rights and duties, citizenship, responsibility towards society etc. and personal values and ethics such as honesty, integrity, caring and respecting others, etc.	-	-	-
	PC4. follow environmentally sustainable practices	-	-	-
	Becoming a Professional in the 21st Century	2	4	-
	PC5. recognize the significance of 21st Century Skills for employment	-	-	-
	PC6. practice the 21st Century Skills such as Self-Awareness, Behaviour Skills, time management, critical and adaptive thinking, problem-solving, creative thinking, social and cultural awareness, emotional awareness, learning to learn for continuous learning etc. in personal and professional life	-	-	-
	Basic English Skills	2	3	-
	PC7. use basic English for everyday conversation in different contexts, in person and over the telephone	-	-	-
	PC8. read and understand routine information, notes, instructions, mails, letters etc. written in English	-	-	-
	PC9. write short messages, notes, letters, e-mails etc. in English	-	-	-
	Career Development & Goal Setting	1	2	-
	PC10. understand the difference between job and career	-	-	-
	PC11. prepare a career development plan with short- and long-term goals, based on aptitude	-	-	-
	Communication Skills	2	2	-
	PC12. follow verbal and non-verbal communication etiquette and active listening techniques in various settings	-	-	-
	PC13. work collaboratively with others in a team	-	-	-
	Diversity & Inclusion	1	2	-
	PC14. communicate and behave appropriately with all genders and PwD	-	-	-
	PC15. escalate any issues related to sexual harassment at workplace according to POSH Act	-	-	-
	Financial and Legal Literacy	2	3	-
	PC16. select financial institutions, products and services as per requirement	-	-	-
	PC17. carry out offline and online financial transactions, safely and securely	-	-	-
	PC18. identify common components of salary and compute income, expenses, taxes, investments etc	-	-	-
	PC19. identify relevant rights and laws and use legal aids to fight against legal exploitation	-	-	-
	Essential Digital Skills	3	4	-
	PC20. operate digital devices and carry out basic internet operations securely and safely	-	-	-

	PC21. use e- mail and social media platforms and virtual collaboration tools to work effectively	-	-	-
	PC22. use basic features of word processor, spreadsheets, and presentations	-	-	-
	Entrepreneurship	2	3	-
	PC23. identify different types of Entrepreneurship and Enterprises and assess opportunities for potential business through research	-	-	-
	PC24. develop a business plan and a work model, considering the 4Ps of Marketing Product, Price, Place and Promotion	-	-	-
	PC25. identify sources of funding, anticipate, and mitigate any financial/ legal hurdles for the potential business opportunity	-	-	-
	Customer Service	1	2	-
	PC26. identify different types of customers	-	-	-
	PC27. identify and respond to customer requests and needs in a professional manner.	-	-	-
	PC28. follow appropriate hygiene and grooming standards	-	-	-
	Getting ready for apprenticeship & Jobs	2	3	-
	PC29. create a professional Curriculum vitae (Résumé)	-	-	-
	PC30. search for suitable jobs using reliable offline and online sources such as Employment exchange, recruitment agencies, newspapers etc. and job portals, respectively	-	-	-
	PC31. apply to identified job openings using offline /online methods as per requirement	-	-	-
	PC32. answer questions politely, with clarity and confidence, during recruitment and selection	-	-	-
	PC33. identify apprenticeship opportunities and register for it as per guidelines and requirements	-	-	-
	NOS Total	**20**	**30**	**-**

Annexure III

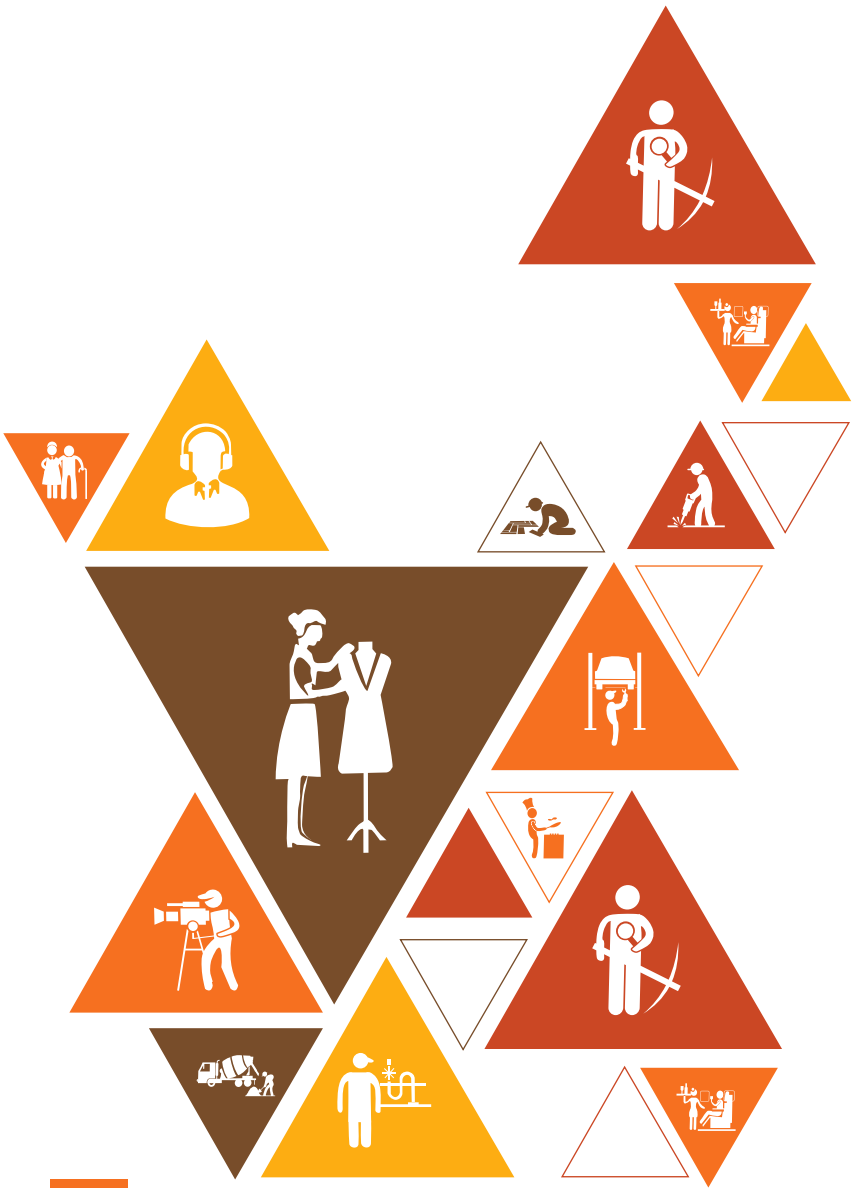
List of QR Codes Used in PHB

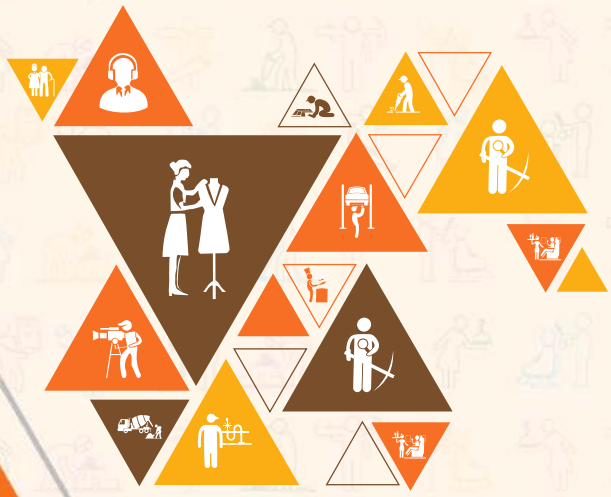
Module No.	Unit No.	Topic Name	Page No. in PHB	URL	QR Code (s)
Module 1: Introduction and Orientation to Processing Supervisor (Bridge Module)	Unit 1.1: The Apparel Industry and Professional Functions	1.1.1 The Size and Scope of the Apparel Industry	12	https://youtu.be/-ddisteV3tOo-?si=uF-DW4QKnItoOKknY	Textile Sector in India
		1.1.3 Roles and Responsibilities of a Processing Supervisor (Dyeing & Printing)	12	https://youtu.be/-lwPEk-X-O8o-?si=2Vkou_hYxpiLcRgm	Knit Fabric Dyeing and Finishing Process
Module 2: Fundamentals of dyes and chemicals (AMH/N0615)	Unit 2.1: Characteristics of Textile Materials and Dyeing	2.1.2 The Dyeing Cycle in Relation to Fibre Types and Machinery Capabilities	53	https://youtu.be/-lw-PEk-X-O8o-?si=ldn9kkmEuzT-8TAHg	Knit Fabric Dyeing and Finishing Process
		2.1.3 Types of Dyes and Chemicals Used in the Dyeing Process	53	https://youtu.be/-4uu-w39sCI8w-?si=EmSnEe2w_NOiFPco	Classification of dyes
	Unit 2.2: Processes and Organisational Practices in Textile Production	2.2.1 Sequential Processes: Scouring, Bleaching, Dyeing, Printing, and Finishing	53	https://youtu.be/-7AE5vftS-jFk-?si=eLDvOrqIJZCuN6PF	Textile Dyeing and Printing

Module No.	Unit No.	Topic Name	Page No. in PHB	URL	QR Code (s)
Module 3: Plan and organize materials to be dyed and printed as per customer requirements (AMH/ N0615)	Unit 3.1: Workplace Policies, Standards and Compliance	3.1.4 Pantone Shade Cards and Reference Samples in Colour Matching	92	https://youtu.be/-itntPdu-1JvI-?si=lRWtBjBSjhvodnH6	Pantone Color full Detail
	Unit 3.2: Operational Planning and Resource Allocation	3.2.2 Methods to Reduce Consumption of Dyes, Chemicals, Water, and Other Resources	92	https://youtu.be/-QSTy-04hO51w-?si=nbfvZpPa0Sb-gl6bM	Recovery and reuse of sizes, dyes and other chemicals
Module 4: Develop recipe for dyeing and printing (AMH/ N0616)	Unit 4.1: Materials, Equipment, and Techniques in Dyeing and Printing	4.1.1 Types of Dyes and Chemicals: Reactive, Natural, and Discharge Dyes	122	https://youtu.be/-j3mMrD-ChzHw-?si=BNbhl-Z6HaQPb4Z-	Types Of Dyes Used In Textile Industry
		4.1.4 Types of Printing and Dyeing Machines	122	https://youtu.be/-OZ_MNH4X-rkI-?si=MnCEpuoOgtXAwpsV	Types of Digital Textile Printing Machines
Module 5: The Process of Dyeing (AMH/ N0616)	Unit 5.2: Technical Aspects of Dyeing and Printing	5.2.3 Types of Dye Fastness: Water Fastness and Colour Fastness	154	https://youtu.be/-cU0Icz-kBQU-?si=4vrov5k7E5wx8-D2	Washing Fastness Testing

Module No.	Unit No.	Topic Name	Page No. in PHB	URL	QR Code (s)
Module 6: Supervise the process of dyeing and printing as per plan received from production planning (AMH/ N0617)	Unit 6.2: Quality Control and Process Improvement	6.2.1 Correcting Dyeing Faults such as Patchy Dyeing and Shade Variation	185	https://youtu.be/-L4K-LB-Yn1P4-?si=-AfunzjNpLaFt-GDh	Differents Dyeing Faults Causes And Remedies
Module 7: Maintain a Healthy, Safe and Secure Working Environment with Gender and PWD Sensitization (AMH/ N0618)	Unit 7.1: Workplace Practices for Health, Safety, and Inclusivity	7.1.3 Identifying Signage Related to Health and Safety Measures	238	https://youtu.be/-SqZ5np_lCr0-?si=va_GroEKv3cGaQgz	Learn 30 Essential Safety Signs
		7.1.4 Explain the Correct Usage of Personal Protective Equipment (PPE)	238	https://youtu.be/-p_9hOqd-w75o-?si=pv3B64maagoYsKlQ	Personal Protective Equipment (PPE)
		7.1.10 Worker Participation in Mock Drills and Evacuations	238	https://youtu.be/-Vy-iZcZhLEJ0-?si=SPZjhChhKi3y-wuF9	How to conduct Mock Drill at work site

Module No.	Unit No.	Topic Name	Page No. in PHB	URL	QR Code (s)
Module 8: Manage the workspace, operate tools, and handle machinery efficiently (AMH/ N0619)	Unit 8.1: Ethical Values and Workplace Conduct	8.1.1 Importance of Having an Ethical and Value-Based Approach to Governance	281	https://youtu.be/ltW7KVY-J1go?si=wzE1VK2cFgALdNY_	Business Ethics, Nature of Business ethics





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