Competency Based Learning Materials (CBLMs)

Apparel Merchandising

Level- 04

Module: Performing Measurement Consumption & Cost Calculations for Casual/ Formal Apparel

Code: CBLM-RMGT-AM-04-L4-EN-V1

National Skills Development Authority
Prime Minister's Office
Government of the People's Republic of Bangladesh

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The CBLM on "Perform measurement consumption & cost calculations for casual/formal apparel" is developed based on NSDA approved Competency Standards and Competency Based Curriculum under Apparel Merchandising Level-4 Occupation. It contains the information required to implement the Apparel Merchandising Level-4 standard.

This document has been prepared by NSDA with the help of relevant experts, trainers/professionals.

All Government-Private-NGO training institutes in the country accredited by NSDA can use this CBLM to implement skill-based training of Apparel Merchandising Level-4 course.

How to use this Competency Based Learning Materials (CBLMs)

The module, Maintaining and enhancing professional & technical competency contains training materials and activities for you to complete. These activities may be completed as part of structured classroom activities or you may be required you to work at your own pace. These activities will ask you to complete associated learning and practice activities in order to gain knowledge and skills you need to achieve the learning outcomes.

1. Review the **Learning Activity** page to understand the sequence of learning activities you will undergo. This page will serve as your road map towards the achievement of competence.

2. Read the **Information Sheets.** This will give you an understanding of the jobs or tasks you are going to learn how to do. Once you have finished reading the **Information Sheets** complete the questions in the **Self-Check.**

3. **Self-**Checks are found after each **Information Sheet**. **Self-Checks** are designed to help you know how you are progressing. If you are unable to answer the questions in the **Self-Check** you will need to re-read the relevant **Information Sheet**. Once you have completed all the questions check your answers by reading the relevant **Answer Keys** found at the end of this module.

4. Next move on to the **Job Sheets. Job Sheets** provide detailed information about *how to do the job* you are being trained in. Some **Job Sheets** will also have a series of **Activity Sheets**. These sheets have been designed to introduce you to the job step by step. This is where you will apply the new knowledge you gained by reading the Information Sheets. This is your opportunity to practice the job. You may need to practice the job or activity several times before you become competent.

5. Specification **sheets**, specifying the details of the job to be performed will be provided where appropriate.

6. A review of competency is provided on the last page to help remind if all the required assessment criteria have been met. This record is for your own information and guidance and is not an official record of competency

When working though this Module always be aware of your safety and the safety of others in the training room. Should you require assistance or clarification please consult your trainer or facilitator.

When you have satisfactorily completed all the Jobs and/or Activities outlined in this module, an assessment event will be scheduled to assess if you have achieved competency in the specified learning outcomes. You will then be ready to move onto the next Unit of Competency or Module

Approved by

---th Executive Committee (EC) Meeting of NSDA

Held on ----------

Table of Contents

Module Content

Module: Performing Measurement, Consumption & Cost Calculations for Casual/Formal Apparel

Module Descriptor: This module covers the knowledge, skills and attitude required of a learner to Perform Measurement, Consumption & Cost Calculations for Casual/Formal Apparel. This covers competencies on interpreting the sketch and measurement chart, interpreting the points of measuring, performing fabric consumption and cost calculation, perform trims and accessories consumption and cost calculation, interpreting cost of manufacturing (CM) and applying the costing format and methods of calculation.

Nominal Hours: 65 Hours

Learning Outcome: After completion of the module, trainees will be able to:

1. Interpret the sketch and measurement chart
2. Interpret the points of measuring
3. Perform fabric consumption and Cost calculation
4. Perform trims and accessories consumption and cost calculation
5. Interpret Cost of Manufacturing (CM)
6. Apply the costing format and methods of calculation

Assessment Criteria:

1. Sketch is comprehended as per Technical Package (Tech. Pack)
2. Measurement charts are recognized, followed and applied.
3. Measurements charts are updated in accordance with changes.
4. Points of measuring of the Measurement Guide are recognized.
5. Level of tolerance specified in the measuring guide are identified and stated.
6. Fabric consumption is identified and interpreted.
7. Fabric consumption formula is applied.
8. Cost calculation is computed
9. Trims and Accessories consumption calculation is identified and interpreted.
10. Trims and Accessories consumption formula is applied.
11. Costing of the trims and accessories is computed.
12. The process of CM calculation is interpreted.
13. CM Calculation formula is applied.
14. CM calculation for apparel is computed.
15. Method of costing format is identified.
16. Cost format is applied to compute cost.
17. The concept of FOB (Free on Board) price is identified.
18. FOB price is prepared in accordance with specifications.

Learning Outcome: 1 Interpret the sketch and measurement chart

Contents:

- Technical Package (Tech. Pack)
- Measurement charts

Assessment Criteria:

1. Sketch is comprehended as per Technical Package (Tech. Pack)
2. Measurement charts are recognized, followed and applied.
3. Measurements charts are updated in accordance with changes

Conditions:

Students/trainees must be provided with the following:

- Applicable tools, utensil and equipment as prescribed by competency standard
- Supply materials
- Relevant ingredients
- CBLM related with the learning out come
- Instructions, job sheets, activity sheet and standard operating procedures
- Personal protective equipment
- Module/reference

Learning Materials:

- CBLM
- Handouts
- Books, Manuals
- Module/ Reference
- Paper
- Pen

Learning Experience: Interpret the sketch and measurement chart

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about the Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel	1. Instructor will provide the learning materials **'**Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel**'**
2. Read the **Information sheet/s**	2. Information Sheet No. 1: Interpret the sketch and measurement chart
3. Complete the **Self-Check Sheet Check answer sheets.**	3. Self-Check/s Self-Check No. 1: Interpret the sketch and measurement chart Answer Key No. 1: Interpret the sketch and measurement chart
4. Read the **Job / Task sheet** and **Specification Sheet and perform job**	4. **Job/Task Sheet and specification sheet** Task Sheet 1.1: Analysis Measurement Chart

Information Sheet 1: Interpret the sketch and measurement chart

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1. Technical Package (Tech. Pack)
2. Measurement charts

1. Technical Package (Tech. Pack)

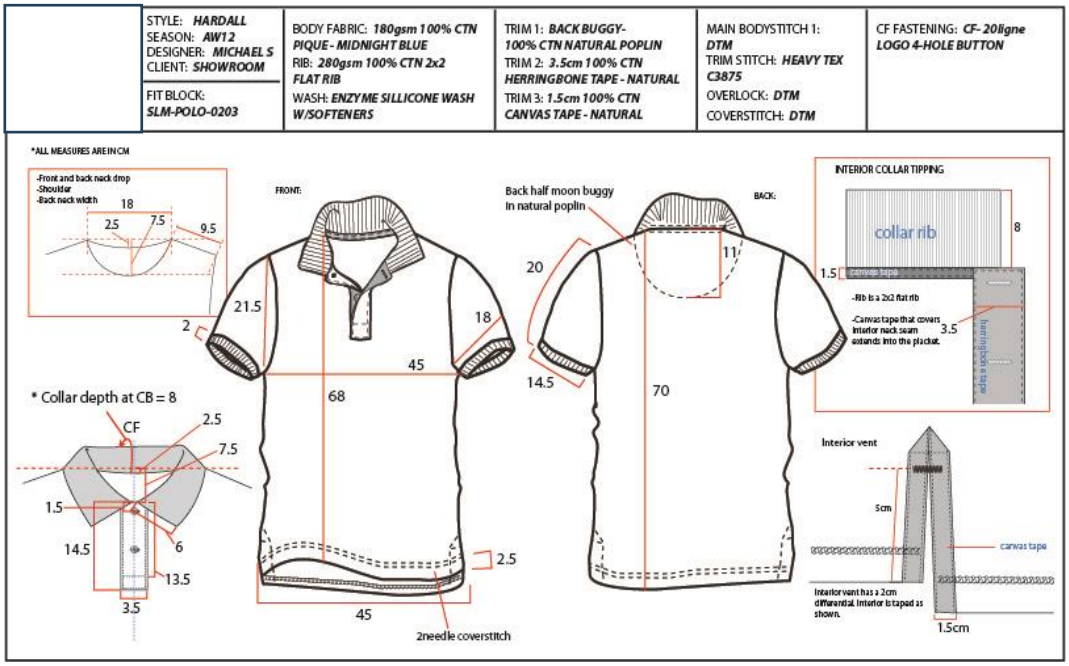
Tech pack stands for Technical Packet/Technical Package. It is also called as Specification sheet. It is a blueprint created by a technical designer which is used to make a final garment. It contains all the detailed information about size, measurements, stitch type, trims, label, stitch length, technical sketch, seam type, grading chart, tolerance and much more such information.

So basically, tech pack acts as an instruction manual which helps in converting design into product. It helps manufacturers to understand the design in a better way and helps in minimizing the error and creating the best product.

1.1 Goals of Tech Pack

Every tech pack can be considered as an ideal one if it meets the following goals:

- Helps in making sample and to quote the price.
- Explains the design to manufacturer to turn design into a product.
- Should help in minimizing samples, decreases cost and brings product to market faster i.e. decreases production time.
- Should help to make the entire product perfectly with almost no or few errors.
- Should track production development including changes made during revisions and any comments while producing it.



1.2 The benefits of tech pack are following ones:

- **Get error free sample:** If the Tech pack contains a lot of details, then it increases the chance of creating a sample of your original vision at the first go. Detailed Tech pack hence there are less chances of errors.
- **Get accurate price quotation:** Manufacturer can easily get a clear idea what man, materials and machines are required if he knows each and every accurate detail about manufacturing the particular product and hence more the detailed tech pack is more accurate the price estimation is.
- **Keeps manufacturers accountable:** It helps in tracking the details while ordering trims, fabric and other things. It acts as a contract between manufacturer and suppliers.
- **Reference point for quality control:** It helps to check the measurement once the garment is ready whether it is made according to the details. Also helps to check whether the labels, trims and many other things are correctly placed. Hence it acts as reference point for the quality control department.
- **Saves money and time:** Making tech pack is surely a critical task and takes a lot of time but once this detailed tech pack is made it surely helps saving a lot of time and money. Every step while creating the product has some loopholes which can be avoided with the help of this tech pack.

A product without a tech pack just seems impossible. Hence, it is important that we create a tech pack which is in detail and creates less error in a room. Surely creating a tech pack is quite a difficult job and needs a lot of investment of time and patience. These steps will surely help you to create a tech pack which is easy to use and minimize the number of samples and obviously help you make a better tech pack than the last one.

Apparel Tech Pack — www.onlineclothingstudy.com

Style No.	Description.	Collection	Category	Created by	Date
FMPRNM001	H/S Crew Neck Tee	SS-15	Men	Abc	11/6/2014

Garment Measurement Sheet

Measurement set: 01 UOM: CM (Note: Measurements are not approved. Ensure to use approved measurement for bulk)

Code	NAME	XXS	XS	S	M	L	XL	Allowance (+/-)
A	LENGTH OF BACK ON CENTER	48.00	51.00	54.00	58.00	62.00	66.00	
B	LENGTH OF SHOULDERS ON BACK	31.00	32.50	34.00	36.00	38.00	40.00	
C	1/2 WIDTH OF CHEST	37.00	39.00	41.00	44.00	47.00	50.00	
D	1/2 WIDTH OF BOTTOM	37.00	39.00	41.00	44.00	47.00	50.00	
E	1/2 WIDTH OF SLEEVE 2 CM UNDER ARM HOLE	13.50	14.50	15.50	17.00	18.50	20.00	
F	1/2 WIDTH OF BOTTOM SLEEVE	12.50	13.00	13.50	14.20	14.90	15.60	
J	LENGTH OF SLEEVE FROM 1/2 NECK HOLE	28.00	30.00	32.00	34.00	36.00	38.00	
M	WIDTH OF NECK HOLE	15.90	16.20	16.50	17.00	17.50	18.00	
N	DEPTH OF BACK NECK HOLE	2.50	2.50	2.50	2.50	2.50	2.50	
O	DEPTH OF FRONT NECK HOLE	6.10	6.30	6.50	6.80	7.10	7.40	
P	HEIGHT OF COLLAR / RIB WIDTH	2.00	2.00	2.00	2.00	2.00	2.00	
Q	1/2 MINIMUM NECK HOLE WIDTH, AFTER STRETCHED	26.50	27.00	27.50	28.20	28.90	29.60	
S	LENGTH OF SLEEVE FROM SHOULDERS	12.50	13.75	15.00	16.00	17.00	18.00	

Figure 2: Apparel Tech pack

2. Measurement charts

In an apparel factory, a measurement chart is an important tool used to ensure that garments are produced to the correct size and fit for the intended customer. A measurement chart typically includes a range of body measurements that are relevant to the garment being produced, such as chest, waist, hip, and inseam measurements.

Measurement charts may vary depending on the country, as different regions have different standard body measurements. For example, a measurement chart used in the United States may differ from one used in Europe or Asia.

In an apparel factory, the measurement chart is used to ensure that garments are produced consistently and to the correct size. Garments are typically measured at different stages of production, such as during making the pattern, cutting and sewing stages, to ensure that they are being produced according to the measurement chart.

It's important to note that while a measurement chart provides a standard guideline for sizing, it is not a one-size-fits-all solution. Customers have unique body shapes and sizes, so apparel factories may need to make adjustments to the measurement chart to accommodate for individual differences. In addition, some garments may require more or less ease in their fit, which may also require adjustments to the measurement chart.

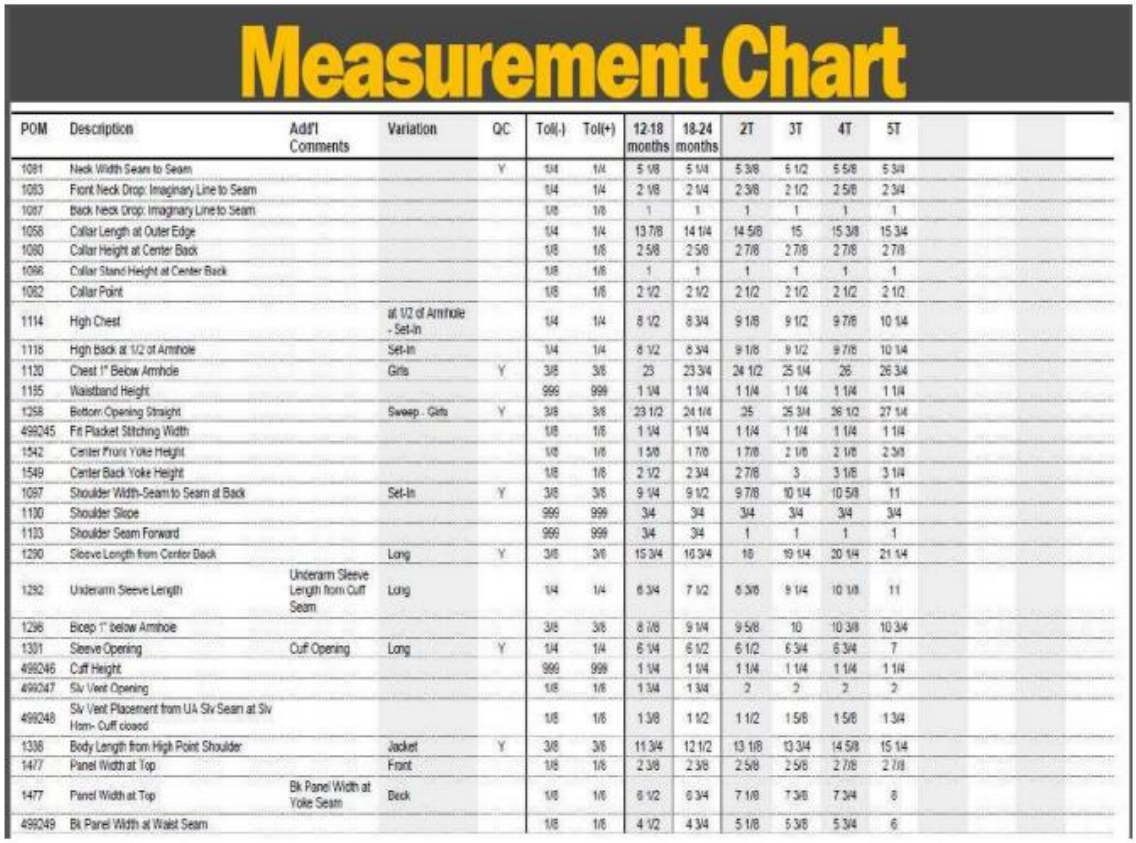
2.1 Terms and Abbreviations:

Below terms and abbreviations are frequently used in garment measurement.

BK	= Back
BLW	= Below
BTTM	= Bottom
BTTN	= Button
CB	= Center Back
CF	= Center Front
CNTR	= Center
FM	= From
FT	= Front
HPS	= High Point Shoulder
MSRMNT	= Measurement
SHLDR	= Shoulder
W/B	= Waistband
W/O	= Without

2.2 Preparation for Measuring Garments:

- Smooth and flat surface table must be used.
- Garment must be buttoned and zipped unless otherwise specified
- Garment with non-closure must be overlapped as specified
- Carefully remove all folds, wrinkles or creases on garment without any distort.



Measurement Chart

POM	Description	Add'l Comments	Variation	QC	Tol(-)	Tol(+)	12-18 months	18-24 months	2T	3T	4T	5T
1081	Neck Width Seam to Seam			Y	1/4	1/4	5 1/8	5 1/4	5 3/8	5 1/2	5 5/8	5 3/4
1083	Front Neck Drop: Imaginary Line to Seam				1/4	1/4	2 1/8	2 1/4	2 3/8	2 1/2	2 5/8	2 3/4
1087	Back Neck Drop: Imaginary Line to Seam				1/8	1/8	1	1	1	1	1	1
1058	Collar Length at Outer Edge				1/4	1/4	13 7/8	14 1/4	14 5/8	15	15 3/8	15 3/4
1080	Collar Height at Center Back				1/8	1/8	2 5/8	2 5/8	2 7/8	2 7/8	2 7/8	2 7/8
1086	Collar Stand Height at Center Back				1/8	1/8	1	1	1	1	1	1
1082	Collar Point				1/8	1/8	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
1114	High Chest		at 1/2 of Armhole - Set-In		1/4	1/4	8 1/2	8 3/4	9 1/8	9 1/2	9 7/8	10 1/4
1116	High Back at 1/2 of Armhole		Set-In		1/4	1/4	8 1/2	8 3/4	9 1/8	9 1/2	9 7/8	10 1/4
1120	Chest 1" Below Armhole		Girls	Y	3/8	3/8	23	23 3/4	24 1/2	25 1/4	26	26 3/4
1195	Waistband Height				999	999	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
1258	Bottom Opening Straight		Sweep - Girls	Y	3/8	3/8	23 1/2	24 1/4	25	25 3/4	26 1/2	27 1/4
499245	Fit Placket Stitching Width				1/8	1/8	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
1542	Center Front Yoke Height				1/8	1/8	1 5/8	1 7/8	1 7/8	2 1/8	2 1/8	2 3/8
1549	Center Back Yoke Height				1/8	1/8	2 1/2	2 3/4	2 7/8	3	3 1/8	3 1/4
1097	Shoulder Width-Seam to Seam at Back		Set-In	Y	3/8	3/8	9 1/4	9 1/2	9 7/8	10 1/4	10 5/8	11
1100	Shoulder Slope				999	999	3/4	3/4	3/4	3/4	3/4	3/4
1103	Shoulder Seam Forward				999	999	3/4	3/4	1	1	1	1
1290	Sleeve Length from Center Back		Long	Y	3/8	3/8	15 3/4	16 3/4	18	19 1/4	20 1/4	21 1/4
1292	Underarm Sleeve Length	Underarm Sleeve Length from Cuff Seam	Long		1/4	1/4	6 3/4	7 1/2	8 3/8	9 1/4	10 1/8	11
1296	Bicep 1" below Armhole				3/8	3/8	8 1/8	9 1/4	9 5/8	10	10 3/8	10 3/4
1301	Sleeve Opening	Cuff Opening	Long	Y	1/4	1/4	6 1/4	6 1/2	6 1/2	6 3/4	6 3/4	7
499246	Cuff Height				999	999	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
499247	Slv Vent Opening				1/8	1/8	1 3/4	1 3/4	2	2	2	2
499248	Slv Vent Placement from UA Slv Seam at Slv Hem- Cuff closed				1/8	1/8	1 3/8	1 1/2	1 1/2	1 5/8	1 5/8	1 3/4
1336	Body Length from High Point Shoulder		Jacket	Y	3/8	3/8	11 3/4	12 1/2	13 1/8	13 3/4	14 5/8	15 1/4
1477	Panel Width at Top		Front		1/8	1/8	2 3/8	2 3/8	2 5/8	2 5/8	2 7/8	2 7/8
1477	Panel Width at Top	Bk Panel Width at Yoke Seam	Back		1/8	1/8	6 1/2	6 3/4	7 1/8	7 3/8	7 3/4	8
499249	Bk Panel Width at Waist Seam				1/8	1/8	4 1/2	4 3/4	5 1/8	5 3/8	5 3/4	6

Figure 3: Sample Measurement Chart

2.3 Pattern in Apparel Industry:

Pattern is a hard paper which is made by following each individual component for a style of apparel though it is making in soft form by CAD also. Pattern is one of the most important components of apparel industry.

2.4 Types of Pattern used in clothing sector:

There are mainly two types of patterns used in readymade apparel sector which mentioned in the below:

- Basic block or block pattern
- Working pattern

2.5 Basic block or block pattern:

Basic block or block pattern is an individual component of apparel without any design or style.

2.6 Working pattern

Working pattern is made on the basic of block. Individual block pattern is drawn on hard paper or mount board. Alternate; sewing allowance, trimming allowance, Button hole, Centre front line, Centre back line, button attaching, dart, pleat, Notch, shrinkage of the fabric, etc. are added with the copied pattern. Working pattern are needed for every part of the garments.

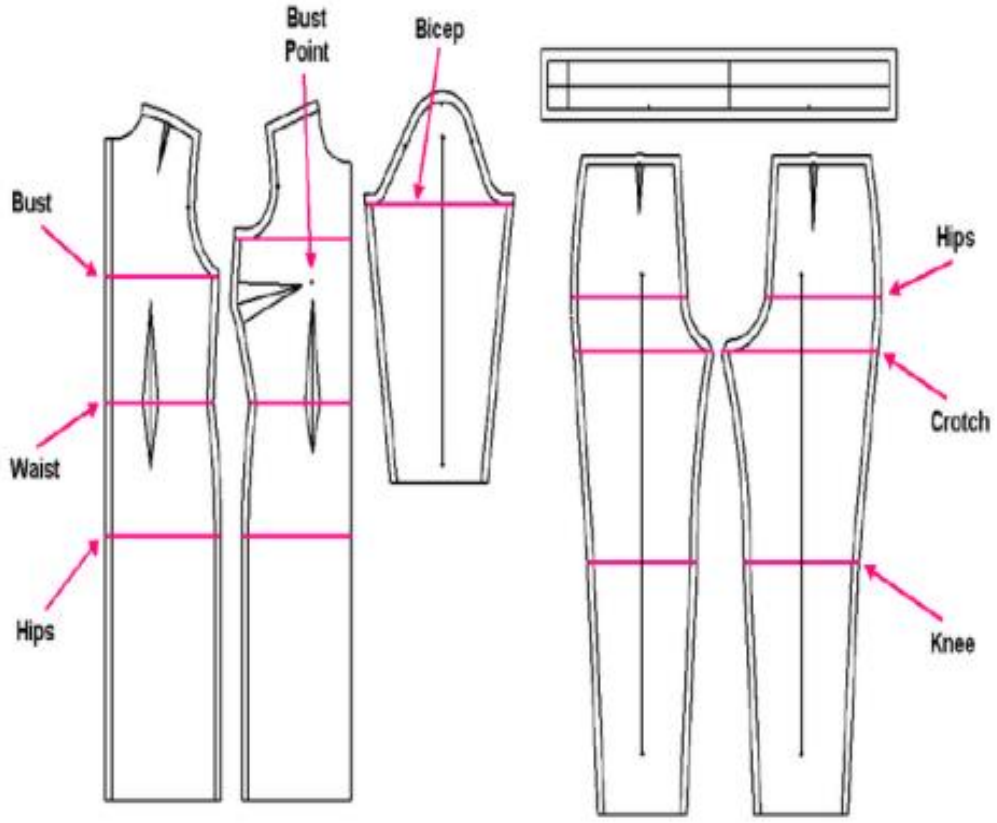


Figure 4: Pattern used in Apparel Industry

Self-Check Sheet - 1: Interpret the sketch and measurement chart

Question:

1. What is tech pack?
   Answer:

2. What is the content of tech pack?
   Answer:

3. What is the purpose of a sketch in apparel design?
   Answer:

4. What does a measurement chart typically include?
   Answer:

Answer Key - 1: Interpret the sketch and measurement chart

1. What is tech pack?

   Answer: A tech pack, short for technical package, is a comprehensive document that provides detailed information and instructions for the production of a garment.

2. What is the content of tech pack?

   Answer: The content of a tech pack can vary depending on the specific requirements of the garment and the preferences of the designer or manufacturer.

3. What is the purpose of a sketch in apparel design?

   Answer: A sketch in apparel design serves as a visual representation of the garment, showing its overall silhouette, style lines, and design details.

4. What does a measurement chart typically include?

   Answer: A measurement chart usually includes a range of body measurements for different garment sizes, such as bust, waist, hip, sleeve length, shoulder width, and length from neckline to hem.

Task Sheet-1.1: Analyze Measurement Chart

Task: Analyze Measurement Chart

Working Procedure:

1. Introduce trainees to different types of measurement charts used in apparel merchandising.
2. Explain the importance of accurate measurements for consistent sizing and proper fit.
3. Guide trainees in deciphering the measurements listed in the chart and understanding their relevance to garment production.

Learning Outcome: 2 Interpret the points of measuring

Contents:

- Points of measuring
- Level of tolerance

Assessment Criteria:

1. Points of measuring of the Measurement Guide are recognized.
2. Level of tolerance specified in the measuring guide are identified and stated.

Conditions:

Students/trainees must be provided with the following:

- Applicable tools, utensil and equipment as prescribed by competency standard
- Supply materials
- Relevant ingredients
- CBLM related with the learning out come
- Instructions, job sheets, activity sheet and standard operating procedures
- Personal protective equipment
- Module/reference

Learning Materials:

- CBLM
- Handouts
- Books, Manuals
- Module/ Reference
- Paper
- Pen

Learning Experience: Interpret the points of measuring

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about the Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel	1. Instructor will provide the learning materials Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel
2. Read the **Information Sheet/s**	2. Information Sheet No. 2: Interpret the points of measuring
3. Complete the **Self-Checks & Check answer sheets.**	3. Self-Check/s No 2. Interpret the points of measuring Answer Key No. 2: Interpret the points of measuring
4. Read the **Job sheet and Specification Sheet and perform job**	4. **Job/ task sheet and specification sheet** Task 2.1: Identify Key Measuring Points on Apparel Garments

Information Sheet 2: Interpret the points of measuring

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1. Points of measuring
2. Level of tolerance

1. Points of measuring

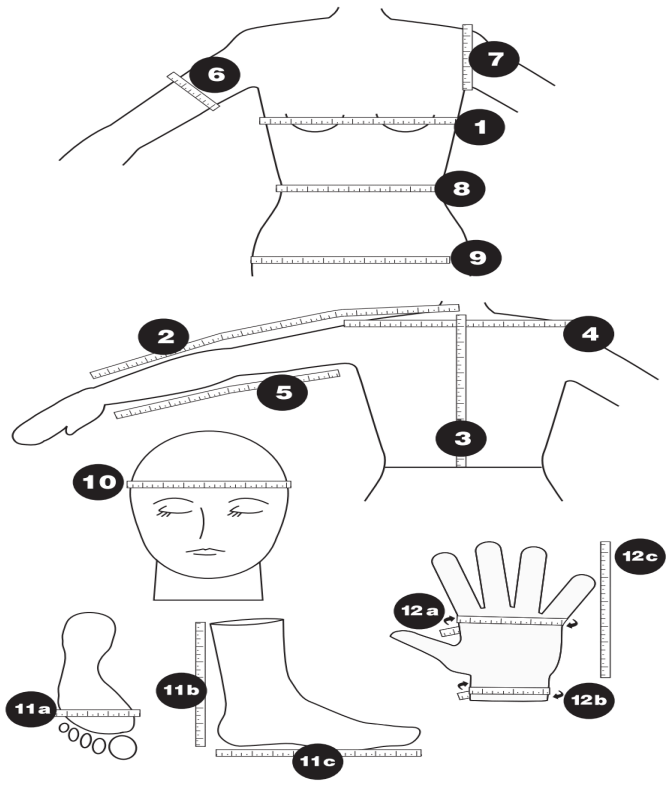
1.1 How to Take Garments Measurement:

Certain rules or guidelines should be followed in making measurements of garments so that all concerned use the same measurement methods or technique. A company should have the guidelines in writing and as a part of quality policy. Correctly measuring garments is essential to achieve high-quality of the garment.

1.2 Basic guidelines for garments measurement:

- Before starting garments measurement, take measurement specification sheet, measurement tools, and documentation of those measurements.
- Take measurements with garments placed on a surface in a natural position.
- Do not pull or stretch garment at the time of measurements unless otherwise specified.
- Take all measurements from outside edge to outside edge unless otherwise specified as inside to inside.
- Measure garment on wearer's left side.
- Take measurements of openings like waist, neck, leg opening etc. from inside edge.
- For curved seams, such as rises and armholes, stand tape on edge and walk along seem to be measured.
- When take stretch measurements, stretch to full extension of fabric but not widely.

1.3 How to measure:



1) **Chest/Bust -** Measure around the fullest part of the chest/bust. Do not draw the tape too tightly.
2) **Center Back Neck–to-Wrist-** With arm straight, measure from back base of neck, across shoulder, and along arm to wrist.
3) **Back Waist Length-** Measure from the most prominent bone at base of neck to the natural waistline.
4) **Cross Back-** Measure from shoulder to shoulder.
5) **Arm Length-** With arm slightly bent, measure from armpit to wrist.
6) **Upper Arm-** Measure around the widest section of the upper arm located above the elbow.
7) **Armhole Depth-** Measure from the top outside edge of the shoulder down to the armpit.
8) **Waist-** Measure your waist at the smaller circumference of your natural waist, usually just above the belly button.
9) **Hip-** Measure at the widest part of your lower hip.
10) **Head Circumference-** For an accurate head measure, place a tape measure across the forehead and measure around the full circumference of the head. Keep the tape snug for accurate results.
11) **Sock Measurements-** The following measurements are for crew-style or dress socks, which usually come several inches above the ankle and below the calf.
    a. Foot Circumference- To determine the foot circumference, measure around the widest part of your foot.
    b. Sock Height- To determine the height of the sock, measure from where you start to turn for the heel shaping to the top of the sock.
    c. Total Foot Length- To measure the total length of your foot, place a ruler or tape measure on the floor. Position the back of your heel at the beginning of the tape and the measure to your longest toe.
12) Hand Circumference- Measure around the palm of you dominate hand, which is usually just below the knuckles. Exclude the thumb.
    a. Wrist Circumference- Measure around the widest part of the wrist.
    b. Hand Length- Measure from the wrist to the base of the hand to the tip of the middle finger or to the top of the longest finger.

2. Level of tolerance

Tolerance is the plus-or-minus measurement used to determine whether a product meets a specified quality standard. No two garments of the same size can be guaranteed to be the exact same – this is why two "smalls" of the same shirt may have a slightly different fit, but both shirts may still fall within an acceptable range. As long as the measurements (such as +/- 0.5-inch tolerance, or half an inch bigger or smaller than the intended standard measurement) fall within the set tolerance, the garment still meets the quality guidelines. Tolerance is essentially the maximum room for error in a garment's specific measurements.

2.1 Measurement Tolerance Limit of Garments

There is a certain tolerance limit for Garments measurement fixed by the buyer. Tolerance limit has lower and upper limits, allowed measured value limit between maximum and minimum of fixed requirement. Tolerance, for example, you can follow the below-mentioned data.

Measurement points	Upper Limit	Lower Limit
Waist	+ 3/4"	– 3/4"
Seat	+1"	-3/4"
Thigh	+1/2"	-1/2"
Inseam	+3/4"	-1/2"
Back Rise	+1/2"	-1/2"
Front Rise	+1/2"	-1/2"

***It's just an example to follow, it can be varied buyer to buyer.**

Self-Check Sheet - 2: Interpret the points of measuring

Questionnaire:

1. What is the purpose of measuring the "cross-back" when analyzing a garment?
   Answer:

2. Why is it important to identify the "waist to floor" measurement when designing a dress or skirt?
   Answer:

3. What does the term "rise" refer to when measuring for pants or jeans?
   Answer:

4. Why is it necessary to measure the "neck circumference" when designing a garment with a neckline?
   Answer:

5. What does the term "armhole depth" signify when taking measurements for a garment?
   Answer:

Answer Key - 2: Interpret the points of measuring

1. What is the purpose of measuring the "cross-back" when analyzing a garment?

   Answer: Measuring the cross-back helps determine the width of the back shoulder area of a garment. It ensures proper fit and comfort by aligning the garment's shoulder seams with the wearer's natural shoulder line.

2. Why is it important to identify the "waist to floor" measurement when designing a dress or skirt?

   Answer: The waist to floor measurement determines the length of a dress or skirt, ensuring that it reaches the desired point on the wearer's legs. Accurate measurement is crucial for achieving the intended style and proportion of the garment.

3. What does the term "rise" refer to when measuring for pants or jeans?

   Answer: The rise refers to the vertical measurement from the crotch seam to the top of the waistband. It determines the position and fit of the waistband and affects the overall comfort and style of the pants.

4. Why is it necessary to measure the "neck circumference" when designing a garment with a neckline?

   Answer: Measuring the neck circumference helps ensure that the garment's neckline will comfortably fit around the wearer's neck. It is essential for achieving the desired fit and avoiding constriction or sagging.

5. What does the term "armhole depth" signify when taking measurements for a garment?

   Answer: Armhole depth refers to the vertical measurement from the shoulder point to the underarm point. It determines the depth and fit of the armhole, impacting the ease of movement and comfort of the garment.

Task Sheet-2.1: Identify Key Measuring Points of Garments

Task Name: Identifying key measuring points of Garments

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. Check the below picture carefully
4. Mark bust, waist, hip, shoulder, sleeve length and inseam.
5. Clean and maintain your workplace

Learning Outcome: 3 Perform fabric consumption and cost calculation

Contents:

- Fabric consumption
- Fabric consumption formula
- Fabric cost calculation

Assessment Criteria:

1. Fabric consumption is identified and interpreted.
2. Fabric consumption formula is applied.
3. Cost calculation is computed

Conditions:

Students/trainees must be provided with the following:

- Applicable tools, utensil and equipment as prescribed by competency standard
- Supply materials
- CBLM related with the learning outcome
- Instructions, job sheets, activity sheet and standard operating procedures
- Personal protective equipment
- Module/reference

Learning Materials:

- CBLM
- Handouts
- Books, Manuals
- Module/ Reference
- Paper
- Pen

Learning Experience: Perform fabric consumption and cost calculation

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about the Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel	1. Instructor will provide the learning materials Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel
2. Read the **Information Sheet/s**	2. Information Sheet No: 3. Perform fabric consumption and cost calculation
3. Complete the **Self-Checks & Check answer sheets.**	3. Self-Check/s Self-Check Sheet No. 3: Perform fabric consumption and cost calculation Answer Key 3: Perform fabric consumption and cost calculation
4. Read the **Job sheet and Specification Sheet and perform job**	4. **Job/task sheet and specification sheet** Task Sheet 3.1: Estimate Fabric Costs Based on Consumption Data

Information Sheet 3: Perform fabric consumption and cost calculation

Learning Objective:

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1. Fabric consumption
2. Fabric consumption formula
3. Fabric cost calculation

1. Fabric consumption

The quantity of fabric needed for making a garment is called fabric consumption. It is difficult to know the actual consumption before completion of marker planning but we can get an approximate fabric consumption from sample.

1.1 Fabric consumption is calculated by two processes:

- From marker (it is more accurate)
- By mathematical system from measurement (it is approximate)

2. Fabric consumption formula

2.1 Woven fabric consumption formula:

{(Length + allowance) X (width + allowance) X number of parts} / fabric cut able width / 36 X 12 + wastage %.
= results in yards / dozen.
Note:

- Measurement must be in inch
- Sewing allowance need to consider as per the requirements
- Shrinkage allowance need to consider in case of washing

3. Fabric consumption calculation method for woven:

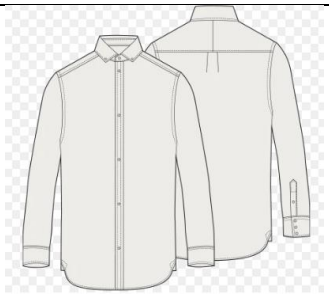
A garments merchandiser should identify each part of a “woven long sleeve shirt” before starting the consumption calculation.

Normally, a “woven long sleeve shirt” consists with the following parts

- Body
- Sleeve,
- Collar,
- Cuff,
- Collar Band,
- Pocket,
- Yoke.

3.1 Suppose

The buyer “A” forwards a “woven long sleeve shirt” item order (10000pcs) to you with the following specification.

Sl	Measuring points	Measurement (Inch)	
1	Full length	29	
2	Half chest	20	
3	Collar length	16	
4	Collar width	2	
5	Collar band length	17	
6	Collar band width	1.5	
7	Back yoke length	17	Fabric: 100% cotton oxford
8	Back yoke width	5	Fabric width: 52 inches
9	Sleeve length	24	Non washed garment
10	Half armhole	9	
11	Cuff length	10	
12	Cuff width	2.5	
13	Pocket length	4.5	
14	Pocket width	4	

3.2 Solution:

Body: {(29 + 1) X (20 + 5)} X 2 / 50 / 36 X 12 + 5 %.
= 10.50 yards / dozen.

Collar: {(16 + 1) X (2 + 1)} X 2 / 50 / 36 X 12 + 5 %.
= 0.71 yards / dozen.

Collar band: {(17 + 1) X (1.5 + 1)}X 2 / 50 / 36 X 12 + 5 %.
= 0.63 yards / dozen.

Back yoke: {(17 + 1) X (5 + 1)} X 1 / 50 / 36 X 12 + 5 %.
= 0.76 yards / dozen.

Sleeve: [{(24-2.5) + 1} X (9 + 1)] X 4 / 50 / 36 X 12 + 5 %.
= 6.3 yards / dozen.

Cuff: {(10 + 1) X (2.5 + 1)} X 4 / 50 / 36 X 12 + 5 %.
= 1.08 yards / dozen.

Pocket: {(4.5 + 2) X (4 + 1)} X 1 / 50 / 36 X 12 + 5 %.
= 0.23 yards / dozen.

3.3 Total twill fabric consumption per dozen = 20.21 yards Knit yarn / fabric consumption formula:

{(Length + allowance) × (width + allowance) × number of parts} × fabric weight in GSM / 10000000 X 12 + wastage %.

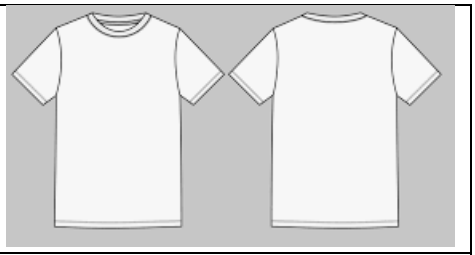
= results in KG per dozen.

Note:

- Measurement must be in CM
- Sewing allowance need to consider as per the requirements
- Shrinkage allowance need to consider in case of washing

3.4 Suppose

The buyer "A" forwards a "Knitted T shirt" item order (10000pcs) to you with the following specification.

Sl	Measuring points	Measurement (CM)	
1	Full length	70	
2	Half chest	50	
3	Sleeve length	28	Fabric (Shell and Sleeve): 100% cotton Single jersey 180 GSM
4	Half arm hole	24	Fabric (Neck): 100% cotton Rib 200 GSM
5	Neck circumference	32	Non washed garment
6	Neck rib width	2	

3.5 Solution:

Body (S/J): {(70 + 3) X (50 + 2)} X 2 X 180 / 10000000 X 12 + 15 %.
= 1.89 KG / dozen.

Sleeve (S/J): {(28 + 3) X (24 + 1)} X 4 X 180 / 10000000 X 12 + 15 %.
= 0.77 KG / dozen.

Neck (Rib): {(32 + 1) X (2 + 1)} X 2 X 180 / 10000000 X 12 + 15 %.
= 0.049 KG / dozen.

Total yarn for Single Jersey needed = 2.66 KG / dozen
Total yarn for Rib needed = 0.049 KG / dozen

3.6 Costing:

Elements for costing:

- Fabric consumption with unit price
- Trims and accessories with unit price
- Embellishment cost (If applicable)
- CM
- Washing cost (If applicable)
- Commercial and banking cost

3.7 Costing of woven garments:

XYZ Apparels					
Buyer: ABC			**Date:**		
Style: 5020			**Ref.:**		
S.L	Materials description	Consumption (with wastage)	Unit Price	Price in Dzn	Remarks
1	Fabric: 100% cotton, poplin	19.38 yds/dzn	$ 2.35/yds	$ 45.543	
2	Interlining: Nonwoven, fusable	0.89 yds/ dzn	$ 0.55/yds	$ 0.489	
3	Trims:				
	a. Sewing thread	1440 metre/ dzn	$ 0.50/cone (2400 metre)	$ 0.30	
	b. Main label	12.36 pcs/ dzn	$ 0.45/ dzn	$ 0.463	
	c. Care label	12.36 pcs/ dzn	$ 0.30/dzn	$ 0.309	
	d. Button (11 buttons/ pcs)	138.6 pcs/dzn	$ 10.00/GG	$ 0.802	
	e. Collar stay	24.72 pcs / dzn	$ 0.20/dzn	$ 0.412	
4	Accessories				
	a. Hangtag	12.36 pcs/ dzn	$ 0.40/dzn	$ 0.412	
	b. Price tag	12.36 pcs/ dzn	$ 0.30/dzn	$ 0.309	
	c. Back board	12.36 pcs/ dzn	$ 0.50/dzn	$ 0.515	
	d. Neck board	12.36 pcs/ dzn	$ 0.25/dzn	$ 0.26	
	e. Collar band	12.36 pcs/ dzn	$ 0.45/dzn	$ 0.46	
	f. Butterfly	12.36 pcs/ dzn	$ 0.20/dzn	$ 0.21	
	g. plastic clip (5 clips/ pcs)	61.8 pcs/ dzn	$ 0.15/dzn	$ 0.77	
	h. Individual poly bag	12.36 pcs/ dzn	$ 0.60/dzn	$ 0.62	
	i. Carton (30 pcs/ carton)	0.412 pcs/dzn	$ 0.70/pcs	$ 0.29	
5	Others			$ 0.10	
6	Embroidery @ pocket			$ 0.30	
7	CM			$ 15.00	
8	Commercial & Banking			$ 2.70	
Total Cost per dzn				**$ 70.26**	
Prepared by		**Checked by**		**Approved by**	

3.8 Costing of knit garments:

XYZ Apparels					
Buyer: MNO			**Date:**		
Style: Basic t-shirt			**Ref.:**		
S.L	**Materials description**	**Consumption**	**Unit PX**	**PX in Dzn**	**Remarks**
1	Fabric: 100% cotton S/J - Yarn - Knitting - Dyeing, printing & finishing	2.13 KG/ dzn	 $ 3.10/KG $ 0.10/KG $ 1.75/KG Total $ 4.95/KG	$ 10.543	
2	Fabric: 100% cotton Rib - Yarn - Knitting - Dyeing, printing & finishing	0. 23 KG/dzn	 $ 3.10/KG $ 0.20/KG $ 1.75/KG Total $ 5.05/KG	$ 1.161	
3	Trims:				
	a. Sewing thread	1080 metre/ dzn	$ 0.50/cone (3000 metre)	$0.18	
	b. Main label	12.36 pcs/ dzn	$ 0.45/ dzn	$0.463	
	c. Care label	12.36 pcs/ dzn	$ 0.30/dzn	$0.309	
4	Accessories				
	a. Hangtag	12.36 pcs/ dzn	$ 0.40/dzn	$0.412	
	b. Price tag	12.36 pcs/ dzn	$ 0.30/dzn	$0.309	
	c. Back board	12.36 pcs/ dzn	$ 0.50/dzn	$0.515	
	h. Individual poly bag	12.36 pcs/ dzn	$ 0.60/dzn	$0.62	
	i. Carton (50 pcs/ carton)	0.247 pcs/dzn	$ 0.70/pcs	$0.172	
5	Others			$0.10	
6	Print@ Chest			$0.50	
7	CM			$4.00	
8	Commercial & Banking			$1.00	
Total Cost per dzn				$ 20.28	
Prepared by		**Checked by**		**Approved by**	

3.9 Costing tips for the knits Items:

Before start costing

- **Fabrication:** You must take clear idea regarding the fabrication before taking the order from the buyer / buying house. After then, you must ensure that, you have strong source of the following's fabric.

- **Size spec:** Make sure that, you have got the correct/latest size spec with the measurement of all the sizes, which will be ordered. Many times, we see that, PO sheet has come with new bigger size which was not during the costing.

- **Fabric color:** Try to know that, how many colors the style has & also try to know that, color wise order qty ratio.

- **Quantity:** Take information regarding approximate order qty

- **Shipment date:** Asked buyer for the shipment date & check with your production department that, they have enough space for shipped out the followings qty within the require ship date or tell your possible date.

- **Test requirement**: Let you know that; the order has any test or not

- **L/C payments term:** Take a previous L/C copy from them & discuss with your commercial people regarding all the terms along with payment terms.

- **Inspection:** get a confirmation from the buyer that, who will inspect the goods. If third party then who will pay their charges.

3.10 Pricing

A sample pricing (with buying commission) on woven garment is showing below.

Total cost per dzn = $ 70.26
+ Factory's profit (8%) = $ 5.62

Factory's price/dzn = $ 75.88
+ Buying commission (3%) = $ 2.27

FOB Price/ dzn = $ 78.15
Therefore, FOB price per piece = $ 6.51

A sample pricing on knit garment (without buying commission) is showing below.

Total cost per dzn = $ 20.28
+ Factory's profit (6%) = $ 1.21

FOB price/dzn = $ 21.49
Therefore, price per piece = $ 1.79

Self-Check Sheet - 3: Perform fabric consumption and cost calculation

Questionnaire:

1. What is fabric consumption calculation in apparel merchandising, and why is it important?
   Answer:

2. What are the key factors that influence fabric consumption in apparel production?
   Answer:

3. How can you calculate the fabric consumption for a given garment style?
   Answer:

4. How can you calculate the fabric cost for a given garment using fabric consumption data?
   Answer:

Answer Key - 3: Perform fabric consumption and cost calculation

1. What is fabric consumption calculation in apparel merchandising, and why is it important?

   Answer: Fabric consumption calculation in apparel merchandising is the process of determining the amount of fabric required to produce a garment. It involves analyzing the garment's style, dimensions, and components to estimate the fabric quantity needed. Fabric consumption calculation is crucial as it helps in accurate costing, production planning, and inventory management.

2. What are the key factors that influence fabric consumption in apparel production?
   Answer: The key factors that influence fabric consumption in apparel production include:
   - Garment style and design intricacies.
   - Garment size and dimensions.
   - Fabric width and pattern repeat.
   - Fabric properties, such as weight, stretch, and drape.
   - Seam allowances and fabric utilization efficiency.
   - Cutting and marker efficiency.

3. How can you calculate the fabric consumption for a given garment style?

   Answer: To calculate fabric consumption for a given garment style, follow these steps:
   - Obtain the technical specifications of the garment, including dimensions, pattern pieces, and seam allowances.
   - Determine the fabric width and take note of any pattern repeats.
   - Calculate the fabric requirement for each pattern piece by multiplying its dimensions (length and width) by the quantity needed.
   - Consider the layout efficiency and marker utilization to determine the total fabric consumption for the entire garment.

4. How can you calculate the fabric cost for a given garment using fabric consumption data?

   Answer: To calculate fabric cost for a given garment using fabric consumption data, follow these steps:
   - Determine the cost per unit (e.g., per meter or per yard) of the fabric being used.
   - Multiply the fabric consumption (in units) by the cost per unit to obtain the total fabric cost for the garment.
   - Factor in any additional costs, such as wastage allowance or fabric processing charges, if applicable.
   - Sum up the fabric cost with other production costs to obtain the total cost of producing the garment.

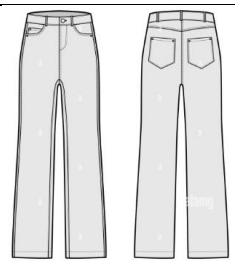
Task Sheet-3.1: Calculate the woven fabric consumption on following data

Task Name: Calculate fabric consumption on following data

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. See the following specification
4. Calculate fabric consumption on the basis of given data
5. Clean and maintain your workplace
6. If you need any more information, consider on your own way.

Specification:

Sl	Measuring points	Measurement (Inch)	
1	Full length	40	
2	Half Thigh	11	
3	Half waist	17	
4	Waist belt width	2	
5	Front pocket facing length	5	
6	Front pocket facing width	5	
7	Back pocket length	6	Fabric: 100% cotton Twill
8	Back pocket width	5	Fabric width: 60 inch
9	Pocket bag length	11	Non washed garment
10	Pocket bag width	6	

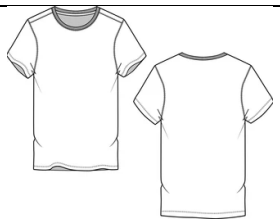
Task Sheet-3.2: Calculate the knit fabric consumption on following data

Task Name: Calculate fabric consumption on following data

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. See the following specification
4. Calculate fabric consumption on the basis of given data
5. If you need any more information, consider on your own way.
6. Clean and maintain your workplace

Specification:

Sl	Measuring points	Measurement (CM)	
1	Full length	66	
2	Half chest	48	
3	Sleeve length	26	Fabric (Shell and Sleeve): 100% cotton Single jersey 160 GSM
4	Half arm hole	22	Fabric (Neck): 100% cotton Rib 180 GSM
5	Neck circumference	30	Non washed garment
6	Neck rib width	1.5	

Task Sheet-3.3: Calculate total cost and price for a woven pant

Task Name: Calculate total cost and price for a woven pant

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. Consider a 5-pocket basic pant
4. Collect the fabric consumption from your previous task sheet
5. Consider trims and accessories on your own way.
6. Calculate cost in the below format and do pricing considering 10% profit on the total cost.
7. Clean and maintain your workplace

Costing Format:

XYZ Apparels					
Buyer:			**Date:**		
Style:			**Ref.:**		
S.L	**Materials description**	**Consumption**	**Unit PX**	**PX in Dzn**	**Remarks**
Prepared by		**Checked by**		**Approved by**	

Learning Outcome: 4 Perform trims and accessories consumption and cost calculation

Contents:

- Trims and Accessories
- Trims and Accessories consumption
- Trims and Accessories consumption formula
- Trims and Accessories costing

Assessment Criteria:

1. Trims and Accessories consumption calculation is identified and interpreted.
2. Trims and Accessories consumption formula is applied.
3. Costing of the trims and accessories is computed

Conditions:

Students/trainees must be provided with the following:

- Applicable tools, utensil and equipment as prescribed by competency standard
- Supply materials
- Relevant ingredients
- CBLM related with the learning out come
- Instructions, job sheets, activity sheet and standard operating procedures
- Personal protective equipment
- Module/reference

Learning Materials:

- CBLM
- Handouts
- Books, Manuals
- Module/ Reference
- Paper
- Pen

Learning Experience: Perform trims and accessories consumption and cost calculation

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about the Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel	1. Instructor will provide the learning materials Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel
2. Read the **Information Sheet/s**	2. Information Sheet No: 4. Perform trims and accessories consumption and cost calculation
3. Complete the **Self-Checks & Check answer sheets.**	3. Self-Check/s Self-Check Sheet No. 4: Perform trims and accessories consumption and cost calculation Answer Key 4: Perform trims and accessories consumption and cost calculation
4. Read the **Job sheet and Specification Sheet and perform job**	4. Job/task sheet and specification sheet Task Sheet 4.1: Calculate Total Cost Task Sheet 4.2: Document and Analysis

Information Sheet 4: Perform trims and accessories consumption and cost calculation

Learning Objective

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1. Trims and Accessories
2. Trims and Accessories consumption
3. Trims and Accessories consumption formula
4. Trims and Accessories costing

1. Trims and accessories:

Trims and accessories play a vital role in apparel merchandising. They are the additional components that complement the main fabric and contribute to the overall aesthetic appeal, functionality, and branding of the garment.

Here are some commonly used trims and accessories in apparel merchandising:

1.1 **Buttons:** Buttons are functional and decorative elements used in apparel. They come in various sizes, shapes, colors, and materials, such as plastic, metal, or natural materials like wood or shell. Buttons can be used for closures, embellishments, or branding purposes.

1.2 **Zippers:** Zippers are fastening devices used in garments to open or close openings, such as in pants, skirts, or jackets. They are available in different types, including metal, plastic, or concealed zippers, and they come in various lengths and colors.

1.3 **Ribbons and Tapes**: Ribbons and tapes are versatile trims used for decorative purposes, binding edges, or adding functional details. They are available in different widths, materials, patterns, and colors, allowing for creative customization.

1.4 **Labels and Tag**s: Labels and tags are essential for branding and providing product information. They can include the brand name, logo, care instructions, size, and other details. Labels can be woven, printed, or embossed, while tags are typically made of paper or cardboard.

1.5 **Threads:** Threads are used for stitching garments together. They come in various colors and thicknesses. In apparel merchandising, threads can also be used for decorative purposes, such as contrasting or decorative stitching.

1.6 **Patches and Appliqués:** Patches and appliqués are fabric pieces stitched onto garments for decorative purposes. They can be embroidered, printed, or made of different materials like sequins, beads, or patches with unique designs or logos.

1.7 **Elastic:** Elastic is a stretchable material used in garments to provide comfort and fit. It is commonly used in waistbands, cuffs, or areas requiring elasticity. Elastic can be encased in fabric or exposed, and it comes in various widths and tensions.

1.8 **Buckles and Fasteners:** Buckles, hooks, snaps, and other fasteners are used for closures and adjustments in garments. They provide functionality and can be made of metal or plastic, depending on the garment's purpose.

1.9 **Trims and Embellishments:** Trims and embellishments include lace, ruffles, sequins, beads, or embroidery. They are used to enhance the garment's appearance, add texture, or create a specific style.

1.10 **Interlinings:** Interlinings are used to provide structure, shape, and support to certain parts of garments, such as collars, cuffs, or waistbands. They can be fusible or sewn-in and come in different weights and compositions.

2. Consumption formula:

The trims and accessories consumption formula is a calculation used in the apparel industry to estimate the quantity of trims and accessories required for a specific production order or garment style. It helps manufacturers and merchandisers determine the number of trims and accessories, such as buttons, zippers, labels, or threads needed to complete a given quantity of garments.

2.1 The formula is typically represented as:

Trims and Accessories Consumption = (Number of Units) x (Consumption per Unit) + Wastage percentage

- **Number of Units:** This refers to the total quantity of garments to be produced or on one dozen.
- **Consumption per Unit:** This represents the quantity of trims and accessories required for each individual garment.
- By multiplying the number of units by the consumption per unit and adding wastage percentage, the formula provides an estimation of the total consumption of trims and accessories for one dozen. This calculation helps in planning and sourcing the appropriate quantity of trims and accessories, ensuring an adequate supply to meet the production requirements.
- It's important to note that the accuracy of the consumption calculation depends on the availability of precise data, thorough technical specifications, and consideration of potential wastage or variations in garment production. Adjustments may be necessary based on factors like garment complexity, sizes, and design variations.
- The trims and accessories consumption formula enables manufacturers and merchandisers to make informed decisions about purchasing, inventory management, and production planning to ensure the timely and efficient completion of garments with the required trims and accessories.

3. Consumption formula with an example:

Suppose you are producing a batch of 1,000 t-shirts, and you want to calculate the consumption of buttons for each t-shirt. The supplier has provided the consumption per unit as 4 buttons per t-shirt.

- Number of Units: 1,000 t-shirts Consumption per Unit: 4 buttons per t-shirt
    - **To calculate the total consumption of buttons, you can use the formula:**
- Trims and Accessories Consumption = (Number of Units) x (Consumption per Unit) + Wastage percentage
- Trims and Accessories Consumption/ dozen = 12 t-shirts x 4 buttons per t-shirt + 3 % wastage
- Trims and Accessories Consumption/ dozen = 49.44 pcs buttons
- So, for the production of 1,000 t-shirts, you would need 4120 buttons.

This formula helps you estimate the total quantity of trims and accessories required based on the production order quantity and the consumption per unit. You can apply the same calculation for other trims and accessories by substituting the appropriate values for the number of units and consumption per unit.

4. Trims and Accessories costing:

Trims and accessories costing refers to the process of determining the financial expenses associated with the trims and accessories used in the production of garments. It involves calculating the cost of each individual trim or accessory and incorporating it into the overall cost of the garment.
Here are the key steps involved in trims and accessories costing:

4.1 **Identify Trims and Accessories:** Determine the specific trims and accessories required for the garment based on the design, functionality, and customer requirements. This could include buttons, zippers, labels, threads, ribbons, or any other applicable components.

4.2 **Obtain Cost Information:** Gather cost information for each trim and accessory from suppliers or internal cost databases. This information typically includes the unit cost or price per piece or unit of measurement.

4.3 **Calculate Consumption:** Use the trims and accessories consumption formula to estimate the quantity of each trim and accessory required for the production order or garment style.

4.4 **Multiply Consumption by Unit Cost:** Multiply the consumption quantity of each trim and accessory by its respective unit cost to determine the cost per component. This provides the individual cost of each trim and accessory required for the garment.

4.5 **Summation and Aggregation:** Sum up the individual costs of all trims and accessories to obtain the total cost of trims and accessories for the garment.

4.6 **Consider Wastage or Extra Allowances:** Account for any wastage, additional allowances, or contingency factors when calculating the total cost of trims and accessories. This helps ensure that the estimated cost covers any potential variations or unexpected expenses.

Trims and accessories costing is important for accurate pricing, budgeting, and profitability analysis in the apparel industry. It helps manufacturers and merchandisers understand the cost structure, make informed decisions about sourcing, negotiate with suppliers, and set appropriate pricing strategies for their garments.

Self-Check Sheet - 4: Perform trims and accessories consumption and cost calculation

Questionnaire:

1. What is the purpose of performing trims and accessories consumption and cost calculation in apparel merchandising?
   Answer:

2. How can you determine the consumption of trims and accessories for a garment?
   Answer:

3. Why is it important to calculate the cost of trims and accessories in apparel merchandising?
   Answer:

4. What factors can influence trims and accessories consumption in apparel manufacturing?
   Answer:

5. How do you calculate the total cost of trims and accessories for a garment?
   Answer:

6. What are some common challenges faced when performing trims and accessories consumption and cost calculation?
   Answer:

Answer Key - 4: Perform trims and accessories consumption and cost calculation

1. What is the purpose of performing trims and accessories consumption and cost calculation in apparel merchandising?

   Answer: The purpose is to accurately estimate the quantity of trims and accessories needed for a specific garment style and calculate the associated costs.

2. How can you determine the consumption of trims and accessories for a garment?

   Answer: Consumption can be determined by analyzing the design specifications, construction details, and measurements of the garment, combined with the approved sample.

3. Why is it important to calculate the cost of trims and accessories in apparel merchandising?

   Answer: Calculating the cost allows merchandisers to evaluate the overall production expenses and accurately determine the final selling price of the garment.

4. What factors can influence trims and accessories consumption in apparel manufacturing?

   Answer: Factors such as the design complexity, garment size, construction methods, and specific style requirements can all affect the consumption of trims and accessories.

5. How do you calculate the total cost of trims and accessories for a garment?

   Answer: The total cost is calculated by multiplying the consumption quantity by the unit cost of each trim or accessory item.

6. What are some common challenges faced when performing trims and accessories consumption and cost calculation?

   Answer: Challenges can include inaccurate measurements, variations in supplier prices, changes in design specifications, and difficulty in sourcing specific trims or accessories.

Task Sheet-4.1: Calculate Trims and accessories cost

Task Name: Calculate trims and accessories cost

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. Read the following case carefully
4. Calculate trims consumption
5. Calculate cost of the trims and accessories
6. Clean and maintain your workplace

Case:

1. The buyer wants to place an order where there are 3 zippers per garment in the style. If the zipper price is $ 2.20/dozen, calculate the cost of zipper for 1dozen garment.
2. If the sewing thread consumption is 90 meter per garment, calculate the thread consumption per dozen with 10% wastage. If the price of sewing thread is 0.55/cone and each cone contain 2200 meter, calculate the cost of sewing thread for one dozen garment.

Learning Outcome: 5 Interpret Cost of Manufacturing (CM)

Contents:

- CM calculation
- CM Calculation formula

Assessment Criteria:

1. The process of CM calculation is interpreted.
2. CM Calculation formula is applied.
3. CM calculation for apparel is computed.

Conditions:

Students/trainees must be provided with the following:

- Applicable tools, utensil and equipment as prescribed by competency standard
- Supply materials
- Relevant ingredients
- CBLM related with the learning out come
- Instructions, job sheets, activity sheet and standard operating procedures
- Personal protective equipment
- Module/reference

Learning Materials:

- CBLM
- Handouts
- Books, Manuals
- Module/ Reference
- Paper
- Pen

Learning Experience: Interpret Cost of Manufacturing (CM)

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about the Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel	1. Instructor will provide the learning materials Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel
2. Read the **Information Sheet/s**	2. Information Sheet No: 5. Interpret cost of Manufacturing (CM)
3. Complete the **Self-Checks & Check answer sheets.**	3. Self-Check/s Self-Check Sheet No. 5: Interpret cost of Manufacturing (CM) Answer Key 5: Interpret cost of Manufacturing (CM)
4. Read the **Job sheet and Specification Sheet and perform job**	4. Job/task sheet and specification sheet Task Sheet 5.1: Gather Data and Calculate of Cost Components in Cost of manufacturing (CM)

Information Sheet 5: Interpret Cost of Manufacturing (CM)

Learning Objective

After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1. CM calculation
2. CM Calculation formula

1. CM calculation:

In apparel merchandising, the Cost of Manufacturing (CM) refers to the total expenses incurred in the production of garments. It encompasses all the direct and indirect costs associated with manufacturing, including materials, labor, overheads, and other production-related expenses.

The Cost of Manufacturing calculation for apparel merchandising typically includes the following components:

1.1 **Direct cost:** Direct cost comprises the building rent, utility bills and such types of expenses which need to be paid in regular basis. These expenses cannot be avoided while continuing the business.

1.2 **Labor Cost:** The labor cost comprises the wages, salaries, and benefits paid to the workers involved in the manufacturing process. This includes the cost of cutting, sewing, finishing, and quality control labor. It can also include additional labor costs such as overtime pay or incentives.

1.3 **Overhead Cost:** Overhead costs are indirect expenses that are necessary to support the manufacturing process. They include expenses such as factory rent, utilities, equipment depreciation, maintenance, administrative costs, and other factory-related expenses. Overhead costs are allocated to the production process based on a predetermined allocation method, such as labor hours or machine usage.

1.4 **Other related direct costs:** These are additional direct expenses associated with the manufacturing process but not classified as materials or labor. It may include expenses like machinery maintenance, equipment setup costs, tooling costs, or any other specific costs directly related to the production process.

The Cost of Manufacturing (CM) is calculated by summing up the material cost, labor cost, overhead cost, other direct costs, and wastage and scrap costs. This calculation provides a comprehensive understanding of the expenses incurred in producing the garments.

2. CM Calculation formula

2.1 Cost of manufacturing (CM) per pcs

$$= \frac{\text{Factory total expenditure/month} \times \text{Total number of machines required to complete an item}}{\text{Total machines} \times \text{Total working day/month} \times \text{Total working hrs/day} \times \text{Targeted production/hr}}$$

Example:

Suppose,

H.N apparels have received an order of basic T-Shirt item.

Were,

H.N apparels total expenditure per month-30,00,000 taka
Total number of machines in the factory-100
Total number of machines required to complete an item-25
Targeted production per hour from the existing layout-180
Total working day per month-26
Total working hours per day-08

Solution:

2.2 Cost of making (CM) per pcs,

$$= \frac{\text{Factory total expenditure/month} \times \text{Total number of machines required to complete an item}}{\text{Total machines} \times \text{Total working day/month} \times \text{Total working hrs/day} \times \text{Targeted production/hr}}$$

$$= \frac{30,00,000 \times 25}{100 \times 26 \times 8 \times 180}$$

= 20.03 taka per pcs
= (20.03 × 12) taka per dozen
= 240.38 taka per dozen
= 240.38/78 (in dollar) {considered 1dollar-78taka}
= $3.08 per dozen

So, the costs of manufacturing (CM) per dozen basic T-Shirt is $3.08

Self-Check Sheet - 5: Interpret Cost of Manufacturing (CM)

Questionnaire:

1. What does the term "Cost of Manufacturing (CM)" refer to in apparel merchandising?
   Answer:

2. Why is it important to interpret the Cost of Manufacturing (CM) in apparel merchandising?
   Answer:

3. What are some components included in the Cost of Manufacturing (CM) for apparel production?
   Answer:

4. How can the Cost of Manufacturing (CM) be calculated for a specific garment?
   Answer:

5. What factors can influence the Cost of Manufacturing (CM) in apparel production?
   Answer:

6. How can interpreting the Cost of Manufacturing (CM) impact on decision-making in apparel merchandising?
   Answer:

Answer Key - 5: Interpret Cost of Manufacturing (CM)

1. What does the term "Cost of Manufacturing (CM)" refer to in apparel merchandising?

   Answer: The Cost of Manufacturing (CM) refers to the total expenses incurred during the production process of garments, including direct labor costs, direct material costs, and factory overhead costs.

2. Why is it important to interpret the Cost of Manufacturing (CM) in apparel merchandising?

   Answer: Interpreting the CM helps merchandisers understand the production expenses involved in making a garment, enabling them to make informed decisions about pricing, profitability, and cost optimization

3. What are some components included in the Cost of Manufacturing (CM) for apparel production?

   Answer: Components of CM can include raw material costs, labor costs (including wages and benefits), overhead costs (such as factory utilities and maintenance), machine costs, quality control expenses, and packaging costs.

4. How can the Cost of Manufacturing (CM) be calculated for a specific garment?

   Answer: CM can be calculated by adding up the direct material costs, direct labor costs, and factory overhead costs associated with producing the garment.

5. What factors can influence the Cost of Manufacturing (CM) in apparel production?

   Answer: Factors such as the complexity of the garment design, fabric type, construction techniques, production volume, and location of the manufacturing facility can all influence the CM.

6. How can interpreting the Cost of Manufacturing (CM) impact on decision-making in apparel merchandising?

   Answer: By understanding the CM, merchandisers can determine pricing strategies, negotiate with suppliers, assess manufacturing feasibility, identify cost-saving opportunities, and evaluate the profitability of specific product lines or orders.

Task Sheet-5.1: Calculate Cost of manufacturing (CM) of a style

Task Name: Calculate CM of a style

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. Follow the below case carefully
4. Check the given information
5. Calculate the CM
6. Clean and maintain your workplace

Case:

Suppose you are working with ABC apparels as a merchandiser. You have to calculate CM on a style on the basis of following information.

Style: Trouser

Monthly average factory direct cost and overheads: Tk. 7500000.00

Number of machine in the factory: 260

Number of machine needed in the layout for this style: 40

Daily targeted production per line: 1200 pcs

US$ conversion rate: Tk. 100 per US$

Learning Outcome: 6 Apply the costing format and methods of calculation

Contents:

- Costing format
- Cost calculation
- FOB (Free on Board)

Assessment Criteria:

1. Method of costing format is identified.
2. Cost format is applied to compute cost.
3. The concept of FOB (Free on Board) price is identified.
4. FOB price is prepared in accordance with specifications

Conditions:

Students/trainees must be provided with the following:

- Applicable tools, utensil and equipment as prescribed by competency standard
- Supply materials
- Relevant ingredients
- CBLM related with the learning out come
- Instructions, job sheets, activity sheet and standard operating procedures
- Personal protective equipment
- Module/reference

Learning Materials:

- CBLM
- Handouts
- Books, Manuals
- Module/ Reference
- Paper
- Pen

Learning Experience: Apply the costing format and methods of calculation

In order to achieve the objectives stated in this learning guide, you must perform the learning steps below. Beside each step are the resources or special instructions you will use to accomplish the corresponding activity.

Learning Steps	Resources specific instructions
1. Student will ask the instructor about the Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel	1. Instructor will provide the learning materials Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel
2. Read the **Information Sheet/s**	2. Information Sheet No: 6. Apply the costing format and methods of calculation
3. Complete the **Self-Checks & Check answer sheets.**	3. Self-Check/s Self-Check Sheet No. 6 Apply the costing format and methods of calculation Answer Key 6: Apply the costing format and methods of calculation
4. Read the **Job sheet and Specification Sheet and perform job**	4. Job/task sheet and specification sheet Task Sheet 6.1: Apply Cost Methods and Cost Calculation

Information Sheet 6: Apply the costing format and methods of calculation

Learning Objective
After completion of this information sheet, the learners will be able to explain, define and interpret the following contents:

1. Costing format
2. Cost calculation
3. FOB (Free on Board)

1. Costing format:

The costing format for apparel merchandising is a structured document or template used to calculate and present the costs associated with the production of garments. It provides a comprehensive breakdown of the various cost components involved in manufacturing apparel, enabling merchandisers to analyze and estimate the total cost of producing a specific garment style or production order.
There is no specific costing format, but all formats contain same information.

The costing format typically includes the following sections:

- Fabric consumption and unit price
- Trims consumption and unit price
- Accessories consumption and unit price
- Embellishment cost (if applicable)
- Washing cost (if applicable)
- Testing charge (if applicable)
- Cost of manufacturing (CM)
- Commercial and banking charges

Sample Costing Format:

XYZ Apparels					
Buyer:			**Date:**		
Style:			**Ref.:**		
S.L	**Materials / Expense description**	**Consumption**	**Unit PX**	**PX in Dzn**	**Remarks**
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-

Prepared by		**Checked by**		**Approved by**	

2. Garment Costing:

- Costing is a very complex procedure, with set patterns and guidelines followed by the industry, and it is difficult to find out costs for every process there are some inbuilt costs while costing. Garment costing includes all the activities like purchase of raw materials and accessories, knitting fabrics, processing and finishing of fabrics, sewing, and packing of garments, transport, and conveyance, shipping, overheads, banking charges and commissions, etc.
- To do perfect garment costing, one must know about all these activities thoroughly about their costs, procedures, advantages and risk factors. Also, must know how to solve the problems when occurred and take a suitable alternate decision immediately in time.

2.1 Cost calculation:

There are several methods of cost calculation used in apparel merchandising to determine the expenses associated with producing garments. Here are three commonly used methods:

- **Bill of Materials (BOM) Method:** The BOM method involves creating a detailed list of all the materials required to produce a garment. Each material is listed along with its quantity and unit cost. The total material cost is calculated by multiplying the quantity of each material by its unit cost and summing up the costs of all materials. This method is effective for accurately estimating the material expenses involved in garment production.

- **Standard Minute Value (SMV) Method:** The SMV method is based on calculating the labor cost of producing a garment using standardized time measurements. It involves breaking down the garment production process into various operations, such as cutting, sewing, finishing, and quality control. Each operation is assigned a standard time measurement known as Standard Minute Value (SMV). The total labor cost is calculated by multiplying the SMV of each operation by the labor rate. This method helps in estimating the labor cost accurately and comparing the efficiency of different production processes.
- **Absorption Costing Method:** The absorption costing method considers both direct and indirect costs associated with garment production. It involves allocating overhead costs to each garment based on a predetermined cost allocation rate. Direct costs, such as material and labor costs, are assigned directly to each garment, while indirect costs, including factory rent, utilities, and administrative expenses, are allocated based on a specified allocation method such as labor hours or machine usage. The total cost of each garment is calculated by summing up the direct costs and allocated overhead costs. This method provides a comprehensive view of the total cost of producing a garment, including both direct and indirect expenses.

3. FOB (Free on Board):

FOB (Free on Board) is a common term used in international trade and apparel merchandising. It refers to a shipping arrangement in which the seller is responsible for the cost and risk of delivering the goods to the specified port or point of departure. FOB is often used to indicate the point at which the buyer assumes responsibility for the shipment and associated costs.

In the context of apparel merchandising, FOB terms are typically used when garments are being imported or exported. Here's a breakdown of what FOB entails:

3.1 FOB Origin: When a seller quotes a price as FOB origin, it means that the buyer is responsible for arranging and covering the costs of transportation, insurance, and customs clearance from the seller's location or factory to the designated port of departure. Once the goods are loaded onto the carrier at the port, the buyer assumes ownership and bears any risks or costs associated with further transportation.

3.2 FOB Destination: When a seller quotes a price as FOB destination, it means that the seller is responsible for arranging and covering the costs of transportation, insurance, and customs clearance up to the buyer's designated location. The seller is accountable for the goods until they reach the buyer's specified destination.

FOB terms have implications for the pricing and logistics of apparel merchandising. The FOB price does not include any costs associated with the onward shipment of goods from the port of departure or the buyer's location. Therefore, the buyer needs to factor in additional expenses, such as freight, insurance, customs duties, and inland transportation, when calculating the total cost of acquiring the garments.

Self-check Sheet 6: Apply the costing format and methods of calculation

Questionnaire:

1. What is the purpose of applying costing formats and methods in apparel merchandising?
   Answer:

2. What are some common costing formats used in apparel merchandising?
   Answer:

3. What are the key components considered when applying costing methods in apparel merchandising?
   Answer:

4. What is the significance of applying standard costing methods in apparel merchandising?
   Answer:

5. How do you calculate the total cost of production using costing methods?
   Answer:

6. Why is it important to regularly review and update the costing format and methods in apparel merchandising?
   Answer:

Answer Key 6: Apply the costing format and methods of calculation

1. What is the purpose of applying costing formats and methods in apparel merchandising?
   Answer: The purpose is to accurately calculate the cost of producing garments, enabling merchandisers to determine pricing, profitability, and make informed business decisions.

2. What are some common costing formats used in apparel merchandising?
   Answer: Common costing formats include the Bill of Materials (BOM), Cost Sheet, and Production Cost Report.

3. What are the key components considered when applying costing methods in apparel merchandising?
   Answer: Key components include direct material costs, direct labor costs, factory overhead costs, administrative costs, and any additional costs associated with production.

4. What is the significance of applying standard costing methods in apparel merchandising?
   Answer: Standard costing methods provide a systematic approach to calculate costs based on predetermined standards, allowing for better cost control, budgeting, and variance analysis.

5. How do you calculate the total cost of production using costing methods?
   Answer: The total cost of production is calculated by summing up the costs of direct materials, direct labor, and overhead, while taking into account any additional costs involved.

6. Why is it important to regularly review and update the costing format and methods in apparel merchandising?
   Answer: Regular review and updating of costing formats and methods ensure accuracy and relevance to changing market conditions, technology advancements, and cost fluctuations, thus enabling effective cost management.

Job Sheet 6.1: Apply Cost Methods and Cost Calculation

Name of the job: Prepare a cost sheet

Working Procedure:

1. Collect and wear appropriate Personal Protective Equipment for the job
2. Collect all needed materials, supplies and equipment.
3. Do consumption and prepare cost sheet on the basis of following information.
4. Consider other required information on your own way.
5. Use costing format for preparing cost sheet
6. Clean and maintain your workplace

Specification:

Sl	Measuring points	Measurement (CM)	
1	Full length	58	
2	Half chest	44	
3	Sleeve length	22	Fabric (Shell and Sleeve): 100% cotton Single jersey 170 GSM
4	Half arm hole	19	Fabric (Neck): 100% cotton Rib 200 GSM
5	Neck circumference	26	Non washed garment
6	Neck rib width	1.5	

1.

Review of Competency

Below is yourself assessment rating for module Perform Measurement, Consumption & Cost Calculation for Causal / Formal Apparel.

Assessment of performance Criteria	Yes	No
1. Sketch is comprehended as per Technical Package (Tech. Pack)		
2. Measurement charts are recognized, followed and applied.		
3. Measurements charts are updated in accordance with changes.		
4. Points of measuring of the Measurement Guide are recognized.		
5. Level of tolerance specified in the measuring guide are identified and stated.		
6. Fabric consumption is identified and interpreted.		
7. Fabric consumption formula is applied.		
8. Cost calculation is computed		
9. Trims and Accessories consumption calculation is identified and interpreted.		
10. Trims and Accessories consumption formula is applied.		
11. Costing of the trims and accessories is computed.		
12. The process of CM calculation is interpreted.		
13. CM Calculation formula is applied.		
14. CM calculation for apparel is computed.		
15. Method of costing format is identified.		
16. Cost format is applied to compute cost.		
17. The concept of FOB (Free on Board) price is identified.		
18. FOB price is prepared in accordance with specifications.		

I now feel ready to undertake my formal competency assessment.

Signed:

Date:

Development of CBLM

The Competency Based Learning Material (CBLM) of '**Perform measurement consumption & cost calculations for casual formal apparel' (**Occupation: Apparel Merchandising, Level-4**)** for National Skills Certificate is developed by NSDA with the assistance of SIMEC System, ECF consultancy & SIMEC Institute JV (Joint Venture Firm) in the month of June 2023 under the contract number of package SD-9A dated 07th May 2023.

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