UNIT 1

Body Measurements

Structure

1.0 Introduction
1.1 Pointers for taking body measurements
1.2 Measuring technique
1.3 Tools useful for taking body measurements
1.4 Body measurements for men, women and children
1.5 Procedure for taking measurements
1.6 Measurement chart

Learning Objectives

After studying this unit, the student will be able to

• Understand the importance of body measurements
• Know about the pointers for taking accurate measurements
• Learn taking body measurements for children, men and women
• Take and record measurements as per the measurement chart

Unit Preview

A garment fits well if it is stitched well. Stitching will be perfect if the pattern is cut well. Patterns are made with body measurements. Hence the first step in
sewing the right-sized garment is to start with a complete and accurate set of body measurements.

1.0 Introduction

The most crucial and essential step in garment construction is taking body measurements. The fit of a garment depends on the accuracy of body measurements. A well fitted garment enhances the look of the person and adds to the personality of the wearer. The measurements needed for garment making depends not only on the style and type of the garment but also on the age and sex of the user. The only tool required for measurements is a measuring tape. Use a good quality, pliable tape for measurements. A torn/damaged or stretchy tape will give incorrect measurements.

1.1 Pointers for taking body measurements

1. The person to be measured should stand erect; in a relaxed pose with feet 15 cm apart.

2. Measurements should be taken over foundation garments that fit the body well.

3. Avoid taking measurements over heavy garments like a coat or a sweater.

4. Before taking measurements tie a cord around the waist and armhole. This will help in locating the natural waist and in measuring shoulder width, armscye depth etc. It also acts as a reference point for other measurements.

5. Measurements will be more accurate if one person takes them on another.

6. Use a good quality tape that is sturdy and pliable. It should neither stretch nor be stiff.

7. Hold the tape parallel to the floor for horizontal measurements and perpendicular for vertical measurements.

8. The metal end of the tape is used for vertical measurements while the other end is to be used for horizontal measurements.

9. Take snug measurements, do not pull the tape either too tight or leave it too loose.
10. The measurements required will depend on the style of the garment and personal preference of the wearer. So always ask the wearer about their preferences.

11. Measurements should be taken systematically, in a proper order and a certain sequence, as explained below.

### 1.2 Measuring technique

- The person measuring should stand to one side of the person being measured.
- Hold the tape snugly, not too tight thereby making the person uncomfortable and conscious.
- Do not let the person look down at the measurements being taken.
- Be discreet about the measurements and note down carefully in the chart.
- Do not add any ease to the measurements taken. Ease can be added while drafting patterns.
- It is easier to take all crosswise measurements first followed by lengthwise measurements.
- Do not allow the tape to sag while taking horizontal measurements.

### 1.3 Tools useful for taking body measurements

The only tools required for taking measurements are measuring tape, pencil and paper. A tape is generally 60” long and marked with centimeters and inches together, to help in conversion from one system to another, at a glance.

One end of the tape has a metal end which is 3” long. This side is used for taking vertical measurements. The other end of the tape has a half inch metal tip, which is used for horizontal measurements. The tape should be flexible but not stretchy. Pencil and paper are required to note down the measurements taken.

### 1.4 Body measurements for men, women and children

The process of taking measurements for men and women is alike. However there are some measurements that are specific to women like the skirt measurements listed down in the measurement chart below.

Childhood is a stage in life that is marked with rapid growth. Measurements of these growing children change rapidly. So every time a dress is bought or being made, the child should be measured.
In children usually chest, waist and hip are measured. Their measurements depend on their ages and they are similar for both boys and girls, till 5 yrs. With increase in age, the measurements differ. After 6 years separate measurements are to be taken for boys and girls.

**Some additional measurements that are required for children are**

**Thigh Girth:** Measure around the fullest part of the thigh. This measurement is useful to draft a pattern for girl’s bloomer, short pants, parallels, pyjamas etc.

**Cervical Height:** Measure down from the nape of the neck to the ground. This gives the total length of the garment.

**Crotch Length:** Pass the tape from the centre back (start at the waist level), in between the legs and to the centre front at the waist level.

**Frock length:** Measure from the nape of the neck to the desired length of the frock as per the design.

**Chest:** Similar to the ‘bust measurement’ in the measurement chart.

### 1.5 Procedure for taking measurements

#### Bodice measurements

1. **Neck:** This is a round measurement taken around the base or the largest part of the neck. Pass the tape around the neck over the collar bone in the front and the base of the neck at the back. This measurement gives the neck width and is needed for a close fitting collar.

2. **Shoulder:** This point can be located by feeling for the end of the flat bone at the end of the shoulder, or by raising the arm until a dimple appears at the end of the shoulder and feeling for the shoulder bone in this depression.

   The distance between the base of the neck and the end of the shoulder gives this measurement.

   *Place the tape measure at these locations to get accurate measurements.*
3. **Shoulder width/back width**: Measure from one end of the shoulder bone to the other at about 4" below the back neck.

4. **High chest measurement**: This measurement will help in getting a close fit under the armpit, eliminating the wrinkles. Place the tape straight under the armpits in the front and across back to get this measurement. Take care to keep the tape parallel to the floor both at the front and at the back.
5. **Bust**: Measure around the fullest part of the bust with the tape held parallel to the floor. Do not let the tape sag at the back. The tape should be tight enough so that it does not slip and loose enough for one finger to pass through.

6. **Waist**: It is essential to locate the natural waist first, in order to take this measurement. The natural waistline is located above the hip bone in the narrowest part of the body. A cord tied at the waist will facilitate in taking this measurement. Measure around the cord with the tape held parallel to the floor.

7. **High Hip**: At around 3" below the waistline, hold the tape around the hip to get this measurement.

8. **Hip**: Measure around the fullest part of the hip (7" from the waistline) with the tape held parallel to the floor.

9. **Armscye/Armhole**: Measure by passing the tape under the armpit and around the armhole.

10. **Front waist length**: Measure down from the highest part of the neck over the fullest part of bust to the waist.

11. **Shoulder to bust**: Measure down from the highest part of the neck to the tip of the bust. This is also called **bust point height**. This is useful in locating the bust point while drafting a blouse.

12. **Distance between bust points**: A horizontal measurement that measures the distance between the bust points, useful for dart placement in blouse drafting. This is also called **bust point width**.

13. **Back waist length**: Measure down from the highest part of the neck over the centre back to the waistline.

14. **Front neck depth**: Measure across from the highest part of the neck diagonally towards the centre front.

15. **Back neck depth**: Measure across from the highest part of the neck diagonally towards the centre back.

**Sleeve measurements**

16. **Upper arm**: Measure around the fullest part of the biceps with one finger underneath the tape.

17. **Lower arm**: Measure around the bottom or at the lower edge of the sleeve.

18. **Elbow**: Measure around at the elbow of the arm.
19. **Wrist**: Take a round measurement at the wrist level of the arm.

20. **Sleeve length**: The length of the sleeve varies from one style to another. For short sleeves, measure down the arm, from the tip of the shoulder to the desired level. For full length sleeves, bend the arm slightly at a 90° angle and measure from the tip of the shoulder down to the elbow and then on to the wrist.

**Skirt measurements**

21. **Waist to hip**: Measure from waist down to the fullest part of the hip.

22. **Skirt length**: Measure from waistline down to the desired length as per the garment design.

**Pant Measurements**

23. **Pant length**: Measure from waistline down to the desired length of the pant.

24. **Inseam**: Distance from the innermost part of the thigh to the ankle or the length of the pant.

25. **Leg circumference**
   
   a. **Thigh**: Measure around the fullest part of the thigh.
   
   b. **Knee**: Measure from the waist to the knee.
   
   c. **Calf**: Measure around the calf muscle
   
   d. **Ankle**: Measure around the ankle

26. **Crotch depth**: After sitting on a hard flat surface, measure down from the waist to the flat surface along the side seam.

27. **Crotch length**: Measure from front waistline to the back waistline by passing the tape in between the legs.

1.6 **Measurement chart**

A measurement chart lists down all the body measurements and helps in recording the same in a specific order.
## Measurement Chart

<table>
<thead>
<tr>
<th>Parts of the body</th>
<th>Measurement (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I. Bodice Measurements</strong></td>
<td></td>
</tr>
<tr>
<td>1. Neck</td>
<td></td>
</tr>
<tr>
<td>2. Shoulder</td>
<td></td>
</tr>
<tr>
<td>3. Shoulder width/back width</td>
<td></td>
</tr>
<tr>
<td>4. High Chest Measurement</td>
<td></td>
</tr>
<tr>
<td>5. Bust</td>
<td></td>
</tr>
<tr>
<td>6. Waist</td>
<td></td>
</tr>
<tr>
<td>7. High Hip</td>
<td></td>
</tr>
<tr>
<td>8. Hip</td>
<td></td>
</tr>
<tr>
<td>9. Armscye/Armhole</td>
<td></td>
</tr>
<tr>
<td>10. Front waist length</td>
<td></td>
</tr>
<tr>
<td>11. Shoulder to bust</td>
<td></td>
</tr>
<tr>
<td>12. Distance between bust points</td>
<td></td>
</tr>
<tr>
<td>13. Back waist length</td>
<td></td>
</tr>
<tr>
<td>14. Front neck depth</td>
<td></td>
</tr>
<tr>
<td>15. Back neck depth</td>
<td></td>
</tr>
<tr>
<td><strong>II. Sleeve Measurements</strong></td>
<td></td>
</tr>
<tr>
<td>16. Upper arm</td>
<td></td>
</tr>
<tr>
<td>17. Lower arm</td>
<td></td>
</tr>
<tr>
<td>18. Elbow</td>
<td></td>
</tr>
<tr>
<td>19. Wrist</td>
<td></td>
</tr>
<tr>
<td>20. Sleeve length</td>
<td></td>
</tr>
</tbody>
</table>
III. Skirt Measurements

21. Waist to hip
22. Skirt length

IV. Pant Measurements

23. Pant length
24. Inseam
25. Leg circumference
   a. Thigh
   b. Knee
   c. Calf
   d. Ankle
26. Crotch depth
27. Crotch length

Conclusion

Accurate measurements are required for a well fitting garment. Certain precautions must be taken while taking measurements. Hold the tape easily and snugly and not too tight or too loose. Do not let the tape twist while taking measurements. It is faster to take crosswise measurements first followed by lengthwise measurements. Record all the measurements taken, in the chart, before you forget! Correct measurements will lead to a well fitted dress.

Terms introduced in the chapter

Know the meaning of the following terms.

1. Armscye: The armhole of a garment.
2. Bust measurement: A round measurement taken over the fullest part of the bust.
3. Back Width: Distance between one shoulder to another.
4. Calf measurement: A round measurement taken over the calf muscle of the lower leg.
5. **Crotch**: The difference between the outside and inside length of the pant when measured from a well fitting pant.

6. **Ease**: The difference between the body measurements and the garments measurements. A certain amount of ease is required in garments for free body movements.

7. **Elbow measurement**: A round measure around the elbow measure by keeping the arm bent.

8. **Fit**: The way a garment hangs when worn by a wearer. Commercial garments obtained can either be slim fit or relaxed/normal fit.

9. **Inseam**: The inner seam of the pant/trouser, measured from crotch, down to the lower hem.

10. **Measuring Tape**: A measuring tool with markings on both sides, used for taking body measurements.

11. **Shoulder width**: Refer to back width.

---

**Summary**

A well fitting garment compliments the body. Sewing such garment depends on the right sized pattern. Patterns are drafted as per individual body measurements. So body measurements play an important role in the fit of the garment. Knowledge of taking accurate measurements is a prerequisite for a good seamstress.

---

**I. Test your understanding**

1. The person giving measurements should stand stiff with the arms clasped behind the back. Yes/No

2. Measurements should be taken over bulky sweaters or coats. Yes/No

---

**II. Test your understanding**

1. The measurement that helps in getting a good fit eliminating the wrinkles under the armpit is ________________.

2. Inseam measurement is useful while drafting a pattern for pant. Yes/No

3. To locate the darts in a blouse, the measurement required is ________________.
4. While taking measurement for a full length sleeve the arm is held straight.

Yes/No

**Short Answer Type Questions**

1. List down the vertical body measurements required for a kameez.
2. What are the horizontal body measurements required for a blouse?
3. What is inseam?
4. How do you take crotch length?
5. How can a natural waist be located?
6. What is a measuring tape?
7. What are horizontal measurements?
8. Which side of the tape is used for horizontal measurements?
9. How should the body be held while taking measurements?
10. Different measurements are required for different garments. Justify.

**Long Answer Type Questions**

1. What are the measuring techniques that one must use to get accurate measurements?
2. What are the pointers for taking body measurements?
3. Describe the process of taking ladies measurements?

**Minimum equipment in the lab with approximate cost and best brands**

Measuring tape, pencil, paper

**Answers for Test your understanding - I**

1. No  2. No

**Answers for Test your understanding - II**

UNIT 2

Types of Material

Structure

2.0 Introduction
2.1 Basic concept of fabric
2.2 Woven fabric
2.3 Knitted Fabric
2.4 Commonly available fabrics in the market
2.5 Supportive fabrics - lining, underlining, interfacing and interlining
2.6 The importance of selection of material and supportive fabrics

Learning Objectives

After studying this unit, the student will be able to

• Get a working knowledge of fabrics and their suitability for different purposes
• Recognize and identify the major types of fabrics available in the market
• Be acquainted with various supportive fabrics - lining, under lining, interlining and interfacing, the difference between them
• Be aware of the importance of selection of material and supportive fabrics
Every new season brings in new fabrics, colors, silhouettes and styles. A designer/seamstress must be aware of fashion fabrics available in the market. One must choose fabrics based not only on the current market trends but also on its appearance, comfort, durability and maintenance of the finished garment.

2.0 Introduction

Selection of material is daunting task for a novice, as there are a lot of fabrics to choose from. Knowledge of common fabrics helps in selection. Identifying fashion fabrics is the first step in garment making.

Matching the fabric to the design/style of the garment is second most important aspect in garment making, as it has an impact on the final garment made. The various aspects of the fabric like color, texture, weight and price must also be considered during fabric selection.

In addition to these, fabric quality and suitability to the design should also be thought of as it affects the garment’s appearance, durability and comfort features in the finished garment.

2.1 Basic concept of fabric

The basic unit of a fabric is fibre. A fibre is the smallest visible unit of textile production. Fibres make up yarn. Yarn makes up fabrics. Fibres can be natural or manmade. Natural fibres include cotton, jute, wool, silk etc. Manmade fibres include polyester, acrylic, rayon, spandex etc. Yarns are produced by spinning or twisting of fibres. Yarns are either interlaced in woven fabric structures or interlooped in knitted, crotched fabric structures.

Fabrics are made in a variety of ways – weaving, knitting, crocheting, non-wovens, felts, laces etc. The two basic methods of producing fabrics are weaving and knitting. In non-wovens and felts, fibres are used to make fabrics. Adhesive, pressure and temperature are other variables involved in making felts. Fabrics can be made with one fibre or several fibres can be blended. Ex: Polyester – cotton blends are commonly available in the market.

2.2 Woven Fabric

A woven fabric is made from two sets of yarns – warp and weft. The lengthwise yarns are called warp and the crosswise yarns are called weft. Both these yarns have distinctive characteristics. They are interlaced at right angles and a variation in interlacement adds to the diversity in fabrics. Different varieties of woven fabrics are plain, rib, basket, twill, satin, sateen, and herringbone.
Plain, twill and satin are the most basic weaves. Some common fabrics are calico, poplin, denim, linen, corduroy etc. Woven fabrics are available in a variety of weights. Lightweight fabrics are suitable for skirts, blouses, dresses and shirts. Firmly woven fabrics are ideal for pants, shirts and jackets. All woven fabrics have a selvage, where in the weave is compact and close. The looser the weave, the more they fray. Loosely woven fabrics are less durable when compared to firmly woven ones. The choice of the fabric thus depends on the type of garment being made.

### 2.3 Knitted fabric

A knitted fabric is made by interlooping only one yarn. Different ways of interlooping produces different knits – warp and weft knits. The most important feature of any knit is its ability to stretch. That’s why knits are preferred in sportswear and intimate apparel.

### 2.4 Commonly available fabrics in the market

Fabrics are available in a variety of weaves, fibre contents and weights. Some of the commonly available ones in the market are

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Description</th>
<th>Weight</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brocade</td>
<td>Fabric woven on a jacquard loom having a distinctive texture, raised pattern and a crisp feel</td>
<td>Available in medium to light weight</td>
<td>Party wear, evening wear</td>
</tr>
<tr>
<td>Chiffon</td>
<td>A sheer fabric made in plain weave with a soft supple hand. Has a good drape</td>
<td>Available in light weight</td>
<td>Party wear, evening wear</td>
</tr>
<tr>
<td>Corduroy</td>
<td>A sturdy fabric made in rib weave, has a rough texture</td>
<td>Available in medium to light weight</td>
<td>Men’s wear - pants, jackets Women’s/children’s wear - frock, skirts</td>
</tr>
<tr>
<td>Crepe</td>
<td>A soft supple fabric made with crimped yams</td>
<td>Available in light to medium weight</td>
<td>Party wear, evening wear</td>
</tr>
<tr>
<td>Denim</td>
<td>Twill weave fabric known for its durability. Has a rough and grainy texture</td>
<td>Available in medium to heavy weight</td>
<td>Casual wear, jeans, pants, skirts, jackets children’s wear</td>
</tr>
<tr>
<td>Georgette</td>
<td>Plain weave fabric made form textured yarns. Has a good drape and is supple to feel. Comes in sheer to semi sheer weights</td>
<td>Available in light weight</td>
<td>Party wear, evening wear, skirts, dresses</td>
</tr>
</tbody>
</table>
## 2.5 Supportive fabrics - Lining, underlining, interfacing and interlining

Garments made from sheer/lightweight fabrics require a lining material. It is a duplicate of the outer garment which is finished separately and attached to the outer fabric, wrong side to wrong side. The function of lining is:

- To add more body to the outer garment
- Supports the outer garment
- Adds to the durability of the garment
- Gives a better drape to the garment
- Can also give an attractive inner finish to the outer garment
- Can help eliminate static in the outer garment. Ex: Polyester dresses are generally lined to prevent static build up.

Garments can be either fully lined or partially lined, completely or partially attached to the garment. Linings will lengthen the life of the garment. It can also eliminate the need for undergarments like a slip in a dress or skirt. A separate seam finish is generally not given to the outer garment when it is lined.

The lining fabric should be durable, opaque, colorfast to perspiration and use the same care method as the fashion fabric. Lining should match with the color of the outer fabric. The surface and texture of lining should be smooth to

<table>
<thead>
<tr>
<th>Fabric</th>
<th>Description</th>
<th>Availability</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muslin</td>
<td>A basic fabric made in plain weave that has a soft to firm hand</td>
<td>Available in light to medium weight</td>
<td>Blouses, tops, lingerie, test garments, lining for quilting</td>
</tr>
<tr>
<td>Poplin</td>
<td>A plain weave made with a filling rib. Has a firm texture and a stiff hand</td>
<td>Available in medium to heavy weight</td>
<td>Skirts, shirts, saree petticoat</td>
</tr>
<tr>
<td>Satin</td>
<td>Smooth lustrous fabric made in satin weave. Has a good drape and a soft feel</td>
<td>Available in light to heavy weight</td>
<td>Party wear, evening wear, skirts, dresses</td>
</tr>
<tr>
<td>Velvet</td>
<td>A cut pile fabric having a soft hand and good drape</td>
<td>Available in light to medium to heavy weight</td>
<td>Party wear, evening wear, skirts, dresses</td>
</tr>
<tr>
<td>Voile</td>
<td>Loosely woven fabric which is delicate and appears sheer</td>
<td>Available in light weight</td>
<td>Skirts, dresses, tops, children’s wear</td>
</tr>
</tbody>
</table>
permit the garment to be taken on and off the body easily. Lining should be absorbent as well, as it comes in direct contact with the skin. The lining fabric should be preshrunk before using for garment construction. Lining material should be of the same weight or lighter in weight than the outer fabric.

Various fabrics suitable for lining are 2 x1, voile, cambric, poplin, satin, crepe. The choice of lining material depends on the type of outer fabric. Lightweight linings are suitable for skirts, coats, suit jackets. Medium weight linings are to be used for evening dresses or party wear.

**Underlining** is a supportive lining fabric that is attached to a major garment piece. Ex: jacket front, jacket back, sleeve, etc. It prevents bagginess and pulling along the seamlines. The underlining and fashion fabric function together as one piece throughout the garment construction process. The areas to be underlined in a garment depend on the garment design, fashion fabric and the chief function of the underlining. Purpose of underlining is

- Supports and gives shape to the fashion fabric
- Prevents sagging and stretching
- Adds crease resistance
- Provides evenness of color for a sheer outer fabric
- Helps create decorative fashion details

An underlining cannot replace interfacing in a garment. A combination of underlining and lining could be used in a garment. Underlining should be preshrunk and cut on grain or the same grain as that of the outer fabric.

**Interfacing** is an integral part of garment. It is a layer of knitted, woven or nonwoven fabric placed between the outer garment and facing. An interfacing improves garment appearance and preserves its shape. It also reinforces and adds body to the garment. Interfacing usually is used for the front opening having buttons and buttonholes, collars, cuffs, waistbands and pocket flaps. It can be sewn or fused to the garment. Fusing often stiffens the fabric, so while selecting a fusible interfacing, use a lighter weight one than that of the fabric. For creating decorative effects, one can use a heavier interfacing. A fusible interfacing used by tailors is the collar fusing.

**Interlining** is a separate layer of fabric or fabric construction between the lining and the fashion fabric. It adds warmth. The same lining pattern is used to cut interlining. In case of foam, fleece or felt-type fabric that add some bulk, lining would have to be larger to accommodate interlining. Interlining does not take the place of interfacing.
2.6 The importance of selection of material and supportive fabrics

Selection of material is a vital part in dress making and designing. A lot of factors are to be considered while selecting material. Some of them are:

Fabric quality: good quality material lasts longer and wears well.

Durability: durable material will improve the life of the garment.

Hand: The feel of the fabric is hand. This is largely a personal choice and to some extent governed by the latest fashion trends.

Texture: Refers to the weight, body and drape of the fabric. Again dictated by the current fashion trends.

Color: Dictated by the fashion trends or colors popular in a particular season.

Price: The deciding factor as it adds to the final cost of the garment.

The following factors should be kept in mind while choosing supportive fabrics:

(1) Type of fashion fabric (weight, fiber content/method of care, hand or “feel”, personal likes and dislikes)

(2) Type and style of garment

(3) Type of lining - partial or complete; and how the lining will be attached.

Conclusion

Fashion dictates the silhouette or shape of the garment. The silhouettes change with each season. A garment silhouette can be shaped as per the fashion by using appropriate fabrics that are ‘in’ for that season and corresponding supportive fabrics. The supportive fabric selected should be compatible with the fashion fabric.

Terms introduced in the Unit

Know the meaning of the following terms.

1. Brocade: A silk fabric characterized with raised patterns made from gold or silver threads, suitable for evening wear

2. Chiffon: A sheer, lightweight fabric made from silk, rayon or polyester hard twisted yarns. It is suitable for evening wear and has a good drape.
3. **Corduroy**: A weft pile fabric with the pile forming ribs in warp direction. It is strong fabric that can withstand wear and tear.

4. **Crepe**: A fabric with smooth texture made from crimped yarns

5. **Denim**: A rough textured durable fabric made in twill weave with a blue colored warp and white colored weft

6. **Fabric**: A general term referring to cloth made from weaving, knitting, felting etc.

7. **Felts**: A non-woven fabric made directly from fibres with a combination of moisture, heat and pressure.

8. **Georgette**: A transparent fabric made in silk, rayon suitable for evening wear.

9. **Interfacing**: A fabric placed between the outer garment and facing for better appearance and shape retention.

10. **Interlining**: A separate layer of fabric added in between the lining and the fabric.


12. **Lining**: A duplicate of the outer garment which is finished separately and attached to the outer fabric.

13. **Muslin**: A light weight inexpensive plain weave fabric made from cotton yarn.


15. **Poplin**: A plain weave fabric characterized by warp ribs, available in a variety of weights and quality.

16. **Satin**: A flat smooth lustrous fabric with floats on the surface of the cloth. Has a good drape and is suitable for evening wear.

17. **Selvage**: The self edge of the fabric. A selvage helps prevents the fabric from raveling, identifies a manufacturer and provides a color check.

18. **Underlining**: A supportive lining fabric that is attached to a major garment piece.

20. **Voile**: A lightweight transparent fabric that is soft and suitable for blouses, children’s wear etc.

21. **Warp**: A set of yarns that is parallel to the selvage and run in lengthwise direction.

22. **Weave**: A system of interlacing of warp and weft yarns resulting in a woven fabric. There are three basic weaves – plain, twill and satin.

23. **Weft**: A set of yarns that is perpendicular to the selvage and run in crosswise direction and interlaces with weft as per the weave.

24. **Yarn**: A continuous strand of textile fibres, filaments that is made suitable for weaving, knitting or other forms of textile constrictions.

**Summary**

One must have a working knowledge of fabrics in order to recognize and identify the major types of fabrics available in the market. This exposure enables them to select suitable fabrics for a specific end use. Garment appearance can be enhanced by the use of appropriate supportive fabrics.

**I. Test your understanding**

1. A knitted fabric made from two sets of yarn. (Yes / No)

2. A woven fabric made from one set of yarn. (Yes / No)

3. A selvage prevents the edges of the fabric from fraying. (Yes / No)

4. Basic unit of a fabric is yarn. (Yes / No)

5. Yarns are either interlaced as in knits or interlooped as in woven fabric. (Yes / No)

**II. Test your understanding**

1. A lustrous fabric suitable for making a party wear frock is ________________.

2. A filling rib fabric with a rough texture and a firm hand that is suitable for making saree petticoats is ________________.

3. A soft supple fabric made with crimped yarns that is ideal for a party wear saree is ________________.

4. Jeans are commonly made from ________________ fabric.
5. A cut pile fabric that was popularly used for ‘one size fits all’ saree blouse is ____________________.

III. Test your understanding

1. A lining is not a duplicate garment. (Yes/No)
2. The back yoke of the shirt is interfaced. (Yes/No)
3. The placket of a jacket is reinforced with a fusible interfacing (Yes/No)
4. A quilted pocket in a child’s dress uses interlining. (Yes/No)
5. An underlining can replace interfacing in a garment. (Yes/No)

Short Answer Type Questions

1. What is the difference between lining and underlining?
2. Define an interfacing. List the areas in a shirt where interfacing is used.
3. What is a non-woven?
4. What is a felt?
5. How is muslin used in garment construction?
6. What is a selvage?
7. Differentiate between warp and weft.
8. What is the difference between interfacing and interlining?
9. List two fabrics suitable for lining and interfacing.
10. What are the factors that one should keep in mind while selecting supportive fabrics?

Long Answer Type Questions

1. What do you mean by lining? Explain the purpose of lining? Suggest suitable lining for a child’s frock.
2. What are the different fashion fabrics available in the market?
3. What is underlining? State the purpose of underlining.
4. Differentiate between lining, underlining, interfacing and interlining.
Minimum equipment in the lab with approximate cost and best brands

Swatch book of linings, underlining, interfacing, interlining available in the market.

Answers for Test your understanding – I

1. No
2. No
3. Yes
4. No
5. No

Answers for Test your understanding – II

1. Satin
2. Poplin
3. Crepe
4. Denim
5. Velvet

Answers for Test your understanding – III:

1. No
2. No
3. Yes
4. Yes
5. No
UNIT  3

Selection of Material for Various Garments

Structure

3.0 Introduction
3.1 Categories of children’s garments as per age
3.2 Children’s garment classification
3.3 Requirements of children’s clothing
3.4 Various materials suitable for children’s garments
3.5 The decorative and safety considerations in children’s clothing

Learning Objectives

After studying this unit, the student will be able to

• Understand that children can be categorized into different ways
• Know about classification of children’s garments
• Recognize the requirements of children’s clothing
• Know about various materials suitable for various children’s garments - jhangia, jabla, romper, A-line Frock, Baby Frock with bib
• Be aware of the decorative and safety considerations in children’s clothing
Clothes communicate and have a visual appeal. Clothes contribute to children’s self worth. Family, peer and media have a considerable influence on children’s clothing choice. Good clothes instill confidence in the child, which has a positive impact on the child’s behaviour.

3.0 Introduction

Clothing is one of the three basic needs in every human life. Apart from enhancing the visual appeal of the wearer, clothing also protects our body from various climates. Choice of material is dependent on the garment type and the purpose of use.

Children are miniature adults – having a definite opinion about what clothes to wear for what occasion. Each child has his/her own style and clothing is a means of showing off their style. They want to belong to their groups and yet be able to stand apart, making their own fashion statement.

Today’s children are exposed to various media. They have become customers in their own right. They participate in clothes selection and express their likes and dislikes far more freely than adults.

3.1 Categories of children’s garments as per age

Children can be grouped according to their age into

- Infant
- Toddlers
- Children

Infant

Babies up to two years come under this category. Infant’s clothing is sized according their age: 3, 6, 12, 18, 24 months. This is the age where children outgrow their clothes as they grow fast. So, clothing should be selected with ‘short term’ use in mind. Generally garments that are one size bigger are preferred by mothers. Selection of material should be according to the seasons. Generally, as a rule, soft absorbent materials that are light in weight should be selected.

Toddlers

Children from the age two to eight are called as toddlers. Characteristic physical features of a toddler are: very little waist shaping and protruding stomach. These features decrease as the child grows and loses fat. Clothing with self help
features can be selected to encourage the child to dress on his own. Some of
these features are:

- Front openings or large neck openings
- Simple fasteners - preferably large buttons
- Zippers with large pull rings-tabs
- Elastic waistline instead of belt or sash
- Easily identifiable front and back, right and left
- Easy-to-use pockets

Children

Children of age above seven to twelve come under this category. The
average growth per year over this period is 6 cm. Hence clothing for this age
group should have built-in growth feature. Eg. Large hem for frocks, skirts and
pants.

3.2 Children’s garment classification

The various categories of children’s garments are

- Casuals
- Daywear
- Nightwear
- Party wear
- Uniforms
- Sportswear
- High fashion wear

Casuals

Casuals are garments for informal occasions. Ex: T-shirts, knitted garments,
etc. Knitted fabrics are ideal for casual wear as they stretch with body movement
and are comfortable to wear.

Daywear

Clothes worn in the day are termed as daywear. Ex: Sunsuits, frocks,
bloomers, two-piece garments etc. Suitable fabrics for daywear during summers
are cotton, gingham, gabardine and sail doth. Double knits, velvet and corduroys
can be chosen during winters. Daywear garments will have to withstand lot of wear and tear and are subjected to repeated laundering, hence the fabric chosen should be durable and the seams should be strong and fastenings should be secure.

**Nightwear**

Clothes worn in the night come under this category. Children should feel comfortable in nightclothes. They should be relatively loose and not have any harmful accessories. Knits and cottons are ideal for this type of garments.

**Partywear**

Garments worn on special occasions are termed partywear. Fabrics like velvet, denim, satin, chiffon, brocades etc, can be used for party wear dresses. It is important to note here that trims and accessories used should be safe and does not harm the child in any way.

**Uniforms**

The garment worn to school that gives them a special identity is a uniform. These garments have to withstand lot of wear and tear and at the same time be comfortable to the child. Certain treatments like antibacterial finish can help protect the child from common bacteria and fungi.

**Sportswear**

Garments worn while playing sports come under this category. An important aspect that one should look for is the freedom of movement. Knitted garments extend in both length and widthwise directions. Hence, knitted materials are mostly selected as sportswear for children.

**High Fashionwear**

Clothes that embody the latest fashions come under this category. These clothes are preferred by the elite and rich and most often are flaunted in big parties. High fashioned wear is characterized by unique one off designs, bright, vivid colours, use of high fashioned fabrics.

### 3.3 Requirements of children’s clothing

The ideal baby clothing should be

1. Soft, comfortable, easy to put on and take off and relatively loose.
2. Easy access to the nappy as it requires changing due to frequent wetting.
4. Lightweight.

5. Non-flammable.

6. Underclothes should be essentially made of organic fibres.

7. Allow quick absorption of sweat from skin.

### 3.4 Various materials suitable for various children’s garments

Various children’s garments preferred by Indian mothers are jhangia, jabla, romper, A-line Frock, Baby frock with bib. The fabrics suitable for these garments are:

<table>
<thead>
<tr>
<th>Garment type</th>
<th>Suitable material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jhangia</td>
<td>Soft absorbent cotton, voile, cambric, poplin</td>
</tr>
<tr>
<td>Jabla</td>
<td>Muslin, cambric, voile, poplin, Jersey</td>
</tr>
<tr>
<td>Romper</td>
<td>Denim, pile/napped, twill, Long cloth</td>
</tr>
<tr>
<td>A-line Frock</td>
<td>Jersey, linen, madras, poplin</td>
</tr>
<tr>
<td>Baby frock with bib</td>
<td>Chiffon, crepe, satin, georgette, jacquard, organza, velvet, silk, printed cotton, handloom material</td>
</tr>
</tbody>
</table>

### 3.5 The decorative and safety considerations in children’s clothing

Several decorative details that can be added to the children’s garment include - tapes and trims, such as rickrack, bias tape, braid, ruffles, laces. These can be top-stitched to a garment. Some children are very curious about everything, even the trimmings on their garments. There is a likelihood of these trims being ripped off and eaten. So all such decorative trims must be stitched and attached securely. It is better to avoid fancy decorations like a ball fringe, decorative zipper tabs etc that can be easily pulled off by a curious child. Drawstrings at neck, large sashes, loose fasteners are better avoided.

Reflective tapes are helpful safety features that can be added to a garment for a decorative effect. There are the three types of reflective tape: florescent, reflective, and fluorescent-reflective available. They can be stitched to cuffs, collars, sleeves, and waistbands of outdoor wear, rainwear.
Flourescent Materials emit light as well as reflect it off their surface, hence they seem to glow. They are unusually bright during the day but they are not as effective at night.

Reflective or Retro-Reflective Materials do not glow. They reflect an outside light source directly back to its source. Hence they must be illuminated by an outside light source. Therefore, when the viewer is near the light source (such as the headlights of an on-coming car), a great deal of light is reflected back, making the material look bright. These reflective surfaces are only reflective to beams of light; they are not reflective to daylight.

Reflective-Flourescent Materials combine the properties of both reflective and fluorescent materials. This surface is fluorescent during the day and reflective at night, providing an all-purpose use for children’s outdoor clothing.

Conclusion

A lot of fabrics are available in the market for children’s clothes. Basic knowledge of fabrics suitable for a garment type will come in handy while selecting fabrics for a particular design. Certain self help features and safety considerations can be added to children’s clothes, to make the clothes safer to the children.

Terms introduced in the unit

Know the meaning of the following terms.

1. Casuals : A terms describing the type of garments that are suitable for informal occasions
2. Daywear : A category of clothing that are appropriate for wearing all through the day
3. Flourescent materials : Textile materials that emit light as well as reflect it off their surface.
4. High fashion wear : A category of clothing that reflect latest fashions and preferred by the rich.
5. Infant : Children from 0-2 years with changing clothing needs as the growth is fastest in this age.
6. Nightwear : A category of clothing that is worn in the night time. Generally soft absorbent materials with loose fit are preferred for night wear.
7. Party wear : A category of clothing that is worn for special occasions.
8. **Reflective or Retro-Reflective materials**: These materials reflect an outside light source directly back to its source.

9. **Reflective tapes**: A safety feature that can give a decorative touch to the garment.

10. **Reflective-flourescent materials**: Textile material surface that is fluorescent during the day and reflective at night.

11. **Self help features**: The special features in children’s garments that help in easy dressing and undressing by the child himself.

12. **Sportswear**: A category of clothing that is worn for active sports.

13. **Toddlers**: Children from age two to eight who require self help skills to encourage independence.

14. **Uniforms**: A category of clothing that is worn to school by school going children.

---

**Terms introduced in the Chapter**

Know the meaning of the following terms.

1. Casuals
2. Children
3. Daywear
4. Flourescent materials
5. High fashion wear
6. Infant
7. Nightwear
8. Party wear
9. Reflective or Retro-Reflective materials
10. Reflective tapes
11. Reflective-flourescent materials
12. Self help features
13. Sportswear
14. Toddlers
15. Uniforms
Summary

Clothes play an important role in children’s socialization process. Children’s clothes should be simple and comfortable giving them freedom of movement. They should protect the child and keep them safe. Several comfort and safety features can be incorporated in clothing. It is also important to select appropriate materials based on the garment type.

I. Test your understanding

1. Sportswear garments should be tight and restrict body movements. (Yes / No)

2. Children’s night clothes can have big and harmful accessories. (Yes / No)

3. When buying clothes for an infant, long term use should be kept in mind. (Yes / No)

4. A sash or belt is an example for self help feature. (Yes / No)

5. Casuals are garments for informal occasions. (Yes / No)

II. Test your understanding

1. A material that seem to glow and emit light as well as reflect it off their surface is _________________________.

2. A material that is fluorescent during the day and reflective at night _________________________.

3. A material that does not glow, but reflects light from outside light source directly back to its source _________________________.

Short Answer Type Questions

1. List out the self help features in toddlers clothing.

2. Give examples for daywear clothes.

3. What is high fashion wear?

4. What is a casual garment? Give example.

5. What is a uniform?

6. What material are night clothes made of?

7. What are the requirements of children’s clothing?

8. What is a fluorescent material?
9. What is the purpose of a reflective tape?

10. What is a reflective-flourescent material?

**Long Answer Type Questions**

1. Classify children according to their age. Briefly indicate the self help features in toddler’s garments.

2. Discuss about the safety and decorative considerations in children’s clothes.

3. List out various children’s garments preferred by Indian mothers. Indicate the type of material suitable for each one of them.

**Minimum equipment in the lab with approximate cost and best brands**

Swatch book of material suitable for various garments.

**Answers for Test your understanding - I**

1. No
2. No
3. No
4. No
5. Yes

**Answers for Test your understanding - II**

1. flourescent materials
2. reflective-flourescent materials
3. reflective
Structure

4.0 Introduction

4.1 Functions of clothing

4.2 Factors influencing selection of clothing

Learning Objectives

After studying this unit, the student will be able to

• Understand the functions of clothing

• Comprehend the factors that influence selection of clothing

Unit Preview

Clothes send non-verbal message to the observer. So one should select clothes that are compatible to age, personality, and climate. They should not hinder the normal working of a person. Clothes also proclaim one’s socio-economic status.

4.0 Introduction

Throughout recorded history, clothing, along with food and shelter, has been regarded as the primary need of a human being.
4.1 Functions of Clothing

Clothing serves the following functions

- Intrinsic function
- Communicative function
- Social psychological functions

Intrinsic function

This includes adornment, modesty, convenience, utility and protection. Clothing highlights our good qualities and camouflages the bad ones; it therefore contributes to our physical attractiveness. Modesty is the quality of expressing moderate or acceptable behaviour. Clothing can reflect modesty or immodesty depending on the situation. Clothing allows the wearer to perform certain tasks and protects one from harsh weather, diseases and animal attack.

Communicative function

Clothing may communicate socioeconomic status, group affiliation and personal identity.

Social-psychological function

Clothing assists the individual in meeting his developmental needs and in expressing or enhancing his self-concept and self-esteem. Clothing can also decrease or increase one’s confidence. It influences the amount and kind of social participation. It is therefore a guide to one’s general conduct or behaviour.

4.2 Factors influencing selection of clothing

Following are the factors that influence the choice of clothes

1. Season/Climate
2. Age
3. Income
4. Occasion
5. Figure
6. Fashion and latest trends
7. Maintenance and upkeep of clothes
8. Occupation
9. Religious beliefs and norms
10. Culture
11. Personal preferences

Durability, ease of washing, freedom of movement, comfort and personal taste of the child are some of the other factors that should be kept in mind while selecting clothes for children.

1. Season/Climate

Clothes protect us from heat and cold and help us in maintaining body temperature in adverse circumstances. Change in seasons automatically influences one’s choice of clothes.

Cottons are ideal for summers, while woolens are apt for winters. Cotton and its blends are good conductors of heat hence suitable for summer season. Some colors are suitable for summer while some are not. Cool colors like blue, white, green etc are ideal for summer. Warm colors like red, orange etc are suitable for winters. In rainy season, clothes that are wrinkle free and ones that dry fast are appropriate.

2. Age

The choice of clothes varies with age and sex of the wearer. Clothes for the newborn/infant must be soft and absorbent. The three musts for this age group are: warmth, comfort and cleanliness.

Clothes for the pre-schoolers should be strong and durable as they are engaged in play most of the time. Children like and prefer bright and vivid colors. Garments with dainty prints in soft colors are suitable for children. In general, delicate fabrics in feminine colors like pink, green red are good for girls while rough textured fabrics in blue, brown, grayish blue are suitable for boys.

Teenagers is one such group who follow fashion and movies closely, they tend to copy the style of their favorite hero or latest fashion. They also like variety in their clothes and they give lot of importance to style and fit.

Adults are more mature in their choice of clothes. They look for durability, serviceability and suitability to their profession.

Clothes for the older generation are different as there are a lot of bodily changes. The body becomes stiff or spine becomes curved, eye sight is poor, body is not flexible. Hence lightweight garments are preferred for this age group. Simple loose styles with less trims and accessories are advisable. Garments for
this age group should be comfortable rather than fashionable. Big buttons with button holes, zips should be used in place of hooks. Clothes should be stain resistant, easily washable and wrinkle resistant as the elders may not have enough energy to launder their clothes frequently.

3. Income

The amount of money that a family can spare for clothing has an impact on the clothing choices. High income groups can earmark a large portion of their income for clothing as compared to low or middle income groups. Hence they can splurge on fashionable clothes while middle income groups spend on durable clothes rather than fashionable clothes. Low socio economic groups give importance to durability, comfort and price rather than on fashion and beauty.

4. Occasion

Occasion influences the choice of a dress. For every day wear simple clothing with minimum accessories is more apt, as it makes one feel comfortable and allows free movement. Daily wear clothes should be durable with simple designs while dressy clothes can be dramatic or stylish with a lot of trimmings. Dressy clothes/ party wear clothes are generally used for marriages or parties.

5. Figure

Every individual has his/her unique figure. Selection of clothes should enhance the appearance of the figure. The dress style should complement the wearer. Judicious use of colors and fabrics can help camouflage any figure irregularities. Ex: Short people can look taller if they wear clothes with vertical lines. By and large fat people should use soft clothes in light colors; a lean and thin person can use heavy clothes.

6. Fashion and latest trends

Fashions change with time, so do the colors, textures, silhouettes and styles. A fashionable person follows fashion closely and changes his wardrobe frequently, especially an adolescent. Peer group influence is great during this period and so the styles followed by peers are accepted as a trend. However, there are some styles that are constant and do not change with season or time. Such styles are called as classics. Ex: Denims

7. Maintenance and upkeep of clothes

The care and maintenance required by garments governs the choice of clothes. Synthetics are easier to maintain than cotton and silks. Woolens require gentler handling. Suede and leather garments also require special handling. Heavily embroidered clothing is difficult to launder.
8. Occupation

Many professions have a specific dress code which gives them a special identity. Ex: Doctors and nurses use white coats. Lawyers use black robes. Overalls are used by factory workers. Soldiers use a uniform. Sportsmen need durable and porous clothes for sweat absorption. Working people should wear formal clothes. They should be simple, neat and clean. Vulgar and improper clothes should be avoided at work places as it does not project professionalism.

9. Religious Beliefs and Norms

Certain religious beliefs and norms followed in a particular society are the deciding factors for clothing selection. Ex: Black is avoided on auspicious occasions, while green colored garments are favoured by certain communities during marriages.

Conclusion

Clothes protect our body, convey socio-economic status and communicate a message to the observer. There are certain factors that affect our choice of clothes. One must choose clothes judiciously to avoid being too obvious or prominent in a crowd. Choice of clothes is by and large dictated by fashion, status and profession.

Terms introduced in the chapter

Know the meaning of the following terms.

1. Classics : Styles that are constant and do not change with season or time are called classics. Ex: Denims

2. Fashion : A particular style of clothing, accessories or footwear that is popular in a season.

3. Silhouette : The outline or the shape of a garment when worn by a wearer is termed as silhouette. It is the first thing that one notices from a distance. There are different types of silhouette like tubular, box, bell, Hourglass, back fullness, triangle and wedge.

4. Styleline : A line or curve in garment that adds to the design. The lines can either be decorative or structural. Ex: Princess line, panels are structural lines in garment. Lace border attached to a saree is an example of decorative line.

5. Texture : The nature of the surface of the fabric is termed as texture. It can also be described as the feel of the fabric when touched by hand. Different textures that one can see are: rough, smooth etc
Summary

Clothing is an integral and inseparable part of mankind. Clothing along with food and shelter has been recognized as one of the primary needs of people in all parts of the world throughout the recorded time and probably even before. Clothing serves as a covering and protection against climatic extremities. It also provides a means of self expression, besides being a source of decoration.

Test your understanding

1. Delicate fabrics like silk are suitable for a long train journey. (Yes / No)
2. Dresses with delicate patterns are feminine in nature. (Yes / No)
3. Adolescents like clothes that are in fashion. (Yes / No)
4. Simple and elegant clothes are desirable for mature and elderly. (Yes / No)
5. Cool, soft and light coloured clothes are appropriate in summer. (Yes / No)

Short Answer Type Questions

1. List out the functions of clothes.
3. Does personality influence clothing choice?
4. How does the figure influence clothing choice?
5. Many professions have a specific dress code. Elaborate on this statement by citing appropriate examples.
6. What clothes are suitable for summer season?
7. Certain clothes are suitable for a certain age. Substantiate with examples.
8. What is a classic?
9. What is a silhouette? How does it affect clothing choice?
10. The income of a family has an effect on the clothing choice of the family. Elaborate.
Long Answer Type Questions

1. Discuss about the factors that influence clothing choices.

2. Explain the factors which influence clothing with regard to age and occasion.

3. Write about the following which influences the selection of clothing
   a. Fashion trends
   b. Occupation
   c. Occasion

Minimum equipment in the lab with approximate cost and best brands

Swatch book containing different types of designs

Answers for test your understanding - I

1. No
2. Yes
3. Yes
4. Yes
5. Yes
UNIT 5

Preparation of Material for Cutting

Structure

5.0 Introduction
5.1 Various processes of preparing a fabric for cutting
5.2 Layout
5.3 Transferring the pattern details onto the fabric
5.4 Fabric cutting

Learning Objectives

After studying this unit, the student will be able to

- Gain knowledge on various processes of preparing a fabric for cutting
- Know about different types of layout
- Comprehend the different methods of marking

Unit Preview

Fabric should be prepared for cutting by following certain procedures in order to achieve a better fit and a professional look to the garment. Different fabrics require different care. Some are washable, some are not.
5.0 Introduction

Most fabrics are generally constructed grain perfect. When the lengthwise
and crosswise grains are running at right angles to each other, it is termed as on-
grain. Nevertheless, during some of the finishing processes like dyeing, printing,
the fabrics may become off-grain. When the lengthwise and crosswise grains
are not at right angle to each other, it is called as off-grain. If such a fabric is
used in constructing the garments, the garments may stretch and sag. Garments
made from off-grain fabrics will not fit correctly and will hang poorly when worn
and will sag.

To avoid these problems, a fabric that is on-grain should be selected for
garment construction. Even if the fabric is off-grain on purchase, there are ways
of straightening the grain.

5.1 Various processes of preparing a fabric for cutting

All fabrics that are to be sewn have to be prepared by following the steps
outlined below:

**Step 1 : Preshrinking and removing extra surface finishes**

Soak all cottons, preferably overnight, before cutting as they are likely to
shrink. This happens because the warp yarns are stretched tight during weaving.
Shrinking relaxes these yarns. Also, it is better to shrink it in the fabric stage
rather than the garment stage as the garment may not fit the wearer after wash.
If the selvage has shrunk during preshrinking, it may have to be clipped every
few inches so that the fabric will lay flat.

To preshrink dry-cleanable fabrics use a steam iron and move the iron
horizontally or vertically across the grain of the fabric. Do not go over it diagonally
because this will distort the fabric. After steaming the fabric allow it to dry on a
smooth, flat surface until completely dry. (About 4-6 hours).

Other notions such as zippers and trims may also need preshrinking.

In addition, most fabrics have excess finish in the form of starch which
should be removed. If not, it may result in skipped stitches during the sewing
process and accumulation of dirt in the sewing machine, causing the machine to
malfunction.

**Step 2 : Making the fabric thread perfect in the crosswise direction**

To make the fabric thread perfect, select one of the following methods:

(a) For woven fabric, pull a crosswise yarn then cut along the pulled yarn.
Fig 5.1 Crosswise grain

(b) For knit fabric, baste along a crosswise course.

(c) For slippery fabrics, pin along a crosswise yarn, removing the pins as you cut along the line.

Fig 5.2 Pinning the Fabric

Both cut ends/crosswise/weft of the fabric should be made thread perfect. Selvedge edges are thread perfect and do not require this process.

Step 3 : Making the fabric piece perfect

Fabric that has been pulled off grain during the final finishing process must be corrected and set on grain. Fabrics that have been heat-set off grain cannot be made piece perfect. To set the fabric on grain,

(a) Stretching the fabric in bias direction

The woven fabric is held at the opposite ends and pulled diagonally. This helps in realigning the lengthwise and crosswise grains. When done in damp condition, it gives best results.

A knit can be made grain perfect, while it is damp by patting it into position.

(b) **Drawn thread method:** Loosely woven fabrics or fabrics with prominent crosswise yarns can be cut straight along the visible crosswise yarn. In case of firmly woven fabrics, pull a thread and then cut along the pulled space. Another quicker way is to tear off the fabric by clipping the selvage. For sheer fabrics and fabrics that fray, clip the selvedge, and then gently pull one crosswise yarn so that it causes a puckered line. Now cut carefully along the puckered line.

If the fabric is flat without wrinkles, and the crosswise and lengthwise edges are at right angles, then it is ready to be cut.

By following the above steps before cutting the material one can get a more professional look in the finished garment.

### 5.2 Layout

Once the fabrics are made grain perfect it has to be layed out for cutting. Arranging the pattern pieces economically is termed as layout. While economizing, fit and comfort should not be compromised. Some of the points to be considered while laying the patterns are as follows:

- Number the pattern pieces for easy identification both on the pattern and on the layout.
- All pattern pieces must be placed together.
- The general order of the layout should be from left side to right and fold to selvedge.
• The seam allowance, notches and darts should be marked with clarity using tailors’ chalk.

• Curved seam lines must be traced either with a tracing wheel or tailor’s tacks.

• Mark the hem of sleeves and hem edges in the garment.

• Cut pieces, interfacing and interlining as per the pattern details.

• Pin the pattern pieces close to the fold lines and grain lines so that cloth can be used economically.

5.2.1 The Different types of layouts

A fabric can be layed out in different ways. They are

• Open layout

• Lengthwise centre fold

• Off centre lengthwise fold

• Crosswise centre fold

• Off centre crosswise fold

• Double fold

• Combination fold

**Open layout:** In this layout, the fabric is not folded at all. It is spread open with the wrong side up, on the cutting table to its full width and length. This layout is not economical as more time is needed for laying and cutting. Moreover fabric consumption is more. All asymmetrical designs are cut using this layout. Ex: A wrap over top, housecoat that wraps over, bathrobe. This method is used in mass cutting industry where several layers are cut in one size.

![Fig 5.4 Asymmetrical top design](image-url)
**Lengthwise centre fold:** In this layout, both the selvedges are folded so that they lay on top of each other, with the right sides facing each other and the wrong side on the top. The fold is parallel to the selvage. This is the simplest and easiest layout. Ex: A-line frock for a child can be cut with this layout.

**Off centre lengthwise fold:** In this layout, one selvedge is placed at a measured distance from the fold. The rest of the fabric is in a single layer. Width of the folded portion is determined by the widest pattern piece. Care is taken to see that all the patterns be kept at uniform distance. This layout is used when narrow pieces have to be cut on fold.

Ex: Child’s Knicker.
Fig 5.7 Off centre Lengthwise Fold

**Crosswise centre fold:** In this, the fabric is folded along a crosswise yarn/weft. The crosswise fold, like the lengthwise fold, could be full or partial fold.

Fig 5.8 Crosswire Centre Fold

**Off centre crosswise fold:** Pattern pieces that too wide to be cut on lengthwise fold can be cut with this layout. Here only a part of material is folded along a weft yarn. The main advantage of this type of fold is that only a part of fabric is utilized.

Fig 5.9 Off centre crosswise fold
Double fold: In this, the selvedges meet at the centre. When both front and back pieces are to be cut on a fold, this method is used. It is important to maintain the distance from each fold to selvedge. Fabrics with widths ranging from 50" to 60" or more are suitable for this type of layout.

![Cross wise grain](image)

Combination fold: The fabric is folded lengthwise and then crosswise. Since both the folds are combined, it is termed combination fold. A saree petticoat or a four gored skirt can be cut using this type of layout.

5.2.2 Rules for Pattern Layout

1. The fabric and pattern pieces must be pressed flat.
2. A large table or any hard flat surface is used for carrying out the work.
3. If an open layout is used, the right side of the fabric is placed on the table.
4. For other layouts the wrong side must be on the upper side/outside.
5. The best way to fold the cloth depends on the width of the cloth, width of the pattern pieces, the type of cloth and print on the cloth and finally on the design of the garment.
6. Lay larger pieces first and then place the smaller ones.
7. Place the widest piece of the pattern to the cut end.
8. For pattern pieces that are to be cut on fold, fold the fabric wide enough to accommodate the pattern.

9. A trial layout can be done by pinning patterns on the cloth to make sure that the cloth will be sufficient for the intended garment.

10. Follow grain line while placing the pattern pieces. Straight grain lines on pattern must be kept parallel to the fabric selvedge.

5.2.3 Special Layouts

Some fabrics, require special care and attention while laying and cutting because of their design or fabrication. They are

(1) Napped/Pile/ One way prints/ Fur Napped fabrics like flannel require special care in cutting and laying.

A napped fabric has undergone a special finish that raises the fiber ends to the surface where they are brushed or left upright. This finish imparts warmth, softer feel/hand to the fabric. The raised fibers all lie in one direction; this makes the fabric look and feel different when touched or viewed from different directions. So the direction of nap plays an important role during laying and cutting.

Normally napped fabrics are cut with the nap running down the garment, from the shoulders towards the hem. This way the fabric is likely to pill less and wear better. The finished garment also feels softer. On the other hand, when the nap runs up, the color is richer. For design variation, pattern for patch pockets, yokes can be cut in different directions to create a shading effect.

Pile is fabric which is woven with extra warp, hence forms a loop on the surface of the cloth. If the loop is cut, it is termed as cut pile. Examples of pile fabrics are velvet, velveteen, velour, corduroy. Terry cloth is an example of uncut pile. These fabrics appear light and shiny when brushed in one lengthwise direction, and dark when brushed in the other direction. To prevent the garment from having a two-toned look, one must follow the “with nap” layouts.

Fabrics with prints running in one direction are termed as ‘one-way prints’ Satin fabric is shiny and shows different shades by reflecting light differently, when viewed from different directions Hence “with nap” layout should be followed where in all pattern pieces are placed in one direction.

Fabric Preparation for ‘with nap’ layout

The nap will create color shading when the direction of the fabric changes, so while laying the pattern pieces for cutting, nap in all the pattern pieces should
be in the same direction. Place the upper edges of all the garment pieces at one end, with all the lower edges toward the opposite end (Fig 1). Extra fabric is generally required in order to lay out the pieces this way. Mark the nap direction on the wrong side of the fabric.

![Diagram of garment pieces in one direction]

**Fig. 5.11 With Nap Layout**

**Tips in handling napped fabrics**

1. Identify the direction of the nap. While brushing with hand, if it feels soft to touch then the fabric is ‘with nap’.

2. Nap should always run down the garment as it lasts longer and shows less pilling.

3. For a richer color effect, the nap should run down.

4. Place all the pattern pieces in one direction only.

5. Smaller garment sections like patch pockets, yokes can be cut in crosswise directions for getting a deeper shade than the rest of the garment.

6. Simple designs look elegant for all fabrics that are to be cut ‘with nap’ layout.
Fabrics with short nap (corduroy) can be cut with nap running up. This gives a deeper color and interesting texture effects.

(2) **Plaids/ Checks/ Stripes** A plaid or checked fabric has a series of vertical and horizontal stripes that intersect at right angles. A striped fabric has the design lines running in one direction either horizontal or vertical. These fabrics generally require extra fabric of about 25 cm to 50 cm more than the actual yardage, depending on the size of the design.

Striped effect can be achieved either with print or by weaving. Striped fabrics are of the following types

- Even/balanced
- Uneven/unbalanced
- Horizontal
- Vertical
- Diagonal

Even check/striped fabric has lines (called repeats) spaced in equal intervals. Uneven/unbalanced striped fabrics have lines repeated at uneven intervals. Horizontal striped fabrics have lines running in a horizontal direction while vertical striped fabrics show repeats in vertical direction. Uneven stripes/plaids are a little difficult to work with as extra care is required while matching the pattern pieces.

Fig 5.12 Striped dresses
While handling even stripes/plaids, the dominant stripe should be placed in the centre front /centre back, centers of the sleeves, and the center back/center front of the collar or evenly spaced from the center.

Always match horizontal stripes at the side seams, center seams and the front of the sleeve to bodice front. Match side seams from bottom up (hem to the waist, bottom of the bodice top to the bust dart).

The Layout for an unbalanced horizontal or vertical striped fabric must follow a “A with nap layout”, with the pattern pieces placed in the same direction.

Balanced striped fabrics can be folded lengthwise. The fold should be in the center of the dominant stripe, so the underneath layer is exactly like the top layer. Pin throughout the fabric to make sure the stripes match.

Tips for handling plaids/checks/stripes

1. A beginner should choose a simple design with few seam line and design lines.

2. It is better to avoid slanted darts, circular yokes, and curved seams in the design as it is difficult to match the fabric in these areas.
3. Place the most dominant horizontal line at the flattering part of the body, like centre front, centre back, the center of sleeves at the shoulder tip, back of the collar to match at the centre back.

4. A professional look of the garment can be achieved if the lines are matched at the shoulder seam, side seam, sleeve to bodice, back yoke in a men’s shirt with the shirt back etc.

(3) **One-way design** fabrics, such as some flower and paisley prints, require a “with nap” cutting layout. This is done to ensure uniformity in the design.

![Fig. 5.16 One way design layout](image)

(4) **Border Printed** fabric has a border along one or both the selvages or lengthwise edges. Many fabrics have a print in the body as well.

![Fig. 5.17 Border Print Fabric](image)

Border prints are cut on the crosswise rather than lengthwise grain of the fabric. They usually require more yardages. Since borders are frequently printed or created lengthwise, the layout for the garment will need to be crosswise. That
means the grainline marking will be placed with the crosswise grain rather than
the lengthwise grainline.

Use the single layer layout view. This requires that each pattern piece be
cut twice (once for the left side, once for the right side of the garment). Before
laying out the pattern, predetermine all hemlines identifying where the border
will be placed. If using a border fabric, place the pattern pieces that are to have
a border along the border segment of the fabric first.

Pattern layout - Single layer is easier

5.3 Transferring the Pattern Details onto the Fabric

After deciding the type of layout that is economical for the drafted pattern,
the pattern details need to be transferred onto the fabric. This can be done by
using tracing wheel, carbon paper, tailor’s chalk of contrast color, color pencil.
Pins can be used in combination with pencil, tailor’s chalk or use of tailor’s
tacks.

Tracing wheel

For delicate and sheer fabrics, tracing wheel is not appropriate as the teeth
of the tracing wheel may damage the fabric. For thick, smooth textured, heavy
fabrics tracing wheel can be used and the marking can be lined with pencil or
chalk later.

Carbon Paper

When tracing pattern lines on fabric, carbon paper of good quality must be
used. Carbon marks will be left on cloth and may be visible from right side if the
fabric is transparent. While using carbon paper, tracing should be done lightly. Yellow carbon is ideal to transfer pattern markings.

**Tailor’s Chalk**

The markings on the pattern like slashes, notches and darts can be marked directly on the fabric with tailor’s chalk. Marks on the top layer can be transferred to the remaining layers of the fabric by using a carbon paper or tracing wheel.

**Common Pins**

Pins help in anchoring the patterns to the fabric. Pattern edges are then marked with tailor’s chalks.

**Tailor’s Tacks**

Silk and sheer fabrics are basically delicate and should be handled gently throughout garment making. Tracing wheel, pins or even carbon paper may damage the fabric. Hence, Tailor’s tacks should be used. The tacks should be done using contrast color thread in double strand, so that they can be easily seen and then removed.
5.4 Fabric Cutting

Once the markings are over on the fabric, the pattern components are removed and stored for future use. The next step is to cut the fabric along the pattern lines marked. Cutting should be done on a flat and firm surface. A suitable table should be selected for accommodating the work. The right side of the fabric should be placed on the table if an open layout is used.

The following steps should be followed for fabric cutting:

1. Seam allowances should be checked whether they are included or not. If pattern is without seam allowance, it should be added to the fabric.

2. Place the fabric flat on the cutting table, hold the material with left hand and cut with right hand.

3. The material should not be moved while cutting, instead go around the table to cut. If the material is moved, the grain may be shifted.
4. Cut along the cutting lines accurately and smoothly.

5. Notches should be cut wherever necessary. These are guides for joining segments of garments. They indicate seam edges. For example, the front part of the arm hole and sleeve can be matched with one notch, while the back part and back sleeve can be marked with two notches. Notches are usually cut outside the pattern and not into seam allowance especially if the fabric frays readily or if the seam is too narrow.

**Conclusion**

Fabric yardage bought from the shop requires preparation for cutting. It is advised to shrink the yardage first before cutting to avoid garment shrinkage upon washing. Different fabrics require different pre treatments as explained above. The pre shrunk fabric is then laid on the cutting table using any of the methods described above. Certain fabrics like checks, plaids, stripes, borders, velvets etc require special handling. Care should be exercised while transferring pattern marking.

**Terms introduced in the chapter**

Know the meaning of the following terms.

1. **Combination fold**: A type of fabric fold which is folded lengthwise and then crosswise

2. **Crosswise centre fold**: A type of fabric fold that is folded along a crosswise yarn/weft. It could be full or partial fold

3. **Double fold**: A type of fabric fold where in the selvedges meet at the centre

4. **Layout**: The sizing and placement of pattern pieces on the fabric is termed as layout.

5. **Lengthwise centre fold**: A type of fabric fold where in both the selvedges are folded together.

6. **Notches**: They are balance marks that are made on the garment parts that serve as a guide during garment assembly.

7. **Off centre crosswise fold**: A type of fabric fold where in the crosswise grain is placed at a specified distance from the fold. Here only a part of material is folded along a weft yarn.
8. **Off centre lengthwise fold**: A type of fabric fold where in one selvedge is placed at a measured distance from the fold. The rest of the fabric is in a single layer.

9. **Off-grain**: When the lengthwise and crosswise grains are not at right angle to each other, it is called as *off-grain*.

10. **On-grain**: When the lengthwise and crosswise grains are running at right angles to each other, it is termed as *on-grain*.

11. **Open layout**: A type of layout in which the fabric is not folded at all. The fabric is laid flat on the table with the wrong side facing the seamstress.

12. **Preshrinking**: A process of relaxing the yarns in a fabric before using for garment construction. It is always suggested to shrink the fabric before making a garment.

13. **Shrinking**: The method of soaking cottons overnight to remove excess starch on the surface of the fabric and to relax the yarns in the fabric.


15. **Tailor’s chalk**: A marking tool made of either clay or wax which is commonly used for marking on fabric.

16. **Tailor’s tacks**: A method of transferring pattern markings onto delicate fabrics like silks and crepes. A contrast color thread in double strands is generally threaded through a needle to make the tailor’s tacks.

17. **Tracing wheel**: A marking tool used for transferring pattern marling. Useful to transfer marking on delicate fabrics. Tracing wheels are available with smooth and serrated edges.

---

**Summary**

One should keep pattern design in mind while selecting fabric and prepare the fabric for cutting by preshrinking, making thread perfect, making it piece perfect. Then a proper layout should be planned depending on the availability of material and the type of dress design.

---

**1. Test your understanding**

1. Garments made from off-grain fabrics fit the body perfectly. (Yes / No)

2. When the lengthwise and crosswise grains are not at right angle to each other, it is called as off-grain. (Yes / No)
3. When the lengthwise and crosswise grains are running at right angles to each other, it is termed as on-grain. (Yes/No)

4. Loosely woven fabrics can be torn off the fabric by clipping the selvage. (Yes/No)

5. Zippers and trims do not require preshrinking. (Yes/No)

II. Test your understanding

1. Arranging the pattern pieces economically is termed as ________________

2. The fabric is not folded at all in combination layout. (Yes/No)

3. Tracing wheel and pins damage silks and sheers, so pattern markings can be transferred through tailor’s tacks. (Yes/No)

4. The selvedges meet at the centre in ________________ fold.

5. Pattern pieces that too wide to be cut on lengthwise fold can be cut with ________________ layout.

Short Answer Type Questions

1. What is grain?

2. What are the different ways of straightening the fabric?

3. What is off-grain?

4. What is on-grain?

5. What is a layout?

6. Indicate the importance of grain in garment construction.

7. What are tailor’s tacks?

8. Indicate the different ways of transferring the pattern details onto the fabric.

9. What is a combination layout?

10. Why do we need to preshrink fabrics?

Long Answer Type Questions

1. Discuss the various ways of straightening fabric grain?

2. What is layout? Discuss different types of layouts.
3. What are the rules for pattern layout?

4. What are the common ways of transferring marking onto fabrics? Illustrate.

**Minimum equipment in the lab with approximate cost and best brands**

Tracing wheel, marking chalks, different colored carbon papers, tacking thread, hand needle, pins, scale for measuring.

**Answers for test your understanding - I**

1. No
2. Yes
3. Yes
4. No
5. No

**Answers for test your understanding - II**

1. Layout
2. No
3. Yes
4. double fold
5. Off centre crosswise fold
6.0 Introduction

A garment that fits well is appreciated by the user. An ill-fitting garment, though expensive, will not be used often, neither will it satisfy the wearer. A well-fitted garment feels comfortable, adjusts naturally to the activities of the wearer, and is becoming in line and amount of ease and consistent with current fashions.
6.1 Standards for a good fit

There are certain standards for a good fit.

- Ease
- Line
- Grain
- Set
- Balance

6.1.1 Ease

Any garment that is of the right size and neither too loose nor too tight is said to have good ease. Ease is the difference between the actual body measurements and the garment measurements. Ease changes with the fashion, type of garment and personal taste.

Insufficient ease is easily identified by pulling and drawing across the bust, shoulders or hip lines. Excess ease causes folds across the loose areas giving a baggy appearance to the garment.

A garment that fits without any wrinkles or strain is said to have optimum ease. The indicated ease allowances are:

- Back shoulder seam eased to the front about 1.5 cm
- Ease at bustline about 10 cm
- Ease across back 1.5 cm to 2 cm
- Ease across chest 0.5 cm to 1 cm
- Ease at hips, standing 3.5 cm
- Ease of skirt at waistline to fit on to belt – 2.5 cm or 0.5 cm on each quarter.
- Ease at back of sleeve cap 5 cm to 7.5 cm
- Ease at elbow 2.5 cm (1.5 cm) to be able to bend elbow comfortably

6.1.2 Line

Seam lines, circumference lines and design lines contribute to a good fit.

Seams should lie flat, the shoulder seam should be straight across the top of the shoulder. The side seam should be straight and must be half way between
the back and front. In set-in sleeves the side seam line should be straight from armhole to the hem or lengthwise line.

The **circumference lines** include neckline, armhole, waistline and wrist line. They should follow the natural body curves and be neat, smooth without folds. Armhole should be oval, but not pointed or round in shape. It should not be too low hindering the movements of the hand. It follows natural creases made where the arm joins the body. Round waistline should be as far as possible parallel with the floor but slightly lower at the back and slightly lower and round in the front to fit at front waistline. Waistlines and hemlines should be parallel to the floor. The neckline should fit well without pulling or falling from the shoulder line. Waistline and hem line should be parallel to the floor.

The lines created by design details like darts, princess line etc are termed as **design lines**. They should be graceful, direct and smooth. Lines obtained by darts, pleats and yokes are within the garment and they should be graceful and smooth. Front darts should end at the top of the bust, bust should be in the line with top.

![Princess Line](image)

**6.1 Design lines of a garment**

### 6.1.3 Grain

The lengthwise grain should be perpendicular to the floor at the center front and center back of the garment. In the sleeve, the lengthwise yarns should hang vertically from shoulder line to the center of sleeve hem.

The crosswise grain should be parallel to the floor. The crosswise grains is across bust, waist and upper arm of sleeve. If the grain line is not correct, wrinkles or sagging occurs.
6.1.4 Set

A well-fitted garment has a smooth set without any wrinkles. Wrinkles are undesirable folds caused due to extra strain in a particular area of the garment. These are unbecoming and uncomfortable. Wrinkles can be removed by providing extra length and width. If a garment is tight around its circumference, crosswise wrinkles occur above or below the light area.

A smoothness of “set” or freedom from wrinkles is required for a good-looking fit. Graceful folds created by gathers or unpressed pleats or draped features are style lines not be confused with wrinkles, those slanting traingles straining from some curve or bulge of the body.

![Fig. 6.2 Set in a garment](image1)

![Fig. 6.3 Wrinkles at the arm hole leading to a bad set](image2)

6.1.5 Balance

A well fitting garment should have perfect balance of right to left and front to back. Ex: In a skirt, there should be a balance from the center to the right and left sides. If the shoulder seam in a blouse sags, then it looks out of balance.

### 6.2 Dressmaking techniques that influences good fit

Good dressmaking techniques are required for achieving good fit. They are:

- Skill in pattern making
- Cutting on grain and accurately along lines
• Skill in stitching
• Pressing open darts
• Basting by hand while working with difficult fabrics
• Stay-stitching
• Giving right amount of ease
• Ability to contain fullness
• Under pressing – pressing small garment components during garment assembly.
• Good top stitching
• Invisible hemming
• Applying facing and interfacing for a smooth finish
• Setting a sleeve smoothly into the armhole.

The above construction skills are crucial for achieving a good fit.

Conclusion

Garments that fit well are appreciated by all. Not only does it enhance the beauty of the wearer, it also adds to the comfort of the wearer. Knowledge of the standards for a good fit and techniques that influence the fit help the seamstress in planning a well fitting garment.

Terms introduced in the unit

Know the meaning of the following terms.

1. Balance : A garment in which there is a perfect balance of right to left and front to back.

2. Circumference lines : The lines that follow the natural body curves and appear neat and smooth without folds. Ex: neckline, armhole, waistline and wrist line.

3. Design lines : The lines created by design details like darts, princess line etc are termed as design lines. They should be graceful, direct and smooth.

4. Ease : The difference between the actual body measurements and the garment measurements is termed as ease. It changes with the fashion, type of garment and personal taste.
5. **Ease allowances**: The extra allowances that are added to the actual body measurements for a relaxed fit.

6. **Grain**: Refers to the condition of the fabric where in the lengthwise and crosswise threads are at right angles to each other.

7. **Seam lines**: The lines that are made by seams are called as seam lines.

8. **Set**: A garment with no wrinkles is said to have a good “set”.

9. **Stay-stitching**: A row of directional stitching that is done 0.5 cms from the edge of a curved line. Stay stitching has to be done on all necklines to prevent them from going out of shape.

10. **Wrinkles**: Undesirable folds that appear when a garment is worn by the wearer.

---

### Test your understanding

1. The lengthwise grain of a garment should be parallel to the floor.  
   (Yes / No)

2. Folds caused due to strain in certain areas of the fabric are termed as ______.

3. Ease is the difference between the ______body measurement and the garment measurement.

4. A garment without any wrinkles is said to have ______.

5. Lines obtained by darts, pleats and yokes are called silhouette lines.  
   (Yes / No)

---

**Summary**

Good dressmaking techniques are required for achieving a good fit. Garment assembly calls for care, patience, and practice.

---

**Short Answer Type Questions**

1. List out the standards of a good fit.

2. What do you mean by set?

3. How can one achieve balance in kameez?

4. What is stay stitching?

5. What are seam lines?
6. What are circumference lines?
7. What is ease?
8. How does grain contribute to a good fit?
9. What are wrinkles?
10. List out the possible areas in a garment that can show wrinkles because of poor fit.

**Long Answer Type Questions**

1. What are the qualities of a well fitting garment? Elaborate.
2. What are the different lines that one can see in a garment? Elaborate and sketch them out.

**Minimum equipment in the lab with approximate cost and best brands**

A swatch book with figures collected from various magazines.

**Answers for Test your understanding - I**

1. No
2. Wrinkles
3. Actual
4. Set
5. No