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Intermediate Vocational Course

Paper I : Apparel Manufacture

Paper II : Fabric Embellishment

Paper III : Apparel & Fashion Designing



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COMMERCIAL GARMENT TECHNOLOGY

Paper – I

APPAREL MANUFACTURE

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Adaptation of Basic sleeve

Structure:

- 1.1 Introduction
- 1.2 Sleeve terminology
- 1.3 Standards of well fitted sleeve
- 1.4 Sleeve styles
- 1.5 Basic sleeve types
- 1.6 Set-in sleeves-types
- 1.7 Added fullness and cap variations
- 1.8 Two piece sleeves
- 1.9 Sleeve/bodice combinations

Learning Objectives:

- After studying this unit, students will be able to understand:
- Standards of well fitted sleeve
- Different types of sleeves
- Adaptation of basic sleeve into different sleeve types

Unit Preview:

Sleeve is the part of a garment that covers the arm. This chapter gives the knowledge on basic sleeve and its adaptation into different sleeve types. By choosing a sleeve style according to figure, design of the dress, fabric of the dress and current fashions, one can enhance the appearance of dress.

1.1 Introduction:

Sleeves have been used as a device for changing the silhouette of a garment throughout fashion history. Sleeves are functional or decorative. They have a major impact on silhouette, because they range from an extreme broad-shouldered style to a natural tubular form. Silhouette is influenced by sleeve length and by the amount of fullness incorporated into the sleeve design.

Sleeves may be of any length, including cap, short, elbow, three-quarter, seven eighths and long. In addition, sleeves may be fitted or full and may include a puff, bell, draped or gathered style. The basic sleeve is the foundation for all sleeve variations.

1.2 Sleeve terminology:

1.2.1 Cap seam line:

This is the curved top seam line of the sleeve. Notches are always used along this line for matching the sleeve to the bodice armhole. Sleeve fit is affected by the shape of this curved seam line. Identical concave curves along the lower bodice armhole seams and the lower part of the cap seam line enhance a smooth fit at the under arm area.

1.2.2 Cap line:

The horizontal line that joins the two underarm corners. It is the widest part of the basic sleeve and also designates the bicep line and crosswise grain.

1.2.3 Sleeve cap:

The upper portion of the sleeve between the cap seam line and the cap line. This area must be high enough to cover the arm from the shoulder to the biceps without pulling up. Cap height may be increased or decreased as style variations are produced. However, cap height should not be shortened for the basic sleeve.

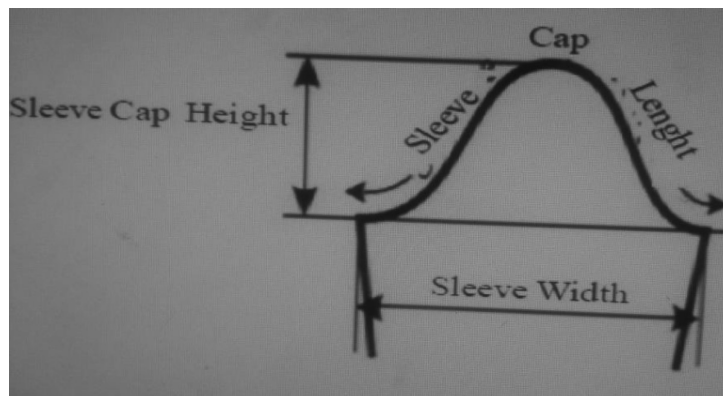


Fig: 1.1 Sleeve Terminology

1.2.4 Grain line:

A line that is perpendicular to the cap line and extends the length of the sleeve.

1.2.5 Under arm seams:

The two vertical seams that extend down from the cap line corners to the length of the sleeve. On the basic sleeve, the front underarm seam is a slight inward curve, whereas the back is a slight outward curve.

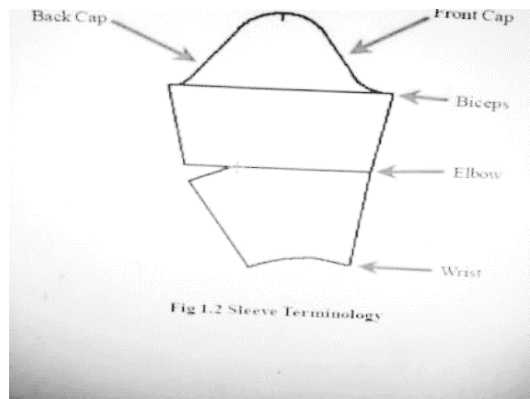


Fig: 1.2 Cap lengths for different styles

1.2.6. Elbow darts:

Darts that shape the sleeve to fit the natural bend in the arm and allow for arm movement. They are located at the back underarm seam.

1.2.7 Elbow line:

A line that is perpendicular to the grain line and goes through the pivot point of the single dart sleeve or the common pivot point of a two dart or three dart sleeves. It serves as a reference in design department.

1.2.8. Wrist line:

The line across the bottom of the sleeve that joins the ends of the underarm seams.

1.3 Standards of well fitted sleeve:

- should not slip of the shoulder for style or comfort.
- The armhole curve must be smooth and gradual.
- No diagonal wrinkles should be appeared under the arm pit.
- Length wise grains should be straight from armholes to elbow.
- It should be snug fitting and should not be tight in lower part.
- The sleeve should never twist away.
- Wrist line should be in position when arm is bent.

1.4 Sleeve styles:

Sleeves fall into three main categories-classic, casual and T-shirt. The sleeve style is mainly determined by the height of the sleeve cap.

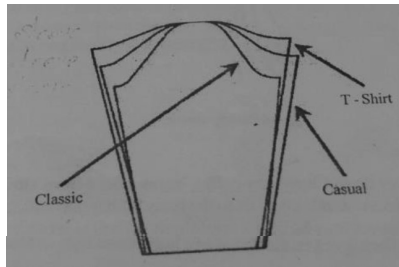


Fig: 1.3 Cap lengths for different styles

1.4.1 Classic sleeve:

The classic sleeve is the sleeve found in most traditional tailored, fitted styles. It can be drafted with or without an elbow dart. It should be sewn to an armhole where the shoulder point at the armhole ends at the shoulder tip, thus the armhole is not dropped off the shoulder. The classic sleeve is characterized by a high sleeve cap. The higher sleeve cap is much more formal and attractive when movement is not a priority.

1.4.2 Casual sleeve:

The casual sleeve is a less tailored style. The bodice armhole shoulder point is dropped off the shoulder from one half to one inch (1.25 to 2.5cm). Diagonal wrinkles will form at the armhole as a result; however, greater freedom of movement is possible. The casual styles are a nice compromise between style and mobility and between formal classic styles with little freedom of movement and sloppy t-shirt styles.

1.4.3 T-shirt sleeve:

The T-shirt sleeve is a very casual style. The shoulder point on the bodice armhole is typically dropped off the shoulder more than one inch (2.5cm) and the armhole is a very shallow curve.

Diagonal wrinkles will form at the armhole as a result. Greater freedom of movement is possible with this style though.

1.5 Basic sleeve types:

Sleeves may be classified into two types.

1.5.1 Set-in sleeves:

In blouses and dresses, side seams of the bodice and sleeve are finished first and then only the sleeve set into the armhole. A sleeve which is attached in this way is referred as set-in sleeve

1.5.2 Sleeve bodice combination:

Sleeve bodice combinations have the bodice and sleeves attached in same way. Ex: kimono and Raglan sleeve.

1.6 Set-in sleeves types:

Set in type sleeves must be eased, gathered, darted or tucked and sewn into the bodice armhole seam. They can be fitted or flared, cut to any length and hemlines finished in a variety of ways. A variety of sleeves styles and design modifications are possible. A change in the cap height results in a sleeve that relates differently to the body than does the basic sleeve. The sleeve stands away or just out from the arm if the sleeve cap is shortened, where as higher than normal cap produces a sleeve that extends above the normal shoulder line.

1.6.1 Basic or plain sleeve:

Basic set-in sleeves maintain the original cap. No changes are made to the cap seam line width or height.

1.6.2 Three-quarter:

It is the simplest form and is made from the basic sleeve slope. A three quarter length can be introduced into many sleeve designs such as straight, bishop, deep arm hole, kimono and raglan. The lower edge maintains the shape of a new sleeve design.

1.6.3. Straight:

It is a rectangle below the cap line and is wider than the basic sleeve below the cap line. This sleeve serves as a foundation for other sleeve designs.

1.6.4 Roll-up:

The roll up sleeve has a wide hem and self-cuff. It is made from the straight sleeve and has markings to indicate the fold lines and roll lines. From the fold line, the fabric turns back on itself, leaving the hem underneath. This sleeve is generally used for shirts.

1.6.5 Shirt waist:

This is also called as shirt maker sleeve. It is a tailored sleeve that is finished with a cuff. A placket opening at the lower edge is used in conjunction with a cuff to allow entry for the hand.

1.7 Added fullness and cap variations:

Fullness is added to the sleeves in the same way as to the other pattern pieces. When fullness is created at the lower edge, a shorter than average cap is produced, which pulls the sleeve away from the body. When fullness is created at the top of the sleeve, a higher than average cap is produced, which makes the sleeve stand up and out from the shoulder tips.

Parallel additions create fullness at both the top and bottom of the sleeve.

1.7.1 Bishop sleeve:

These sleeves are long and fuller at the bottom of the sleeve than at the top. The bishop sleeves are normally gathered into a neat cuff. Minimum width of a bishop sleeve is a rectangle from the cap line down. Design variations can be produced from the basic bishop sleeve.

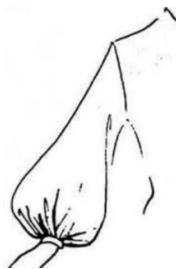


Fig: 1.4 Bishop sleeve

1.7.2 Bell sleeve:

Bell sleeves do not have any ruffle, but is a flare from elbow to the bottom. The Bell sleeve stands away from the body falling into soft folds at the lower edge. Bell sleeves may be cut to any length. A bell sleeve has a smooth cap and a hemline flaring out in the shape of a bell.

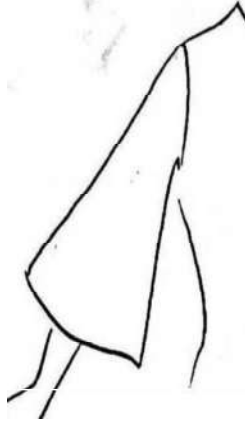


Fig: 1.5 Bell sleeve

1.7.3 Cap sleeve:

Cap sleeves do not go below the armpit level as they are short sleeves. This type of sleeve only covers the shoulder area. If sewn properly is very appealing and attractive. This sleeve is often self-lined. The shape of the cap sleeve can be shaped in variety of ways.

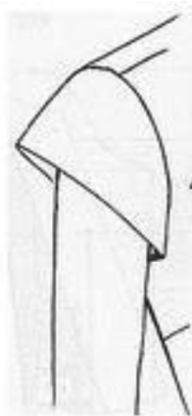


Fig: 1.6 Cap sleeve

1.7.4 Puff at top sleeve:

These types of sleeves are generally seen in many children's dresses, evening dresses or wedding garments. Puff sleeves can be short length or long sleeve. These types of sleeve style are normally designed as a gather at the top of the sleeve. Puff sleeve has fullness added to the body and are generally designed with gathers at the hemline.



Fig: 1.7 Puff at top sleeve

1.7.5 Banded puff-bottom sleeve:

The banded puff-bottom sleeve has fullness at the bottom and additional length is added to the lower edge to create a bloused effect over the band.

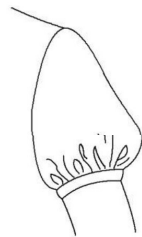


Fig: 1.8 Banded puff bottom sleeve

1.7.6 Puff at top and bottom of the sleeve:

In this sleeve fullness added both at top and bottom of the sleeve.



Fig: 1.9 Puff at top and bottom sleeve

1.7.7 Leg-o-mutton sleeve:

The leg-o-mutton sleeve is named for its resemblance to a lamb leg. It is full from the shoulder to the upper arm and it is tight fitting from the elbow to the wrist. Leg-o-mutton is developed by enlarging the biceps and cap area, tapering the fullness towards the elbow level.



Fig: 1.10 Leg-o-mutton sleeve

1.7.8 Cowl Sleeve:

The cowl sleeve has extra cap height and width that is created by triangular additions. It is cut on the bias to form a draped effect similar to the cowl neckline bodice.

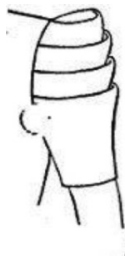


Fig: 1.11 Cowl sleeve

1.7.9 Dolman sleeve:

Dolman sleeves are long and a bit narrow at the wrist and wide at the top, joining the armhole. Dressmakers always do cut dolman sleeves as an extension of the garment and not as a separate sleeve to insert. Dolman sleeves are not sewn to the garment; rather the fabric is cut in such a way that the sleeves are part of the garment.

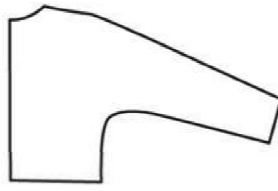


Fig: 1.12 Dolman Sleeve

1.8 Two Piece sleeves:

Sleeves may be divided horizontally or vertically into two or more pieces to create varied design effects. At the divisional point, the sleeve may have fullness added. It may be gathered, tucked, pleated or have extensions for over lapping. Some of the examples of the sleeve styles produced by dividing the sleeve into two pieces are:

1.8.1 Lantern sleeve:

Lantern sleeve is a two-section sleeve that flares out from the cap and hemline to a style line within the sleeve. The lantern or barrel sleeve is cut horizontally into two pieces at the cap line or below and has triangular fullness added to the horizontal seam line.



Fig: 1.13 Lantern sleeve

1.8.2 Petal sleeve:

The petal, tulip or over lapped sleeve is a two piece sleeve that overlaps at the top of the arm. Petal sleeve is shaped and resembles a petal as the sleeve sections crosses over each other at the cap.



Fig: 1.14 Petal sleeve

1.8.3 Tailored sleeve:

The tailored sleeve is a two piece, fitted sleeve with two vertical seam lines but no underarm seam line.

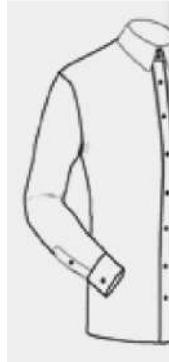


Fig: 1.15 Tailored sleeve

1.9 Sleeve/Bodice combinations:

Patterns may be developed with the sleeve and the bodice attached, thereby eliminating the armhole seam. Two basic sleeves in this category are the kimono sleeve and the raglan sleeve.

1.9.1 Kimono sleeve:

Kimono sleeves are cut in one with the bodice; the bodice front and the sleeve front are one pattern and the bodice back and the sleeve back are one pattern. The shoulder seam extends from the neckline to the wrist line and is called the over arm seam. The side seam of the bodice and the under arm seam of the sleeve are joined in one continuous seam line.

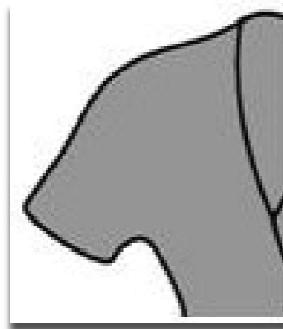


Fig: 1.16 Kimono sleeve

1.9.2 Raglan sleeve:

This type of sleeves extends from the arm to the neckline. Those sleeves have part of the upper bodice attached to the sleeve forming a diagonal seam line from the neck to the underarm. The diagonal line often begins at the neck seam line, and goes to the under arm corner of the kimono sleeve. The raglan sleeves are designed in such a way that it can be onepiece or a two-piece sleeve. This type sleeve can be generally seen on any sports top or jersey.

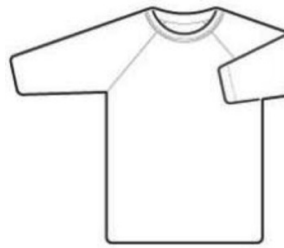


Fig: 1.17 Raglan Sleeve

Summary:

The basic sleeve is the foundation for all sleeve variations. The knowledge of adaptation of basic sleeve to different types of sleeves gives students, the knowledge of their application according to the use and the personality of wearer, because the sleeve is the most important part of the garment which changes the look of the silhouette according to its application.

Short Answer Type Questions:

1. Write about the standards of a well fitted sleeve.
2. Write about two piece sleeves.
3. What is the difference between set in sleeve and sleeve bodice combination?
4. Write about sleeve/bodice combination sleeves
5. Define the terms cap seam-line, sleeve cap and grain line.
6. Define the terms elbow darts, wrist line and under arm seams.

Long Answer Type Questions:

1. Write about set-in sleeves.
2. Describe any four sleeves with illustrations.



Creating Design ariety

Structure:

- 2.1 Introduction to collars
- 2.2 Terminology related to collars
- 2.3 Types of collars
- 2.4 Classification of collars
- 2.5 Designing collars
- 2.6 Introduction to yokes
- 2.7 Selection of yoke designs
- 2.8 Creating variety in yoke designs
- 2.9 Pockets-introduction
- 2.10 Types of pockets
- 2.10A Selection of pocket designs
- 2.11 Creating variety in pocket design

Learning objectives:

- After studying this unit, students will be able to understand:
- Different types of collars
- How to select collars according to one's personality
- Different types of yokes and their suitability for different end uses
- Selection of the right yokes for right garment
- Different types of pockets and their end uses

Unit Preview:

The creativity of the designer lies in the fact that how well he/she knew about basic parts of a garment like yokes, collars, pockets. Yokes and collars are purely for decoration

purpose whereas pockets are functional and decorative. So one should know different types of collars, yokes and pockets and their suitability to different personalities and end uses.

2.1 Introduction to collars:

Collar is a design feature that frames the face. It is added to the garment neck edge to create variation in line, shape, colour or texture in order to enhance its appearance. Proportion and shape are critical in the success of a collar. It serves to finish the raw edges at the neckline. Collars are usually made of double layer of fabric (with or without an interfacing). In every collar one must distinguish the outer edge and the inner edge of a collar. The set of the collar i.e., the way it lies and fits at the neck, depends on the shape of the inner edge or sewing on edge. This in turn depends on the difference in length between the two edges. The collar is attached to the neckline with the outer edge hanging free.

2.2 Terminology related to collars:

The following terms will serve as an aid in collar development.

Collar type:

Determined by the shape of the collar neckline. The shape of the collar neckline directly affects how a collar relates to the wearers body. A collar may lie flat against the bodice of the garment, or it may stand up practically or entirely against the wearer's neck.

Neckline:

The edge of the collar that is attached to the garment. It is of the same length as the garment neckline and always marked with notches that correspond to the garment neckline.

Collar style:

Determined by the shape of the outer edge of the collar.

Style line:

Outer edge of the collar created by the designer.

Stand:

The collar rises above the garment neckline that lies against the **wearer's** neck. A collar may be designed to have no stand or to be full stand.

Fall:

Part of the collar that extends from the top of the stand to the neckline or below to become the outer part of the collar. It must be as wide as or wider than the stand in order to cover the neck seam line.

Roll line:

Formed where the collar stand and fall meet, the line at which the collar turns down.

Break point:

Point at which a lapel turns back on itself.

Upper collar:

Outer visible part of a collar.

Under collar:

Inner or under part of the collar. The outer seam line of the collar should roll to the underside and is not shown in the finished product.

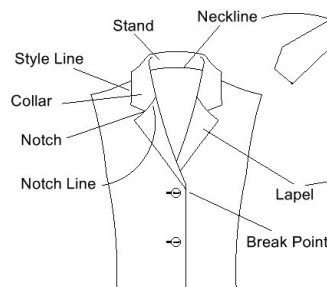


Fig: 2.1 Terminology

Since collars form a background for the face, great care has to be taken in designing collar styles, which suit the wearer.

2.3 Type of Collars:

There are four basic collar types:

2.3.1 Flat collar

2.3.2 Full roll

2.3.3 Convertible

2.3.4 Partial roll

A variety of collars can be developed from these basic collars.

2.3.1 Flat collar:

The length of the collar neckline should be equal to the length of the bodice neckline. A flat collar lies against the body and has no stand. However, a slight roll is produced so that the collar covers the neck seam line. Ex: Peter pan collars, which lie perfectly flat and has no roll at all. Flat collars however can be of any shape-square, pointed etc.



Fig: 2.2.Flat collar

a) Peter pan collar:

When the ends of flat collar are rounded, the flat collar is referred to as peterpan collar. The collar can be designed to have rounded ends at the front only or at the front and back if a separated collar is planned.

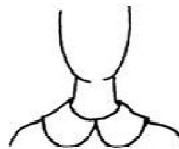


Fig: 2.3 Peterpan collar

b) Sailor collar:

The sailor collar is a flat collar with a V in the front and a square at the back.



Fig: 2.4 Sailor collar

c) Bertha collar:

A bertha collar is a wide, flat collar that extends to the shoulder or beyond to create a cape let effect. Often, a bertha collar is attached to a slightly lowered, round, or boat neckline with the bodice featuring either a front or back opening.

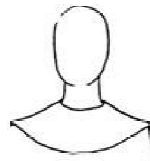


Fig: 2.5 Bertha Collar

2.3.2.Full-roll collar:

Full-roll collar has a full stand and fall at centre back with the stand tapering to nothing at centre front. The neckline edge of the full roll collar is a straight line these are always developed by drafting from bodice neckline measurements taken from the basic sloper. Garment neckline and the collar neckline are of same length.



Fig: 2.6 Full-roll collar

a) Basic full roll:

A basic full roll collar generally does not exceed 3-4 inches in width or the collar would stand up too high around the neck. The style line edge of a basic full roll collar is a straight line, although design variations may be introduced to the style line to create different effects.

b) Bias full roll collar:

The bias full roll collar has an equal amount of stand and fall encircling the neckline, which allows it to fit snugly around the neck. This collar sometimes referred to as turtle neck collar or rolled band collar.

2.3.3 Convertible collar:

A Convertible collar may be worn closed with the garment buttoned or zipped together at centre front, or opened to create a collar/lapel effect. The turned back, upper part of the bodice that begins above the garment closure is called a lapel.

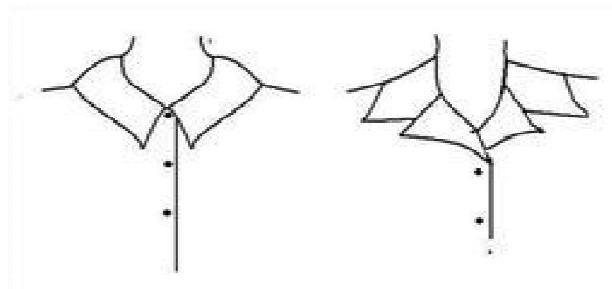


Fig: 2.7 Convertible collar

a) Mandarin collar:

The mandarin collar is a narrow, standing band usually 1 to 1/2 inch wide. Because the collar is narrow, it stands up and has no fall. It can be shortened to separate at centre front, lengthened to include a front button/buttonhole extension, or meet at centre front. In addition the front corners can be square or round. This collar can also be referred to as Chinese, Nehru or Military collar.

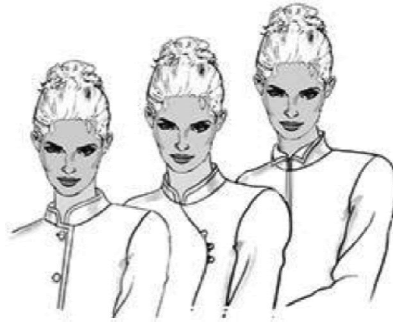


Fig: 2.8 Mandarin collar

b) Shirt collar with band:

The shirt collar with band is composed of two separate pattern pieces, the band and a collar section. A seam attaches the stand and fall of the collar along the roll line. The band or the collar stand is designed with a button/buttonhole closures.

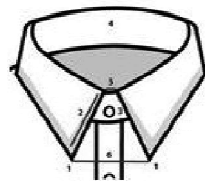


Fig: 2.9 Shirt collar

2.3.4 Partial roll collars:

The partial roll collar has a small stand at centre back with the fall being wider than the stand.

a) Shawl collar:

The shawl collar is a design in which the collar and the bodice front are cut as one and the collar sections are seamed together at centre back. When the collar folds over, the front of the garment rolls back to create a lapel. This collar always is worn open. The basic shawl collar is developed by attaching a full roll collar to the front bodice front.



Fig: 2.10 Shawl collar

2.4 Classification of collars:

Collars are classified according to their various characteristics such as

- Width of the collar
- Shape of its outer edge
- Shape of the neckline
- Roll of the collar

2.5 Designing collars:

Collars can be designed in various shapes and sizes to create variety. A simple collar design can be made to look decorative and individualistic by introducing suitable trimmings such as scallops, frills, tucks, gathers, smocking, buttons, laces, bows, ric-rac and embroidery etc. A collar may be cut out of material differing its colour, design, texture and grain from the rest of the garment to produce interesting effects.

For example, a printed dress may be designed with a plain collar or a plain dress with a printed collar, a white or light collar may be used on the dark coloured dress or vice versa etc. For a checked fabric the collar will be effective if it is cut on bias while the rest of the garment is cut on straight grain.



Fig: 2.11 Designing collars

2.5.1 Factors to be considered while designing collar styles:

- Design of the fabric
- Colour and texture of the fabric
- Pattern of the garment
- Purpose and use of the garment
- Sex and age of the wearer
- Appearance of the wearer

2.6 Introduction to yokes :

The construction of yoke pattern involves “cutting up” an important element in the designing. The front and back are divided or “cut-up into two sections: a “yoke” and lower part. The lower part under yoke can be easy fitting, close fitting or full and can have gathers, tucks, smocking, gauging and different kinds of pleats, folds and even draped effects.

Definition of yoke:

A yoke is a segment of a garment usually placed at the shoulders, above the waistline at midriff or below the waistline at hip.

There are two basic types of yokes:

- a) Midriff yoke
- b) Partial yoke

a) Midriff yoke:

Referred to as torso or waist yoke and is a good device for securing fullness over the bust and provides a smooth and trim fitting around the waistline.



Fig: 2.12 Midriff yoke

B) Partial yoke:

A yoke, which does not exceed across the entire garment is called a partial yoke.



Fig: 2.13 Partial yoke

Yokes are used for controlling and supporting fullness needed over the bust, chest, hip etc. To keep the upper area or the waist line of the garment trim and smooth. For decoration and may not have any fullness. The depth of a yoke is usually established by reference to the CF line and not to the armhole and it is marked as a proportion of the CF length. “Balance marks” have to be drawn across the yoke line to fix the position of the fullness under the yoke.

2.7 Selection of yoke design:

The yoke design used on the garment depends on various factors:

- Design of the fabric
- Design of the garment
- Purpose and use of the garment
- Sex and age of the wearer
- Figure and personality of the wearer

2.8 Creating variety in yoke design:

a) Variety in shape and size:

Yokes can be designed with various shapes such as square, round, straight line, scalloped, triangular and asymmetrical or panel yoke may be extended to the full length

of the garment. Sometimes the yoke may extend in to the sleeve, or it may extend only part of the way across the garment as in a partial yoke.

b) Variety in material and grain:

If the garment is of one colour, the yoke may be made out of a different coloured fabric, for a dark coloured the yoke may be of white or light coloured. A printed yoke on plain or vice versa would give a good appearance. With regard to grain, the yoke can be cut on bias and the garment on the lengthwise grain.

c) Designing decorative seaming:

The yoke can be joined to the body of the garment in a decorative way by insertion of ruffles, laces, binding or by faggoting-decorative stitches or topstitches using coloured thread.

Designing fullness decoration with the yoke:

The yoke can be quilted, embroidered, shirred, smocked, tucked or pleated.

2.9 Introduction to pockets:

Pockets are generally used mainly for utilisation purpose rather than for decoration. The chief purpose of pockets in women's clothing is to add design interest. They should be planned giving considerable attention to the design of the dress and figure of the wearer.

Appearance of the children's garments can be enhanced to a great extent by designing pockets of varied shapes, sizes and location with decorative details such as bias binding, lace, ruffles, tucks, pleats, applique, embroidery etc. suited to the design and the purpose of the dress.

2.10 Types of pockets:

There are three main types of pockets;

- a) Applied pockets
- b) Structural pockets
- c) Inserted pockets

a) Applied pockets:

As the name indicates, these types of pockets are sewn on to the garment usually with top stitching. Ex: Patch pockets, Pleated patch pocket with flap, Bellows pocket.

b) Structural pockets:

Form an integral part of the design. Ex: Front hip pocket, In-seam pocket

c) Inserted pockets:

These are inserted behind a slash in the garment. Ex: welt, bound pockets.

These pockets are also classified as:

2.10.1 Patch pockets:

These are attached to the outside of the garment and may be cut in the various shapes. Patch pockets may be furnished with a flap which holds it shut or for mere appearance. Sometimes flaps are used without any pocket, purely for decoration.

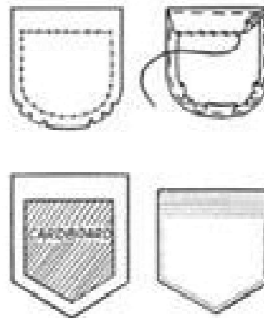


Fig: 2.14 Patch pockets

2.10.2 Set-in pockets:

This type of pocket is inside the garment with a slash of some types for its opening. There are three types of set-in pockets-bound, welt and flap. In the bound pocket each edge of the slash is finished with binding of even width. These bound edges are referred to as lips. The welt pocket has one wide lip called the welt extending above the pocket opening. The flap pocket has a flap or extension turned down over the opening.

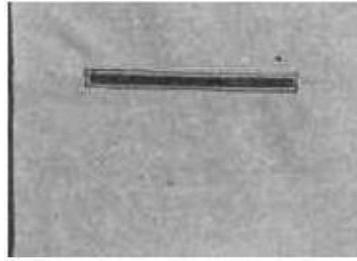


Fig: 2.15 Set- in pockets

2.10.3 Pocket set into seam:

Any type of pocket in which the opening falls along a seam line of the garment is referred to as “**pocket set into a seam**”.

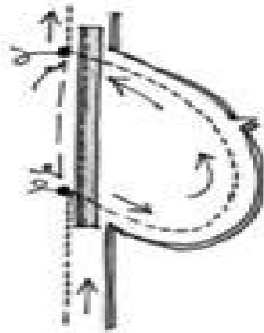


Fig: 2.16 Pocket set in to seam

2.11 Selection of pocket designs:

Pocket designs should harmonise with the design of the fabric as well as the design of the garment and its components (collar, sleeve, cuff etc) for the striped dress, the rectangular shaped pockets cut on crosswise grain and finished with bias edging is a good choice.

The sex and age as well as the figure and personality of the wearer should also be considered while designing pockets, scalloped and rounded pockets suits only for girl's dresses. For men's and boy's dresses straight line pockets are more suitable. For older women and stout women, inconspicuous designs such as set-in-pockets are advisable.

The pocket design should be appropriate for the type of garment, purpose and use of the garment. Simple straight line pockets are suitable for school uniforms and casual wear

garments, while conspicuous pocket styles with decorations and trimmings may be used on party wear dresses.

2.12 Creating variety in pocket design:

a) Variety in shape, size, location and number:

Pockets can be of varied shapes such as rectangular, triangular, heart shaped, oval shaped, scalloped, round etc. They may be placed at different positions in the garment. Pockets are generally used in pairs, but single pockets may also be used.

b) Variety in material and grain:

Interesting effects can be achieved by planning pockets, by using different material in colours, design, texture or grain from the garment material. Pockets can be made out of contrasting coloured material, printed pockets on the plain garment and vice versa. Pockets can also be cut on crosswise grain and finished with bias binding.

c) Variety in decorative details and trimmings used on the pockets:

The outer edge of the pocket may be finished with ruffles, bias binding, lace, decorative stitches etc. Decorations within the pocket in the form of applique, tucks, pleats, embroidery, patch work etc can also be done.

Summary:

The knowledge on pockets, collars and yokes is very important for one who undergoes designing courses. Collars are added to the garment neck edge to create variation in line, shape, colour or texture in order to enhance its appearance. A yoke enhances the beauty of the garments. A pocket is a bag or envelope-like receptacle either fastened to or inserted in an article of clothing to hold small items.

Short Answer Type Questions:

1. State the factors to be considered in selection of yoke design.
2. How to create variety in yoke design?
3. State the different types of convertible collars with illustrations.

4. State different types of flat collars with illustrations.
5. Define the terms roll line, break point and fall.
6. Define the terms style line, collar style and collar type.
7. State the factors to be considered while designing collar styles.
8. Define yoke and explain about types of yokes.

Long Answer Type Questions:

1. Explain how to create variety in pocket designs ?
2. Describe about types of pockets.
3. Explain how to create variety in yoke design ?



Grading

Structure:

- 3.1 Introduction
- 3.2 Definition of grading
- 3.3 Importance of grading
- 3.4 Principles of grading
- 3.5 Grading techniques
- 3.6 Method of grading
- 3.7 Grading procedure
- 3.8 Different types of grading techniques

Learning Objectives:

- After studying this unit, students will be able to understand:
- Grading different types of patterns
- Understanding the procedure of grading
- Use of correct measurements for grading
- Increase or decreasing the size of patterns from basic pattern

Unit Preview:

Grading is an interesting and creative skill, one can produce or develop patterns to desired size by taking prototype pattern of one size. The purpose of grading is, to proportionally increase or decrease the size of a pattern, while maintaining shape, fit, balance and scale of style details. The use of pattern grading is to make multiple sizes in less cost than making on individual pattern for each size garment.

3.1 Introduction:

In the present fast life, no one has time to give clothes for stitching and wait till they are ready. The needs of the consumer are instantaneous and on the spur of the movement. To satisfy such modern consumers, grading and sizing play an important role in garment making.

Grading is a process by which, a range of large and smaller sizes are produced from the sample pattern, using a proportional system of measurement. It will faithfully reproduce the design without loss of balance, line or fit.

3.2 Definition of grading:

It is a method of enlarging or reducing a pattern of a particular size proportionately to other sizes. The whole system of sizing is based on pattern grading.

Grading as per the sizing makes it possible to produce garments of different sizes in accordance with the requirement of the potential markets in term of both fit and distribution. These sizes make readymade tailoring different from the custom-made tailoring. Accuracy is essential or mistakes will magnify as grading proceeds. In general size ranges are known in 2” increases such as 32”, 34”, 36”, 40” and 42” It is possible to grade in one operation the six sizes mentioned but it is more usual and more accurate today to grade more than 3 or 4 sizes at a time.

3.3 Importance of grading:

It is very important to the ready to wear industry as it allows each manufacturer to produce a line of dresses of fitting a maximum number of women.

It is important to clothing retailer in that it provides him with a wide range of sizes in each style and this improved his market.

3.4 Principles of grading:

There is a direct relationship between the garment pattern and block pattern which is used as a basis for developing the pattern. This relationship also applies to the grading of garment pattern.

Basic grade, sizing ranges, size intervals and size chart should be clearly defined before the actual process.

The final result of grading a pattern is a reconstructed version of the original pattern in another size.

The movement of patterns during grading must follow the same network of lines in order to ensure accurate alignment throughout the range of sizes being graded.

The construction lines provide the axis for grading and they are determined in the following way.

The X-axis: for body and skirt grades, this would be a line on, or parallel to the centre back or the centre front. The x-axis for the other grades can be established from the true, straight grain direction.

The Y-axis: A line on or parallel to a major girth line such as a bust, waist or a hip.

Irrespective of how the axis is determined, they are always at right angles to each other.

The preparation of grading would require the marking of grading axes on each pattern, component and the position of the pattern in the most convenient position for grading.

For most components, a single X-axis would be sufficient for the origin of width grades whilst it might be necessary to have number of Y-axis for the lengths grades.

3.5 Grading techniques:

1. Manual grading
2. Nest or stack grading
3. Mark and cut
4. Vector grading
5. Machine grading
6. Computerised grading technology

3.6 Methods of grading:

Proper grading requires, firstly proper sizing. Sizing is a set of measurements which have been predetermined as representing certain theoretical body structures. Sizing is done by doing anatomical and anthropometrical research which in turn determines structural relationship between body parts.

There are two methods of grading:

a) **Shifting method:**

This method is extensively used in wholesale trade where the pattern is shifted from point to point to give required additional measurements.

b) **Second method:**

It is a good method for beginners and can easily be checked for accuracy.

Original lines: Common straight lines for all of the sizes to be graded from one component.

Two methods of choosing original lines:**Method-I:****Common external line:**

Where one edge of the component, usually parallel to the X-axis is common to all sizes. This is the most generally used method because it enables the grader to move in one direction only for upgrades and in the opposite direction for downgrades.

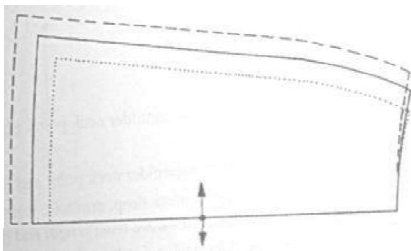


Fig: 3.1 Common external lines

Method-II**Common internal line:**

Where an internal line or location point is common to all sizes. This method is sometimes used when it is necessary to grade around a special feature in the pattern.

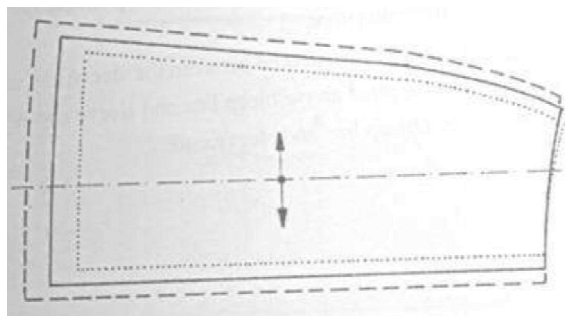


Fig: 3.2 Common internal lines

3.7 Grading procedures:

Pattern size ranges are mostly 5cms increments but some manufacturers require extra size per range, and allowing 4cm difference between sizes makes this possible. It is wise to establish the required increments between sizes before starting to grade.

To begin with a master pattern is to be selected (or the normal size possessed by the majority of the population) designed for a particular type of figure, which also has to be accurate as per the base size.

To plan the amount of increase per pattern piece, one has to remember that most patterns are cut on half. Therefore from CB to CF on a 4cm grade, the half increment will be 2cm, and this amount would be further divided between the half back half front patterns i.e. 1 cm on each quarter of the garment. For a proportionate increase in the overall size, the pattern has to be lengthened by $\frac{1}{4}$ " at shoulder level and the same at centre back. Further for each size increase, both the neck and shoulders have to be widened by $\frac{1}{8}$ " and the armhole by $\frac{1}{4}$ ". These general observations must be kept in mind when going through the detailed procedures of grading.

3.7.1 Grading the back bodice :

- Take a 32" size back bodice pattern without seam allowances and trace its outline on a large sheet of paper.
- Extend the CB line AIA by one inch and make four points at $\frac{1}{4}$ " intervals (these represent best sizes 32" to 40" at 2" interval) label the last point as A2.
- Mark C1" vertically above B and mark D $\frac{1}{2}$ " besides C. Connect BD.
- Divide BD into 4 equal parts, then connect these points to the points marked above CB line as shown.
- Draw DF parallel to the shoulder line to BE which is equal to **BE+ $\frac{1}{2}$ "**. **This will be the shoulder line for 40 size.** Connect F to E which is the original shoulder line.
- Divide EF into four equal parts and join them to the corresponding points BD by lines, which will be parallel to DF.
- **Draw a horizontal line LM from the underarm point and mark P as midpoint of AL. Draw PQ as shown and extend one inch outward and mark 4 points $\frac{1}{4}$ " apart.**
- **Extend bust LM and waist line A1 R and mark points $\frac{1}{2}$ " apart and connect all the points marked as shown.**

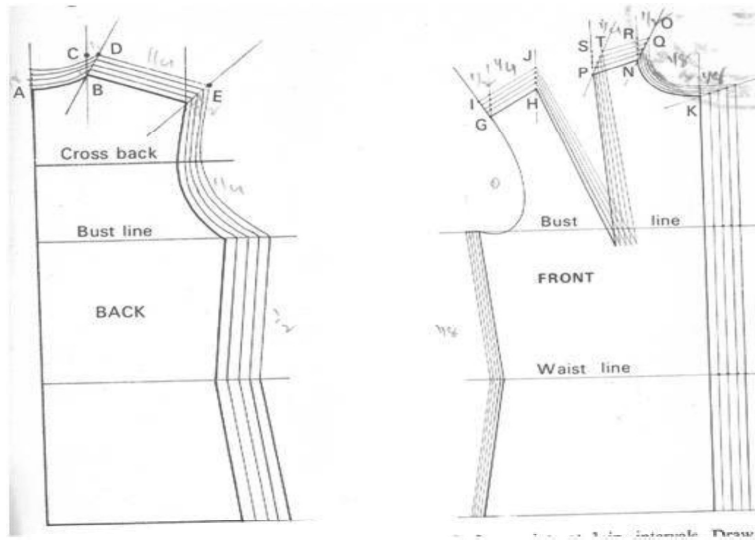


Fig: 3.3 Grading of basic bodice front and back

3.7.2. Grading the front bodice:

- Extend the bust line LM to N beyond CF for each size by $\frac{3}{8}$ and beyond side seam by $\frac{1}{8}$.
- Extend waist line AE beyond B and mark four points $\frac{3}{8}$ " apart. Label the last point as C.
- Connect CN and corresponding points and extend these four lines upwards to form the centre front lines of various sizes.
- Extend line AB beyond side seam to D marking four points of $\frac{1}{8}$ " each.
- Connect all the points on the side seam lines at both B & D
- On shoulder line, draw vertical lines upwards from G and H and mark four points at $\frac{1}{4}$ " interval. Mark the highest points as PQ respectively. On either side of the line PQ mark $\frac{1}{4}$ "th as IK and extend PQ line.
- Connect GI and HK. This is the angle for the shoulder increase. Rule shoulder lines in between size by connecting the points marked.
- Extend the centre front line by 1" and mark four points with $\frac{1}{4}$ " apart, Join GF with a curve for neckline. Similarly all points on line G and F for necklines of various sizes and extend the lines to meet the centre front lines.

3.7.3. Grading sleeve pattern:

- Trace the outline of the sleeve pattern on a sheet of paper. Extend line AB one inch each from B to B1 and A to A1. Similarly extend the centreline of the sleeve from C2 to C1. Mark points of 1/4" each on the extended line.
- Extend sleeve hem line EF beyond E and F by 1" each and mark off four points on the extended line of 1/4" each.
- Connect all the marked point all around the sleeve pattern for all four sizes.
- The outermost pattern is of 40 inch size, next one is 38, next is 36 so on.

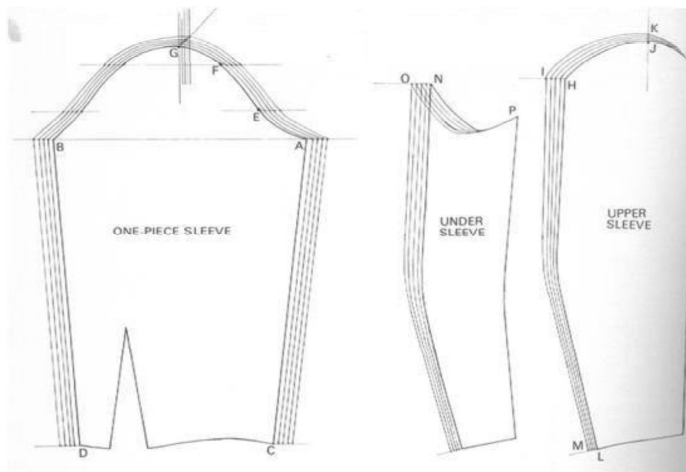


Fig: 3.4 Grading of sleeve block

3.8 Machines used for Grading:

a) Machine Grading:

A mechanical grading machine is employed. The machine is clamped to the edge of the table and the pattern is inserted into the spring arms and held in position by small pins. Pattern movement is effected by means of two knobs, one for movement along the x-axis and the other for y-axis. The grader controls the amount of movement by means of the calibrations along the track of each axis.

The advantage of using a hand operated grading machine is that eliminates the need to mark axis and increments both on the pattern and paper and thus reduce preparation time and improves dimensional accuracy. The disadvantage is, the machine is limited to movement

along the x-axis and y-axis. Grading elements requiring movements at different angles cannot be done in this method.

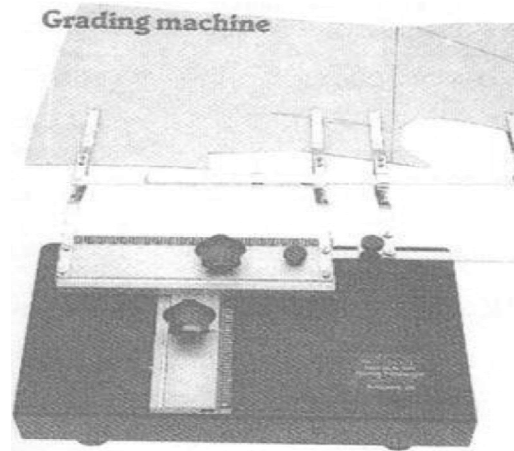


Fig: 3.5 Manually operated grading machine

b) Computerised grading technology:

Many manufactures are now using computerised pattern grading system. They are fast, more consistent, accurate and manageable than manual grading. However, these systems are only as good as the technicians operating them and it is essential that early planning is thought out clearly and related to the company's production

When a pattern is to be graded by computer, it must be accurate, with notches, grading points and other significant points marked clearly. The principle of computer grading is simple. A computer constructs diagram by using mathematical co-ordinates which can be recorded by placing the pattern on a digitizer which works as an electronic grid and records special points around the shape by means of a cursor. The centres of the cross hairs of the cursor are placed on the points to be recorded. When a cursor button is pressed, signals are sent to the computer which is translated into a numerical record of the shape and information for the piece.

Once a basic shape, its significance features and grading information is stored in the computer memory, a range of sizes can be graded and plotted out on to pattern paper or used to construct by plans for production markers.

It includes softwares like Accomack, Lectra CAD, Gerber CAD, Reach CAD and PDS systems etc. It comprises of plotter, digitizer, graphic display terminal, software etc.

Summary:

By going through this chapter one can know how to properly fit a pattern to a range of sizes, and how each pattern piece needed to be graded, or systematically increased or decreased. Today, pattern companies and apparel manufacturers take a middle-sized pattern and grade it up for larger sizes and grade it down for smaller sizes. It's important to remember that grading only makes a shape larger or smaller and isn't intended to change a shape. Grading also reflects the fact that individuals of different sizes are proportionately different, not uniformly different. When we grade up or down, we don't merely make everything equally larger or smaller.

Instead, we take into account that different body parts increase at different and proportional amounts.

Short Answer Type Questions:

1. Write in detail about computerised grading machine.
2. How to grade a sleeve pattern of 32 to 34 and 36 sizes?
3. List the different types of grading techniques.
4. Define grading and write about the methods of grading.
5. What is the importance of grading in industries?
6. What are the principles that are involved in grading?

Long Answer Type Questions:

1. Explain in detail about grading procedures employed for grading of basic front and back bodice.
2. Describe in detail about different types of grading machines.



Commercial sewing machines

Structure:

- 4.1 Introduction
- 4.2 Classification of sewing machines
- 4.3 Different types of sewing machines
- 4.4 Sewing machine shapes Learning objectives:

After studying this unit, students will be able to understand:

- Different types of sewing machines
- Advanced types of sewing machines
- Purpose of sewing machines
- Technological development in different sewing machines

Unit preview:

Sewing machines are invented during the first industrial revolution. Sewing machine is instrument used to finish all the commercial clothes we wear. Sewing machines could be divided into many subtypes. This chapter deals with different types of industrial sewing machines along with their uses.

4.1 Introduction:

The dominant process in the garment assembly is sewing. Much of the application of technology to clothing manufacture is thus concerned with the achievement of satisfactory sewn seams. A sewing machine is a machine used to stitch fabric and other materials together with thread.

Since the invention of the first working sewing machine, by English man Thomas Saint in 1790, the sewing machine has vastly improved the efficiency and productivity of the clothing industry.

The central process in the manufacture of clothing is the joining together of components-operations that all involve sewing in one form or another, although there are a large number of different categories of sewing machine, their actual sewing functions are all derived from the same component parts of sewing.

Industrial sewing machines, by contrast, are larger, faster, more complex and more varied in their size, cost, appearance and task.

4.2 Classification of basic sewing machines:

For the clothing industry there is a great diversity of regular and special sewing machines for sewing every conceivable type of garment and which enables clothing manufactures to employ specialized equipment for their own particular requirements. The sewing machine types used in clothing manufacture can be classified into the following levels.

Basic sewing machines:

Based on operator control there are three kinds of sewing machines:

a) **Manual control:**

The operator controls manually, all phases of sewing cycle. This machine is generally used by all small scale industries.

b) **Semi-automatic sewing machines:**

Machines in which the sewing phases of the operation is controlled automatically by the machine after the operator actuates the machine, such as button hole machines, bar trackers, button sewers, dart sewers and pocket sewers etc.

c) **Automatic sewing machines:**

In these sewing machines the operator merely loads a hopper in the machine with a stack of garment parts and the machine automatically picks, positions, sews, extracts and discards the sewed parts.

4.3 Different types of sewing machines:

Sewing machines can make a great variety of plain or patterned stitches. Based on purpose, there are seven industrial model machines are available in the market.

a) **Lock stitch machines:**

The main features of these machines are:

- Speeds of up to 6000 rpm with electronic controls which reduces the time required for acceleration and deceleration.
- Automatic positioning of the needle in an up or down position.
- Automatic clipping of top and bottom threads.
- Bar tacking mechanism actuated through the foot pedal or automatically by means of an electronic seam-end sensor.
- Programmable sewing sequence via a micro-processor for respective operations.

b) Over lock machines:

This is the generic name given to cover edge stitch machines used to trim and cover the rough edges of the fabric in order to present a clean and neat appearance where seam edges are visible. Over lock machines are also used for the assembly of some types of knitted articles such as T-shirts.

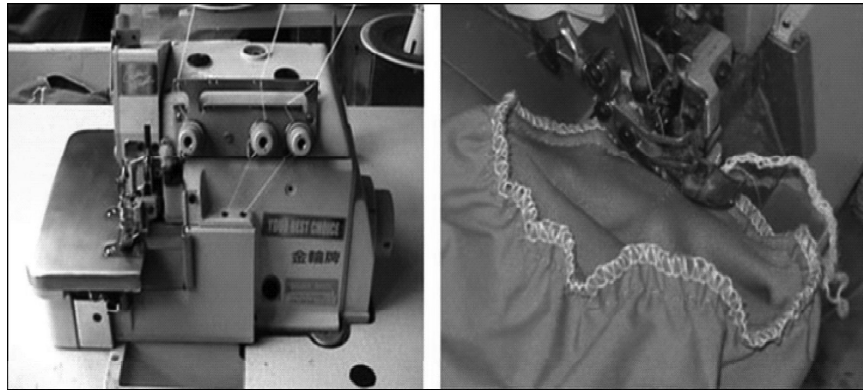


Fig: 4.1 Over lock stitch machine

The features of these machines are:

- Speeds of up to 8500 rpm
- Automatic thread clipping
- A vacuum system for extracting cloth waste and thread ends Variable feeds for sewing problem materials.
- Creating continuous or intermittent fullness on the top and bottom when joining two plies.

Over lock stitches are traditionally used for edging and light seaming. Other applications include:

- Flat-locking
- Edging emblems
- Pearl stitching
- Rolled hemming
- Decorative edging

c) Safety stitching machine:

Safety stitching machines have the same features as over lock machines and are used for the simultaneously seaming and over locking of many garments where there is no necessity for pressed open seam.

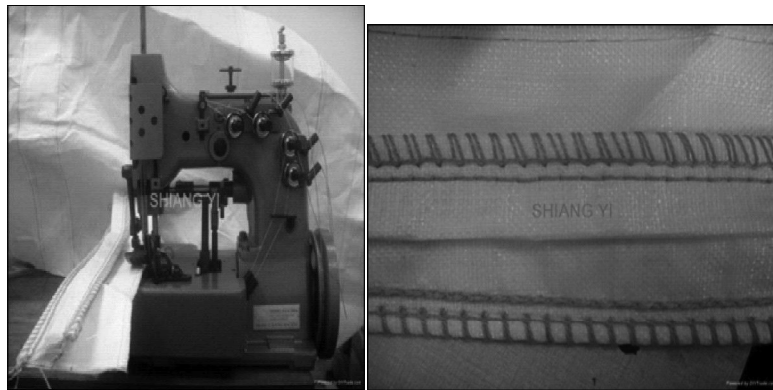


Fig: 4.2 Safety stitching machine

The features of safety stitch machine are:

With the four threads machine, over lock stitch is used as the bottom thread for the chain stitch.

On a five thread machine, each row of stitches has its own thread i.e. three for the over lock and two for the chain stitch.

d) Blind stitch machine:

These machines are used for fastening hems or facings as the name suggests, they perform this operation without the stitch impressions showing on the right side of the garment. This class of machine uses a curved needle which is designed to slightly penetrate the surface of the fabric but emerges on the same side as it enters.



Fig: 4.3 Blind stitch machine

Most of the blind stitch machines are fitted with an optional skip stitch device.

This device is used to catch the outside layer.

The special features are:

- Sewing speeds of up to 2000 st/min
- Automatic thread clipping.
- Automatic needle positioning.
- Pneumatic opening and closing of the work place.
- One or two thread versions are available and with the two thread machine the stitch is locked in order to prevent unravelling.

Uses:

- Hemming of the fabrics
- Sewing machines can make a stitch that appears nearly invisible by using a blind stitch setting and a blind stitch foot.
- Blind stitches are commonly used to finish hems of applique design on fabric.s

e) Button hole machine:

A button hole is a straight or shaped slit cut through the garment and then sewn round its edges to prevent fraying and stretching. The cut shape of the button hole and the number of threads used to cover its edges depend on the garment type and quality.

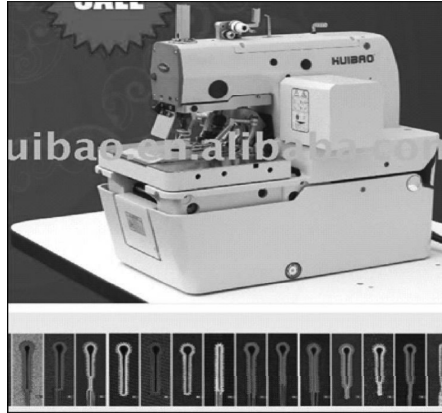


Fig: 4.4 Buttonhole machine

The features of button hole machine are:

- Where standard types of garments, such as shirts are being produced, the button holes are automatically sewn and spaced at pre-determined distance.
- The operator simply positions the work in the machine and starts the cycle.
- An unloading device removes and stacks the sewn work after completion of the cycle, which enables the operator to work on more than one buttonholing units at a time.

Uses:

Used for stitching different types of button holes on trousers, shirts and tailored coats and jackets.

f) Bar tacking machine:

The bar tacking machine has many applications in the clothing industry one of them is the sewing of a dense tack across the open end of a button hole.

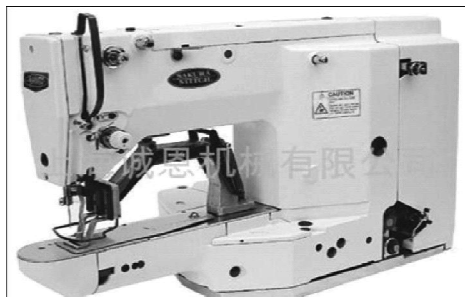


Fig: 4.5 Bar tacking machine

The machine sews a number of stitches across the end of the button hole and then over sews them at right angles with a series of covering stitches. Each machine sews fixed number of stitches with an option to change stitch density and machines are available which sew bar tacks containing from 18-42 stitches. Belt loops of trousers can also be bar tacked with these machines.

The main features of this machine are:

A mechanism, which signals audibly and visually when the bobbin thread is below a certain level.

- Automatic thread cutting
- 2-stage pedals which opens and closes the work clamp and also operates the machine.
- A brake wheel base, which enables the machine to be easily moved.
- Bar tacked machines are used for sewing small decorative tacks and shapes.
- Bar tacking is a type of reinforcement stitching used by the fabric and textile industries to fortify stress points in clothing, sporting equipment, uniforms and other products etc

Uses:

- Reinforcing areas of stress on a garment, such as pocket opening, bottom of a fly
- opening or button holes.
- In a Denim industry, it is often used in a contrasting colour such as orange or white.
- Bar tacking ensures that the seams will not fray or split while the equipment is in use.
- Bar tacking ensures durability of product.

g) Button sewing machine:

Buttons with two holes, four holes or shanks can all be sewn on the same machine by simple adjustment to the button clamp and the spacing mechanism. The sewing action consists of a series of parallel stitches whose length is equal to the spacing between the centres of holes. The needle has vertical movement and the button is

moved from side to side by the button clamp. Buttons can be sewn on with one or two threads.



Fig: 4.6 Button sewing machine

Generally decorative buttons will be sewn on with half the number of stitches used for functional buttons.

The features of this machine are:

- Each machine has a maximum number of stitched i.e. 16, 24 or 32 and can be adjusted to sew the full amount or half i.e. 8 or 16, 12 or 24, 16 or 32.

Uses:

Button sewers are most often used for attaching different types of buttons such as four hole, two hole and shank buttons to different articles of clothing.

h) Label sewing machine:

Variety of label sewers are available from those sewing simple zig-zag stitches to a pre-determined length on one or two edges of a label to sew around a wide range of shapes and sizes of label. A specially shaped cylinder bed machine is available over which the inside pocket of a jacket can be passed, enabling jackets to be labelled with a retailers label after the manufacturer.

Uses:

Can stitch different types of labels on to clothing

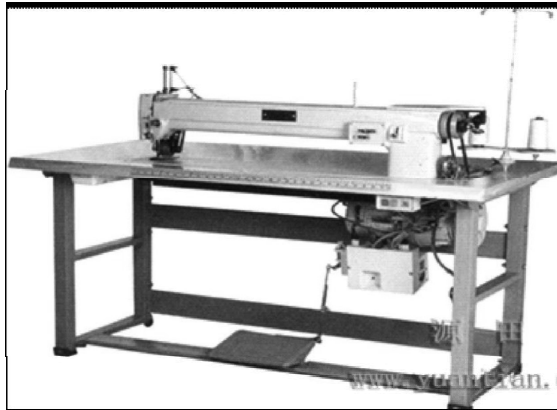


Fig: 4.7 Label sewing machine

Others:

A variety of other short cycle machines are available which can be used for attaching hooks, bars, metal badges. These may be programmable type of machines.

Uses:

Motifs and many other decorative and functional garment parts can be easily attached through these machines.

4.4 Sewing machine shapes:

In fashion manufacture, the machines are still predominantly used in their basic forms but for some specialized garments and those made in higher volume, variations in machine shape are available which enable easier movement of the materials around the machine. These variations primarily affect the shape of the bed of the machine, i.e. the part on which the material rests. The best-known version is the flat bed and the main alternatives are:

- a. Flat bed
- b. Cylinder bed
- c. Post bed
- d. Feed-off -The arm

The blind feeding machine is also a special shape and the over edge machines have no fabric space to the right of the needle.

a. Flat bed:

Is used in majority of sewing.

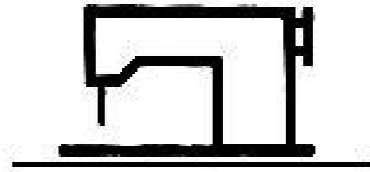


Fig: 4.8 Flat bed

b & c Cylinder and Post bed:

Cylinder and Post bed are used where the parts to be sewn are small, curved or otherwise.

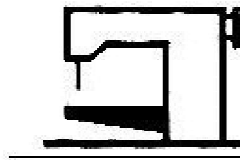


Fig: 4.9 Cylinder bed

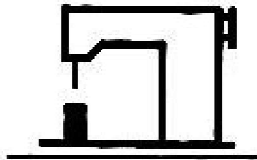


Fig: 4.10 Post bed

d. Feed-off-The arm:

Machine is used where a lapped seam has to be closed in such a way that the garment part becomes a tube. They are common in jeans production, where the outside leg seam is normally a lap-felled and it is joined after the inside leg seam in the sequence of construction.

The operator wraps the part to be sewn around the machine bed and is fed away off the end of the bed.

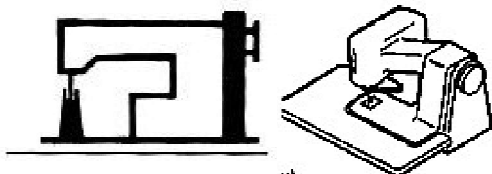


Fig: 4.11 Feed-off-The arm

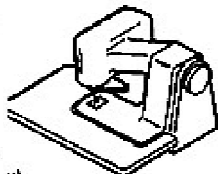


Fig: 4.12 Blind stitch



Fig: 4.13 Over edge

Summary:

Commercial sewing machines as the name suggests are used by industries for mass production of garments. The concept behind these machines is to reduce the skills input of the operator. Ideally the operator is only required to feed the machine rather than controlling the operation.

Short Answer Type Questions:

1. Classify the basic sewing machines.
2. Write the common features of different types of sewing machines.
3. Write about types of sewing machine shapes.
4. Write about features of button sewing machines.

Long Answer Type Questions:

1. Describe the features of lock stitch, over lock, safety stitch machines.
2. Explain the features of blind stitch, button hole and bar tack machines.



Production Process in Industry

Structure:

- 5.1 Introduction
- 5.2 Design/sketch
- 5.3 Pattern design
- 5.4 Sample making
- 5.5 Production pattern
- 5.6 Grading
- 5.7 Marker making
- 5.8 Spreading
- 5.9 Cutting
- 5.10 Sorting/bundling
- 5.11 Sewing/assembly
- 5.12 Inspection
- 5.13 Pressing/finishing
- 5.14 Final inspection
- 5.15 Packing

Learning objectives:

After studying this unit, the student will be able to:

- Know about infrastructure and the work flow of garment industry.
- Acquire knowledge about the raw materials, machinery and equipment required or used
- in an industry
- Various steps involved and equipment used for garment fabrication.

Unit preview:

Manufacturing or clothing technology is the generic name given to the technologies used for the manufacture of clothing. There is a great deal of homogeneity in these technologies because almost every type of garment goes through the same series of

main processes during its manufacture. This chapter gives the knowledge about work flow and machinery used in an apparel industry.

5.1 Introduction:

The main aim of this course is to provide a view of the technological advancements that have taken place, therefore the student is introduced to garment manufacturing technology i.e. about the infrastructure required, various departments of garment industry, machinery and equipment used for garment assembly and fabrication and other allied aspects of an industry. This knowledge helps the students to set up a unit or work in an industry.

In addition, computerised systems for all planning, control, administration and financial management have been introduced. Computer Integrated Manufacturing (CIM) became essential element in the infrastructure of clothing factories. Apparel production has become a more organized structure with categorization into various departments.

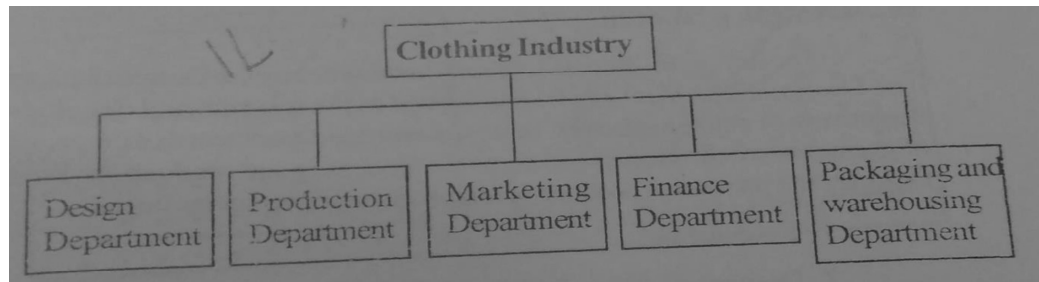


Fig: 5.1 Departments in Garment Industry

5.1.1 Design department:

The design department can be considered as the research and development of a clothing factory, because in this department proto type of garments are developed and prepared for selling and production.

5.1.2 Production department:

The production department has three major groups of functions-Manufacturing, service, control.

5.1.3 Marketing department:

The marketing department carries out three major functions, which according to the size and organizational structure of the company, may be combined or may be separate entities. The primary functions of this department are-Marketing, Merchandising and sales.

5.1.4 Finance and Purchase department:

The finance department is responsible for managing all the financial administrative affairs of the company and has a very important influence on many of the policy and commercial decisions taken by management. The financing of a company's operations require precise timely planning and central in order to ensure that adequate funds and credits are available when needed. The primary objective of purchase department is to obtain the right materials, in the right quality, at right time and price. As purchasing department and raw materials stores are operational departments, they are responsible to the operations manager and in management of finished goods, ware house is responsible to the marketing department.

5.1.5 Packaging and warehousing department:

The final group of operations in the production of clothing is to prepare finished merchandise for delivery to the customer. These operations come under the heading of material handling systems and are no less important than other systems used in the factory. The warehouse is an integral link in the manufacturing chain and should receive the same thought and planning is given to other production systems. Even before the goods reach the warehouse, the goods are packed.

5.2 Design/sketch department:

The designing process is mainly undertaken by the Design department. The design department can be considered as the research and development, because in this department the proto types of garments are developed and prepared for selling and production. For most factories the process of product development involves seven stages.

- Forecasting
- Designing
- Collection planning
- Pattern making

- Technology
- Production of sample garments
- Pattern grading

Forecasting commences with the evaluation and interpretation of the market's future needs in terms of fashion and price. These forecasts are based on the accumulated knowledge, expertise and experience of the company to make a fairly accurate prediction of the types of garments customers will buy and the prices they are willing to pay.

The designer starts by preparing some sketches of the core idea for the collection and selecting the fabrics and trims to be used for each design. The designs themselves can be hand drawn and coloured, or produced using a computerised design system. These systems are becoming widely used and provide the designer with a highly versatile and flexible tool for creating new design in the shortest time, which is ready to be used for the next stage of sampling process and collection planning.

5.3 Pattern design:

This function connects the design to production by producing paper templates for all the components, such as cloth lining and fusible, which have to be cut for a garment. Pattern making is a highly skilled technique. Industrial pattern making has two stages, the block pattern and the garment pattern.

5.3.1 Block pattern:

Is without any style features and incorporates the measurements proportions and posture of the body.

5.3.2 Garment design:

The styled patterns used for cutting the original sample garments can be developed by flat method or modelling or a combination.

The conventional methods of pattern construction are gradually replaced by computerized systems, which interact with pattern maker. Ex: Pattern Design Systems (PDS), Pattern Generation System (PGS). PDS systems convert the garment patterns when the pattern maker inputs the block patterns into the computer. When the pattern components for the top

cloth have been developed by the computer via PDS. The PGS automatically generates the patterns for auxiliary components such as linings and fusible.

5.4 Sample Making:

Sample garments are usually produced by a small unit supervised by the pattern maker or the designer. This is usually stitched on calico or muslin which is an inferior quality of fabric as it reduces cost. Sampling is a continual process during the development of new product. As each sample is approved, its cost must be accurately calculated in order to determine the selling price.

This sample is constructed to analyze the pattern fit and design too. After the sample garment is stitched it is reviewed by a panel of designers, pattern makers and sewing specialists. If any changes have to be made they are made at this time.

5.5 Production Pattern:

The pattern design is now taken for creating the production patterns. The production pattern is one which will be used for huge production of garments. The pattern maker makes the patterns on standard pattern making paper. These papers are made-up of various grades. The most important component, the tissue paper pattern, is made from the lightest and thinnest paper commercially available.

Garment patterns can be constructed by two means: manual method, CAD/CAM method. Today many companies have developed CAD/CAM because of the ease of designing patterns, fluency and precision involved which cannot be guaranteed with the manual method. Many buyers around the world prefer manufacturers who are using CAD/CAM methods. The production patterns created in CAD/CAM can be stored easily and they can be modified at any point of time. A Garment sewing pattern or pattern draft is developed by calculating and taking account of the following measurements.

- Direct sample
- Specification sheet/Measurement Chart
- Actual body size measurements
- Ease allowances
- Sewing allowance

These allowances are different for different type of fabrics and patterns

5.6 Grading:

The purpose of grading is to create patterns in different standard sizes. Grading a pattern is really scaling a pattern up or down in order to adjust it for multiple sizes. Pattern sizes can be large, medium and small or else there are standard patterns of size 10,12,14,16 and so on for different figure and stature sizes. This is generally how we get S M L XL XXL sizing. Pattern grading by manual method is a cumbersome task because the grader has to alter the pattern on each and every point from armhole to neckline, sleeve cap and wrist etc. Using CAD, it is much easier and faster.

5.7 Marker Making:

A marker is a diagram of a precise arrangement of pattern pieces for the sizes of a specific style that are to be cut from a single spread. Marker making is the process of determining the most efficient layout of pattern pieces. This requires time, skill and concentration. Use of computer in making helps improved accuracy, reduction in preparation time and increase in control of variables.

5.7.1 Types of Marker paper:

There are two types of marker papers available. They are

Spot and cross paper

1 to 5 paper

The grid markings on the marker paper help in positioning the patterns, in maintaining grain of pattern pieces and in spacing them out. This is very useful in making markers for stripes, plaid or dotted fabrics. The marker papers are made in varying widths of 24 inches to 96 inches and come in rolls of 50 to 900 feet long.

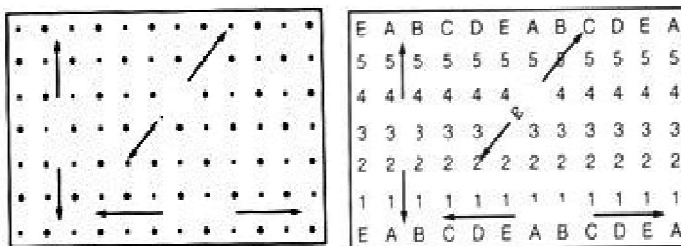


Fig: 5.2 Types of marker papers

5.7.2 Methods of marker planning and marker use:

The marker planner uses full-size patterns and arranges them in the most economical fashion on marker paper. This is a specially printed-paper having symbols on it which enable the marker planner to visually control the positioning of components according to their specified grain lines.

The full size patterns are reduced, generally to a 1:5 scale, to facilitate the work of the marker planner. The miniature patterns are then arranged on a planning board with the cloth width represented at the same scale. When the marker has been planned it is photographed and this is used as a guide for preparing the full sized marker.

Computerized systems are used and the marker planner works interactively with the system to plan the markers, which can then be used for manual or computer controlled cutting.

The markers can be produced on paper, which is fixed to the spread with pins or staples, or on an adhesive paper, which is heat-sealed to the top ply of the spread. For computerized cutting, the marker is held in the position by vacuum used to compress the spread and keep it stable. Multiple copies of the paper marker can be produced either from the first drawn marker plan or master marker.

The mixing of sizes in a marker, as opposed to cutting for a single size is termed as Scrambling. With scrambling there is a scope for fabric savings. The design department determines the fabric yardage needed for each style and size of garment.

Computer software helps the technicians to create the optimum fabric layout to suggest. So fabric can be used efficiently. Markers are laid in such a way that minimum possible fabric gets wasted during cutting operation. After marking, the garment manufacturer will get the idea of how much fabric he has to order in advance for the construction of garments. Therefore careful execution is important in this step.

5.8 Spreading:

This is a preparatory operation for cutting and consists of laying plies of cloth one on top of the other in a pre-determined direction and in relation between the right and wrong side of the cloth. The composition of each spread i.e., the number of plies of each is obtained from the cut order plan. A cut order normally specifies the quantity of each size & colour. Ex: 500

dozen blouses may include-200 dozen red, 200 dozen blue, 100 dozen green in sizes 12,14,16 & 18 in ratio of 2:4:4:2. A high lay generally gives a low cutting labour cost per garment.

5.8.1. The spreads can be of two basic types:

a) Flat spreads:

All plys are of the same length.

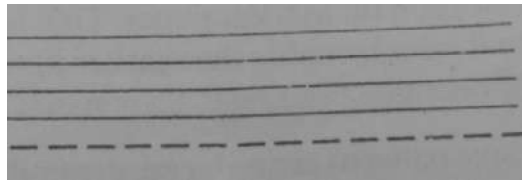


Fig: 5.3 Flat spread

b) Stepped spreads:

This is built up in steps, with all the ply in one step having the same length. A stepped is generally used when there is imbalance between the quantities to be cut.

The cut order plan details the colours and ply lengths for the stepped spread.

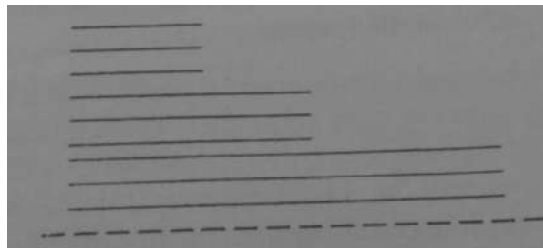


Fig: 5.4 Stepped spread

5.8.2 Methods of spreading:

The methods of spreading used in industry are:

5.8.2.1 Spreading by hand:

It is a time consuming process and requires an operator on each side of the table. The fabric is drawn from its package supported on a frame and is secured by weight or

clamp ensuring that there is no tension or wrinkles. Typical fabrics, which must be spread by hand, are checks, crosswise stripes, other regularly repeating patterns or a repeating design.

5.8.2.2 Spreading using a machine:

Classification of spreading machines:

1. Stationery spreaders-portable and fixed.
2. Travelling spreaders-manual, semi-automatic and automatic.

Spreading machines carry the piece of fabric from one end to other end dispensing one ply at a time on to the spread.

The basic elements consists of

- A frame or carriage.
- Wheels travelling in guide rails at the edge of the table.
- A fabric support.
- Guide collars to aid the correct unrolling of the fabric.

The operator clamps the free end of fabric in line with end of the spreader to the other end, cuts off the ply in line with that end, clamps the beginning of next ply and pushes the spreader to the other end.

5.8.2.3. More advanced machines include

- Bolt drive motor drive the carriage, a platform on which the operator rides.
- A ply cutting device with automatic catcher.
- An alignment shifter actuated by photo-electric edge guides
- Ply width-two photo cells on each side of the machine are indexed to the narrowest width of cloth.

Ply counters-preset counters enables to count the number of plies and the machine stops automatically.

Creases removal device-a perforated air blower system mounted on the exit line of the cloth directs fine jets of compressed air.

Pattern matching, an optical head is used to scan the pattern & information fed into a control unit synchronizing the lateral and lined movement of cloth.

Loading performed manually or mechanically with swivel arms.

Defect scanner-a VDU (Visual Display Unit) mounted on the side of machine digitizes the size and position by a projector type cursor.

Operator comfort-most motorized machines are equipped with a platform on which the operator can stand and sit while machine is traversing the table.

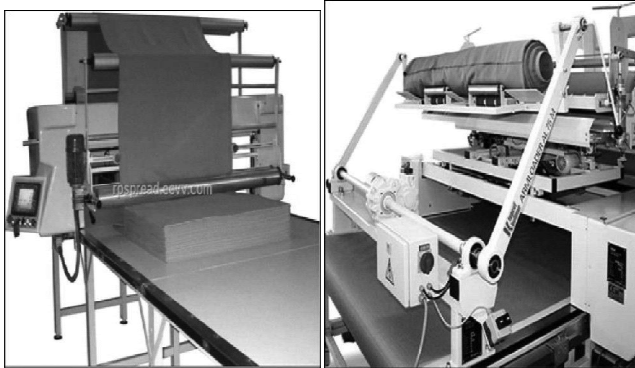


Fig: 5.5 Fully automatic computer controlled spreading machine



Fig: 5. 6. Semi-automatic spreading machine

5.9 Cutting:

Numerous attempts have been made over the years to develop methods of cutting cloth other than by means of some kind of metal blade. Today, in the majority of cutting rooms, the cutting process makes use of hand shears, a mechanized knife blade in one of several possible types, or a die press which stamps out the garment shapes. In all these methods, a sharp blade is pressed against the fibres of the fabric.

5.9.1 Importance of cutting:

As a unit the cutting room has a great effect on excessive manufacturing costs than any other department concerned with the actual production of the garments.

These excess cost can be divided in to two groups:

5.9.1.1 Internal costs: Those incurred at the cutting room itself:

5.9.1.2 External costs: Those incurred by other departments as a result of the malfunctioning of the cutting room.

The common factors between the two groups are efficiency and quality, each influence the other. Cutting is a major operation of the cutting room, when the spread fabric is cut into garments from the stand point of cutting stroke action.

5.9.2 There are three basic types of cutting machines:

- a) Continuous
- b) Intermittent
- c) Advanced types

5.9.2.1. The major continuous types are

- Rotary blade cutting machine
- Vertical blade reciprocating cutting machines Band
- knife machines



Fig: 5. 7. Round knife



Fig: 5. 8. Straight knife



Fig: 5. 9 Band knife

5.9.2.2 The major intermittent types are:

- Die cutters: clickers and presses
- Shears
- Cutting knives: short knives & table sword knives
- Notchers Drills

5.9.2.3 Advanced types are:

- Press cutting
- Die cutting
- Computerized cutting
- Laser cutting
- Plasma cutting
- Water jet cutting
- Ultrasonic cutting

5.10 Sorting/bundling:

The next group of operations is concerned with preparing the cut components for sewing and includes the following:

5.10.1 Position marking

5.10.2 Shade marking

5.10.3 Bundle preparation

5.10.4 Bundle tickets

5.10.1 Position marking:

When required, this operation marks components with guides for sewing and other operations. The mark itself can be a very small hole or a mark made by a chalk based liquid taken through the spread by the drill flutes.

5.10.2 Shade marking:

This operation ensures that components cut from different shades of the same colour do not get mixed up during the assembly process. Every component for one garment is marked with a unique number, usually printed on a small ticket which is struck on the component.

5.10.3 Bundle preparation:

Bundles of cutwork are prepared according to size, colour and quantities, their actual composition determined by the requirements of the sewing room. Ex: all the components for one bundle of garments can be packed into the one box or each of the major components packed in its own container ready to be issued to different preparation and sub-assembly sections in the factory.

5.10.4 Bundle tickets:

These tickets identify each bundle and in themselves play an important role in production planning and control for the sewing and finishing sections. The tickets themselves can be in alpha-numeric form or bar coded, and in both cases they can be computer generated.

5.11 Sewing/Assembly:

The dominant process in garment assembly is sewing. Much of the application of technology to clothing manufacture is thus concerned with the achievement of satisfactory sewn seams.

The sorted bundles of fabrics are now ready to be stitched. Large garment manufacturers have their own sewing units other give the fabrics on contract to other contractors. Stitching in-house is preferable because one can maintain quality control during the processing. On the other hand if contractors are hired keeping eye on quality is difficult unless the contractor is one who precisely controls the process.



Fig: 5.10 sewing or assembling operations

There are sewing stations for sewing different parts of the cut pieces. In this workplace, there are many operators who perform a single operation. One operator may make only straight seams, while another may make sleeve insets. Another two operators can sew the waist seams and make button holes. Various industrial sewing machines too have different types of stitches that they can make. These machines also have different configuration of the frame. Some machines work sequentially and feed their finished step directly into the next machine, while the gang machines have multiple machines performing the same operation supervised by a single operator. All these factors decide what parts of a garment can be sewn at that station. Finally, the sewn parts of the garment, such as sleeves or pant legs are assembled together to give the final form to the clothing.

5.12 Inspection:

Quality control is process of maintaining the given standards in the product from the design phase to the consumer's use of the product for the given life with the given conditions. For this, each company maintains certain quality standards in which open seams, wrong stitching techniques, non-matching threads and missing stitches, improper creasing of the garment, erroneous thread tension and draw edges or some of the sewing defects which can effect the garment quality and adversely. During processing, the quality control section checks each prepared article against these defects.

Most of the routine decisions will be made by the quality manager who will have an in-depth understanding of the company's products and will be highly conversant with customer's attitudes and requirements regarding garment quality.

The inspectors employed by the department work in various sections of the factory, each being responsible for a specific pre-production or production activity. They all report to the quality manager and not to be the managers or supervisors of the various sections or departments, because inspectors do not have direct control over production workers but act in a strictly advisory capacity. Responsibility for the quality of operations coming off a section belongs to the production supervisor or departmental manager, but they work closely with the inspection team to maintain standards.

5.13 Pressing/Finishing:

The next operations are those of finishing and/or decorating.

Over the last hundred years, pressing equipment has undergone considerable change. In 1890's men's suits were pressed with gas fed irons weighing as much as 20 lbs. Gas was fed by a rubber hose to the centre of the iron and then ignited to produce heat. With this system a presser could press 10 suits in a 10-hour day.

5.13.1 Types of pressing equipment:

Solid surface pressing equipment uses a firm surface to apply pressure while steam and heat mould the fabric, garment parts. Pressure may be applied through rolling action, gliding action or compression.

5.13.2 The basic processes that are involved can be divided into two groups:

a) Under pressing:

This is the term used to describe the pressing operations performed on garments they are made up.

b) Top pressing:

This refers to the finishing operation, which a garment undergoes after being completely assembled.

The various pressing equipment used in apparel manufacturing are as follows:

5.13.3 Classification of pressing equipment:

Since, the invention of the first mechanically operated pressing machine in 1905, there had been a never ending development of pressing equipment. Today one prominent manufacturer of this equipment lists over 500 different types of general and special purpose machines ranging from those for one simple operation to combination machines capable of performing every operation required for pressing a man's jacket. These machines are categorised in three major categories.

5.13.4 Solid Pressure Equipment (Pressing Equipment)

- Pressing Irons
- Buck Presses
- Mangle Presses
- Block Presses
- Form Presses
- Pleating Presses
- Creasing Machines: Edge folders

5.13.5 Moisture Pressure Equipment:

- Wetting Tanks: London Shrinkers & Auxiliary Equipment
- Sponging machines
- Steam Guns & Jets
- Steam Chambers
- Autoclaves

5.13.6 Heat Energy Equipment (Heating & Baking)

- Thermo Electric Machin
- Hot Plates
- Costing Equipment
- Dry Heat Ovens

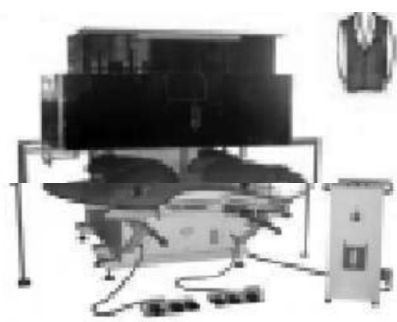


Fig:5.11 CarouselSystem



Fig 5.12 vertical pressing system

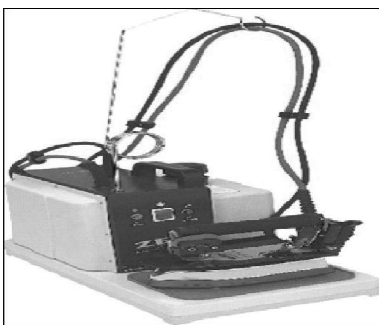


Fig:5. 13SteamIrons



Fig: 5.14 Steam Dolly's



Fig: 5.15 Pressing Cladding

5.14 Final Inspection:

For textile and apparel industry, product quality is calculated in terms of quality and standard of fibres, yarns, fabric construction, colour fastness, designs and the final finished garments. Quality control in terms of garment manufacturing, pre-scales and posts sales service, delivery, pricing, etc are essential for any garment manufacturer, trader or exporter. Certain quality related problems, often seen in garment manufacturing like sewing, colour, sizing or garment defects should never be over looked.

5.15 Packing:

The final group of operations in the production of clothing prepares finished merchandise for delivery to the customer. These operations come under the heading of materials handling systems and are no less important than other systems used in the factory. The warehouse is an integral link in the manufacturing chain & should receive the same thought & planning as given to their production systems.

The main sequence of operations in a finished goods warehouse is

- Receiving finished goods from the factory
- Checking quantities & sorting into styles, colour & sizes
- Storing the garments in pre-final locations
- **Allocating the garments according to customer's orders**
- Packing and preparing the garments for delivery to the customer
- Organizing the deliveries

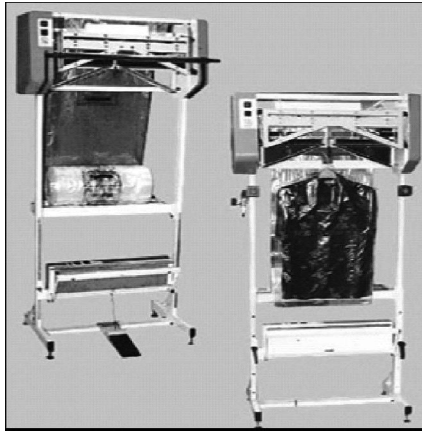


Fig: 5.16 Shirt Packing Machine

5.15.1 Packaging may have two major functions

- Distribution
- Merchandising

The distribution functions deals with packaging the apparel or allied product in a manner which permits the apparel manufacturers to ship the product at the lowest cost and in the shortest time to the purchaser, without diminishing the quality of the product.

The merchandising function deals with presenting the apparel product in a manner designed to stimulate consumer desire for the product.

5.15.2: Types of Package Forms:

The basic type of package forms used in apparel and allied products are bags, boxes, cartons, cases, crates, twines and wrappers.



Fig: 5.17 Different types of packaging forms

5.15.3 Types of packaging materials:

The basic packaging materials used for apparel and allied products are paper, plastic, film, wood, nails, staples, cords, gum tape and bands (metal).

5.15.4 Quality specifications for Packing material:

Quality specifications for packaging paper and film are similar to that of fabric. The basic quality factors in paper & films are:

5.15.4. a: Properties:

- Clarity
- Thickness
- Width and length
- Weigh
- Yield

5.15.4. b: Characteristics:

- Tensile strength
- Elongation
- Bursting & tearing strength
- Flammability
- Porosity
- Air/moisture permeability
- Sunlight transference
- Resistance to odours

Dimensional stability to heat and sunlight

Storage consists of putting the items to be warehouse in their designated are, in a manner which permits immediate location & retrieval of each individual item such as a bolt of fabric or a garment.

Summary:

Manufacturers are primarily engaged in the design, cutting and sewing of garments from fabric. Some manufacturers are contractors or sub contractors, who generally manufacture apparel from materials owned by other firms. Larger manufacturers often contract production to many such contractors or sub contractors in the U.S and abroad.

Some manufacturers are vertically integrated, producing the textiles from which they make garments, or even operating retail outlets too.

Short Answer Type Questions:

1. What are the methods of spreading?
2. Write about sewing/assembling operations.
3. State the classification of pressing equipment.
4. Write a short note on grading?
5. Draw the flow chart of various departments.

Long Answer Type Questions:

1. Write in detail about marker making.
2. Write in detail about the finishing and packaging equipment.
3. Write the importance of cutting and types of cutting machines.
4. Explain about sorting/bundling.
5. Describe in detail about packing.



UNIT- 6

Establishment of Garment costing and Garment Retailing

Structure:

- 6.1 Introduction
- 6.2 Garment costing
- 6.3 Components of garment costing
- 6.4 CMT (Cost of Making) Cost
- 6.5 Value added services
- 6.6 Methods of Costing
- 6.7 Garment retailing
- 6.8 6.8. The concept of Retailing

Learning Objectives:

- After studying this unit, students will be able to understand
- Outline the elements of a basic cost sheet of a garment
- Methods of costing
- Garment Retailing

6.1 Introduction:

Costing is the process of estimating and then determining the total cost of producing a garment, including the cost of materials, labour and transportation as well as the general expenses of the operating the business.

Merchandiser has to have thorough understanding of costing. There are several reasons where cost plays the vital role. Merchandiser does the costing mainly for two purposes.

Pricing the garment: If manufacturer selling the garments directly to the end consumers then it's very important to estimate the cost very accurately. Pricing of the garment can be done by

manufacturing cost added with estimated mark-up or profit % to it.

Order acceptance: If manufacturer is exporting the garment, the costing is based on the business. on the basis of cost of manufacturing including wages, operating expenses, transportation, freight charge and profit margin of company. Merchandiser claims the cost of unit garment. With this cost merchandiser negotiates with buyer and decides whether to accept the order or not.

6.2 Garment costing:

In order to do perfect garment costing, one must know about all the activities including purchase of fabrics, sewing, packing, transport, overheads, etc. and also about their costs, procedures, advantages and risk factors. Merchandiser must aware that there are always fluctuations in the costs of raw materials and accessories, charges of knitting, processing, finishing, sewing, packing, Charges of transport and conveyance. The method of making costing will vary from style to style. As there are many different styles in garments.

6.3 Components of cost of garment:

In continuation of the other functions, production merchandiser is also required to do the costing of the product. The costing is done by keeping in mind the cost of the various raw materials, operating cost of the company, the competition and expected profit of the organization. At the same time, it is necessary to keep in mind the buyers costing expectations.

The component on which cost of garment depends is as follows:

- Fabric
- Trims
- Cut make & trim charges
- Value added services-printing, embroidery,. Washing, applique-
- Testing of the garment
- Quality
- Transportation of the garment
- Profit of the manufacturing organization

All these components of garment cost depend upon certain parameters which drastically affects above cost parameters. These parameters plays vital role when production merchandiser does the costing of garment, as these parameters are very dynamic and keep fluctuating frequently.

The parameters that affect the garment cost mostly are Unit of Measurement, MOQ, incoterm decided between raw material vendor and garment manufacturer, order quantity, etc.

6.3.1 Fabric:

Fabric is generally the most significant factor in costing of garment. Fabric accounts for 60 to 70% of the total cost of basic-styled garments. In many cases, evaluating the quality and the quantity of fabric consumed in the garment indicates better than any other factor the cost of producing it. The cost of fabric depends upon the type of fabric is going to be utilised in the garment. Types of fabrics are

Woven/knitted fabric

- Power loom/automatic loom fabric
- Fibre/yarn/fabric dyed fabric
- Fibre content of fabric i.e. cotton, wool, polyester, silk, blended fabric etc.
- Type of dyeing and finish used

GSM/Weight of fabric.

Type of yarn used i.e. ring spun, open ended, or carded/combed etc.

The parameters that affect the fabric cost:

6.3.1.1 UOM:

Unit of Measurement (UOM) is a quantity used as a standard of measurement. The Unit of Measurement for woven fabric is normally in meters or yard, while knitted fabric measured in Kilograms or some time it is in yards also. Merchandiser should aware of unit of measurements while finding out the cost of fabric. Sometimes buyer specifies the UOM of fabric.

6.3.1.2 MOQ:

Fabric Minimum Order Quantity (MOQ) is nothing but the smallest quantity of a product that a fabric manufacturer can supply. The MOQ depends on the type of fabric and on capacity of vendor. The MOQ plays the important role while ordering the fabric as it directly affects the cost of garment. If the order of fabric is below the estimated MOQ then vendor charges more cost as compared to regular charges. Merchandisers need to keep the MOQ in mind while doing the costing of small quantity orders.

6.3.1.3 Order quantity:

The cost of fabric may vary with the order quantity, more the order quantity; cost of fabric can be optimised till certain level. But this is again depends on the type of fabric required and fabric manufacturer capacity along with negotiation between fabric buyer and supplier.

6.3.1.4 Incoterm used:

This factor makes the huge difference in fabric cost. While importing the fabric from another country, merchandiser need to deal with the supplier for delivery of the fabric on the basis of incoterms like EXW, FOB, CIF, DDP etc. based on which it will be decided that who will bear the cost of transportation and risk. No matter which incoterm is used but all the cost needs to be charged to buyer. If fabric is getting purchased by using EXW incoterm then merchandiser needs to add the transportation cost along with the custom clearance charges along with the price of fabric while calculating the garment cost.

The cost of fabric can be calculated by following way:

Yarn cost + fabric manufacturing cost (knitting or woven) + dyeing cost + finishing cost = total fabric manufacturing cost.

Dyeing cost indicate that if fabric is yarn dyed or fibre dyed or piece dyed respective cost will be added depending upon fabric type.

Finishing cost included heat setting cost, normal finishing, compacting (knitted fabric) etc.

6.3.1.5 Cost calculations of fabric in garment:

Considering the knitted fabric and t-shirt as an end product, then fabric consumption can be calculated as:

$$\text{Fabric consumption in kg} = \frac{(\text{Body length} + \text{Sleeve length} + \text{allowance}) \times (\text{Chest} + \text{allowance}) \times 2 \times \text{GSM}}{10000}$$

And for woven fabric and shirt as an end product, then the fabric consumption can be calculated as:

$$\text{Fabric consumption in Meters} = \frac{(\text{Full length} + \text{Sleeve length} + \text{allowance}) \times (\text{Chest} + \text{allowance}) \times 2 \times \text{Fabric Width}}{39.37}$$

These methods are used to calculate the fabric consumption roughly at sampling stage by merchandiser. These formulae will give approximate calculation for pre costing stage of the garment. Sometimes fabric consumption is also done by forming the miniature marker by CAD department.

6.3.1.6 Following are the constraints of fabric consumption:

- Fabric cut table width, repeat size, pattern type to be informed to the CAD along with buyer tech-pack in order to calculate exact width and consumption.
- The marker efficiency considered 80-85% depending upon the fabric type i.e. solid dyed, stripe, checks fabric.
- Efficiency can be changed depending upon the fabric parameters, matching parameters of the buyer, type of style.
- The buffer in the consumption should be added to the fabric by merchandiser, generally it is 0.03-0.08% of total fabric consumption.
- In case of trim fabric i.e. interlining 10-20% more buffers are kept while ordering the interlining, in order to maintain the inventory and to avoid the shortage during the production.
- Fabric wastage percentage to be added in calculating fabric consumption. Considerable wastage depends on factory practices, type of fabric and type of garment.

List of Trims and accessories:

SL	Trims	SL	Accessories
1	Label (S)	1	Poly bag
2	Button	2	Elastic bag
3	Zipper	3	Mini Poly bag
4	Padding	4	Master Carton
5	Interlining	5	Inner carton
6	Down	6	Size clip
7	Elastic	7	P. P. band
8	Thread	8	Tag pin
9	Twill Tape	9	Brass pin
10	Stopper	10	Collar stand
11	String/ Draw Cord	11	Safety pin
12	Piping Cord	12	Gum tape
13	Emblem	13	Arrow sticker
14	Logo print	14	Scotch tape

6.3.2 Trims:

Trims include all materials other than fabric used in the garment. For example most garments have accessories such as threads, buttons, zippers, labels, elastics and miscellaneous items. Quality and quantity of trim and labour required to apply it on garment are directly related to cost of garment. The different trims have different UOM; even same trim can have 2-3 different UOMs that can be summarised as

Table 1 UOM of Various Trims used in Garment

Trims	UOM
Thread	1000 meter tube, 2000/5000 Meter Cone
Labels	Unit
Zippers	Unit
Buttons	Gross (144 Units)
Poly bag	Unit , thickness is measured in mm. or gauge
Carton	Unit
Hand tags	Unit
Shanks	Gross
Rivets	Unit
Lace	50 Meter
Hanger	Unit
Tapes / Velcro	50 Meter or Kg.
Elastics	50 Meter

Other factors that need to consider while calculating the trims cost is MOQ, order quantity, lead time and quality of raw material used to make the trims.

6.3.3 Thread:

After fabric, thread is another component which needs to be considered for calculating the cost of garments most. The consumption of thread is calculated by IE department. It is dependent upon the type of seam and SPI (Stitches per Inch). While ordering the thread, the operation break down and number of sewing machines for that particular style should be taken into account. Accordingly number of cones of thread needs to be ordered. In order to calculate thread consumption special softwares are also available which gives the accurate thread consumption.

Sometimes thread can be computed as while preparing the sample, initial weight of thread cone is measured and after preparation of sample again weight measured. The difference of weight gives how much thread is consumed, and converting it into meters will give actual thread consumption for that particular garment. While ordering thread it's important to consider the wastage, normally which is 10-15%.

6.3.4 Labels:

Several labels are used in garment i.e. main label, care label, content label, the cost of label depends upon make of label i.e. fibre content, printed, jacquard label, size of labels, colours used in label, etc. For a unit garment label cost may not play a significant role but in case of mass production it plays vital role. The other factors that are important while ordering the labels are MOQ, order quantity.

6.3.5 Zipper:

Zippers also has several types like metallic zipper, nylon zipper etc. which play the drastic role in cost of zipper. Merchandiser should be aware of the parameters of zipper for accurate costing and negotiation. MOQ is the parameter which affects the cost of zipper considerably at certain MOQ only zipper will get at desired price.

6.3.6 Buttons:

Buttons can be made up of different types, nylon buttons, plastic buttons, acrylic based buttons, wood, shell, metal. Every type of button has its own MOQ decided by manufacturer of button. Buttons are purchased on gross with the line specified.

1 gross = 1 packet = 144 buttons = 12 dozens

6.3.7 Poly bags:

The cost of poly bag is highly dependent on thickness, dimension and raw material used. The poly bag ordered in terms of number of pieces. The cost of poly bag is equally important as it give significant difference when we consider the whole order quantity.

6.3.8 Cartons:

Same like poly bag cost of cartons are highly dependent on material used and dimensions. Depending upon these factors cost of cartons is decided, the UOM of cartons generally is number of pieces while cost varies with MOQ. These are procured based on the number of plies, dimensions of the carton and GSM of the paper used to make the carton. Generally the number of plies used in carton box is 3, 7 and 9 ply. For example: 9 ply, 60 X 40 X 40, 4 side calico, 1 side print and 180 GSM.

6.3.9 Hand tags:

Hand tags or price tags are used as packing material, the cost of hand tags are dependent upon material used, printing on it and MOQ.

6.3.10. Shanks and rivets:

Generally these trims are metallic. The cost of shanks and rivets are depends on the MOQ and material used.

6.3.11 Hangers:

Hangers are made up of generally hard plastics, sometimes wood, the cost of hanger is depend on material used, size, print and colour on it. Generally transparent hangers are more costly than coloured one.

6.3.12 Tapes and Velcro:

Tapes are purchased based on the width. Tapes are purchased in kg. Thus increase in width by 100% increases the cost by 80%. For satin tapes increase in width by 150% increases the cost by 250%. Another factor that affects cost is MOQ.

Trims charges are generally calculated as for the different type of sourcing and mode of obtaining them

Charges	In %
Rejection and wastage	2-5 % (depending upon order quantity)
Commission on foreign exchange	2-3%
Commission of buying house (if applicable)	1-1.5%
Transportation charges internally	1-2 \$/ garment
Margin (decided by marketing department by looking business scenario)	10-15%
Testing inspection charges	1-2%

Transportation.

If shipment is by air then the trim cost + 15-25% more cost is quoted to buyer, depending on the freight charges.

If shipment is by sea then trim cost + 10-15% more cost is quoted to buyer depending upon freight charges.

If domestic sourcing is there then, the local taxes. Transportation charges are bound to add in the total trim cost.

These additions are done by merchandiser, depending upon the business outlook. Other charges included during the costing by merchandiser.

6.4 CMT (COSTOFMAKING) Cost:

	Items	Consumption	UOM*	Rate (\$)	Amount (\$)	Remarks
1	2/60s single jersey	0.224	KGs	6.5	1.45	
2	Cuff and collar ribs	0.08	KGs	5	0.4	
3	Sewing thread	150	Meters		0.08	approx.
4	Buttons	3	Gross		0.04	approx.
5	Main label	1	Unit		0.02	approx.
6	Care label	1	Unit		0.02	approx.
7	Hang Tags	1	Unit		0.06	approx.
8	Price Tags	1	Unit		0.04	approx.
9	Poly bags	1	Unit		0.02	approx.
	Total Cost				2.13	

The cost of making done based on the total cost per hour multiplied by the number of hours it takes to make the style and divided by the number of units produced. If the making is done by a contractor, the contractor adds profit on to this amount.

Labour cost per minute = (Monthly salary of an operators/Total minutes available in the month) at 100% efficiency.

CM cost = (SAM of the garment * Minute cost of the labour)/Line efficiency (%)

6.5 Value added services:

This is cost added to special process like embroidery, printing, washing used to impart the type of look buyers wants. These are associated cost of garment manufacturing are wet processing chemicals, washing and contracted operations.

Wet processing chemicals include bleaches, detergents, softeners, neutralizers, wetting agents and resins. Complicated wet process finishes contribute a significant amount to the price of a product. Merchandiser must know in detail about each of these operations, sourcing, contracting requirement and time involved. Cost of these varies depending on different styles. For example-Embroidery costing requires derivation of thread consumption, additional cost of hand embroidery is involved etc. printing cost is dependent on no. of colours for printing, MOQ, and type of print.

Example of garment costing:

The example of garment cost is given by assuming the following dimensions for polo neck T-shirt

Chest = 60 cm, Length (HSP to waist) = 75 cm, Sleeve length = 25 cm

No. of pieces = 4000,

Salary of the operator = 6000 Rs./month

No. of working days = 26,

Line efficiency considered = 50%,

Sewing SAM = 15 min, Cutting SAM = 7 min.

Fabric used is 2/60s 100% cotton fabric.

GSM is 180

The fabric consumption can be calculated as:

$$\begin{aligned} \text{Fabric consumption in kg} &= \frac{(\text{Body length} + \text{Sleeve length} + \text{allowance}) \times (\text{Chest} + \text{allowance}) \times 2 \times \text{GSM}}{10000} \\ &= \frac{(75+25+2) \times (60+1) \times 2 \times 180}{10000} \\ &= 0.224\text{kg} + 0.08(\text{weight of cuff and collar}) \end{aligned}$$

CMT charges are calculated as:

Total available capacity per month (in minute) = 26

Working days * 8 hours/day * 60 = 12,480 minutes

Labour cost per minute = (Monthly salary of an operators / Total minutes available in the month) at 100% efficiency

$$= 6000 / 12480$$

$$= 0.480 \text{ Rs.}$$

Sewing cost = (SAM of the garment * Minute cost of the labour) / Line efficiency (%)

$$= 15 * 0.480 / 50$$

=0.288\$

Cutting cost = (SAM of cutting * Minute cost of the labour)/cutting efficiency (%)

= 7*0.480/50

=0.134\$

Trimming cost is considered as 0.06\$as it depends upon how many operators are there for trimming.

Production cost of garment (CMT) = sewing cost+ cutting cost + trimming cost

= 0.288+0.134+0.06

= 0.482\$

FOB cost of garment

Fabric cost + 7% duty	1.97\$
Trim cost + 7% duty	0.3\$
Fabric and trims transportation charges	0.06\$
Testing + inspection charges	0.2\$
Commission on foreign exchange	0.08\$
Buying house commission	0.16\$
Rejection 5%	0.16\$
Value addition services	0.2\$
CMT	0.482\$
Margin	0.5\$
Total FOB cost of garment	4.11\$

6.6 Methods of Costing:

These are Job costing, contract costing, batch costing, process costing, unit costing, operating costing, operation costing and multiple costing.

6.6.1 Job Costing:

Costs are collected and accumulated for each job, work order or project separately to analyse the cost according to each job.

6.6.2 Contract Costing:

When the job is big and spread over long periods of time a separate account is kept for each individual contract.

6.6.3 Batch Costing:

A Batch may represent a number of small orders passed through the factory in batch. Each batch is treated as a unit of cost and separately costed. It is an extension of job costing.

6.6.4 Process Costing:

A separate account is opened for each process to which all expenditures incurred thereon are charged so that cost per unit at each process can be ascertained.

6.6.5 Unit Costing:

Here the cost per unit of output and the cost of each item are ascertained. The manufacture is continuous and units are identical.

6.6.6 Operating Costing:

It is used to ascertain the cost of services rendered. Example: Transport undertakings.

6.6.7 Operation Costing:

This takes into consideration the rejections in each operation for calculating input units and cost. It refers to conversion cost from raw material to finished products.

6.6.8 Multiple Costing:

It represents the application of more than one method of costing in respect to the same product.

6.7 Garment Retailing:

Retailing is the set of activities that the products or services reach to the final consumers for their personal or household use.

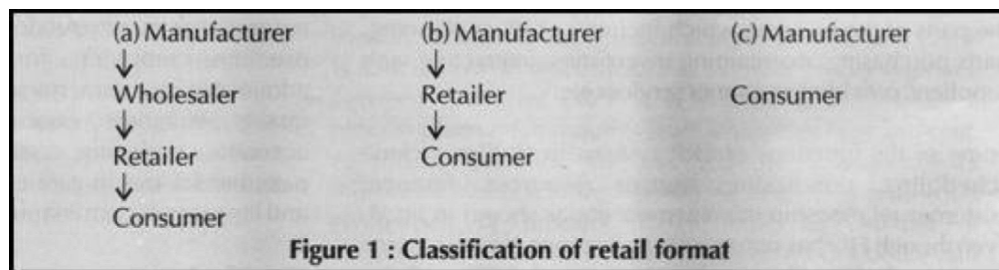
Retailing consists of sale of goods or merchandise from a fixed location, such as department store, boutique, or by mail, in small or individual lots for direct consumption by the purchaser. Retailing may include subordinated services, such as delivery. Purchasers may be individuals or businessmen. Business men buying in bulk either directly or through a wholesaler for resale is known as retailer in commerce language. Retail establishments are often called shops or stores. Retailers are at the end of the supply chain. Manufacturing marketers see the process of retailing as a necessary part of their overall distribution strategy.

6.8. The concept of Retailing:

The term "retailer" is also applied where a service provider services the needs of a large number of individuals such as a public utility, like electric power.

Retailing includes all the business activities involved in selling goods and services to the final consumers for personal, non business use. It is the final step in the distribution of merchandise for consumption by the ultimate consumers.

Some of the most common distribution channels for retailing to ultimate consumers are:



6.8.1 Customer orientation:

The retailer determines the attributes and needs of its consumers and endeavours to satisfy them to the fullest.

6.8.2 Co-ordinates efforts:

The retailer integrates all the plans and activities to maximize efficiency.

6.8.3 Value-driven:

Retailer offers good value to the customers, whether it is upscale or discount. This means having appropriate prices for the level of products and customer service.

6.8.4 Goal orientation:

Retailer sets goal and then uses its strategy to attain them. Apparel retailer include department stores, mass merchandisers, speciality stores, national chains, outlets, online stores, mail-order companies and discount and off-price stores.

6.8.5 Here's a breakdown of the jobs in apparel retailing:

- Sales associates and cashiers: 65 percent.
- Office and administrative support personnel, such as stock clerks, order fillers and customer service representatives: 17 percent.
- Management, business and financial operations personnel such as department and store managers, buyers and merchandise managers: 3.5 percent.
- The rest of apparel retailing jobs are in other areas such as security, information technology and transportation.

Many jobs in apparel stores are part-time. During busy periods such as holidays and the back-to-school season, long hours are typical and even buyers and managers can't take time off.

6.8.6 Successful specialty apparel stores focus such as:

- Bridal
 - Exercise and fitness
 - Handbags
 - Hosiery, lingerie and underwear
 - Maternity
- Petite
 - Plus Sizes
 - Swimwear
 - Women's and junior's
 - Women's shoes

However, the industrial competitiveness has posed many challenges for the organized garment retailers in this sector. The retail challenges for organizing garment retailing are Sourcing challenges, Location challenges, Environmental challenges and Customer challenges.

Some of the major retailers in industries are Reliance Retail, Tata Group, Nilgiris, Subhiksha Trading Limited, Trinethra, Vishal Group etc. These retailers have collaborated with many national and international retailers like Wal-Mart, Tesco, and Metro etc. to harvest the profits.

Supply Chain Management (SCM) enhances organizational competitiveness by integrating the internal functions within a company and linking them with the external operations of suppliers, customers and other channel members. The organizations need to master the challenges of speed, convenience and reliability. It may help to reduce costs, increase productivity and reduce risk to gain competitive advantage.

The main focus of SCM is an operational cost, time, response, customer services, or profitability or margins and improvement in service levels and reduction in costs to improve organizational performance. It incorporates logistics as a key supply chain focused on function and effective supply chain management and purchasing practices are associated with competitive capabilities of the firm and it has more significant effects on firm performance. The intense market competition and changing customer preferences have made the retailers job difficult and challenging.

Summary:

Production merchandiser is responsible for doing the costing. Hence knowledge of costing is must for merchandiser. Apart from costing knowledge, merchandiser must be aware of fluctuation of cost of different components of garment, time to time. The costing is very dynamic process. Hence, merchandiser should be very careful while negotiating the cost of garment with the buyer. Sourcing is common practice globally in garment business, production merchandiser is playing buyers role for fabric/ trim manufacture on the other hand, he/she plays suppliers role for garment buyer. Production merchandiser must take care of both roles, when it comes to cost as well. Garment retailing is a sunrise industry in India. There's a lot of competition in the apparel market place. Still, as long as people are interested in looking good, apparel retail will be a corner stone of the industry. The major role of a retailer is to collect an assortment from various sources and act as the contact between manufacturers, wholesaler and the consumers.

Short Answer Type Questions:

1. Define the terms costing and retailing.
2. Explain the methods of costing.
3. What is CMT cost?
4. Write about value added services.
5. List out some of specialty apparel retail stores.

Long Answer Type Questions:

1. Explain any four components for costing of garment.
2. Explain the method of cost calculation for fabric in garment costing.
3. Explain about garment retailing.



Quality Control

Structure:

- 7.1 Introduction
- 7.2 Importance of quality control in the garment industry
- 7.3 Quality control department
- 7.4 Product standards-specifications & Quality control
- 7.5 Use of specifications
- 7.6 Writing specifications for Apparel Manufacturing
- 7.7 Phases of Apparel Specification Department

Learning Objectives:

After studying this unit, student will be able to understand:

One can get information about quality maintenance in the apparel industry, quality inspections that were monitored in the apparel industry and how quality is maintained from purchasing of raw material till packaging of goods.

Unit Preview:

Quality may be defined as the level of acceptance of goods or services. For textile and apparel industry, product quality is calculated in terms of quality and standard of fibres, yarns, fabric construction, colour fastness, designs and the final finished garments. In India different garments factories follow different quality control and management systems especially different inspection systems for garment inspection. This unit refers to the quality control processes as well as quality management procedures followed by different garment factories.

7.1 Introduction:

Quality control is the process of maintaining the given standards in the product, from the design phase to the consumer's use of the product for the given life with the given conditions. Quality control by the name is basically a systematic regulatory process which:

- Establishes standards appropriate to the quality objectives of the company
- Has techniques for measuring the degree of conformity to these standards
- Uses statistical methods for analyzing the significance of deviations from these standards
- Reports on the findings of the analyses and when necessary, recommendations and follow-up on corrective procedures.

The word “quality” itself is a concept and implies a degree of excellence, the nature of , the nature of which is dependent on the reasons for the garment being purchased. A term very often used to describe the quality characteristics of a garment which together provide the reason for purchasing it is fitness for purpose” and A.J Chuter has defined as

- Quality of design
- Quality of conformance
- Quality of delivery and service

7.2 Importance of quality control in the Garment Industry:

It is important to maintain a level of quality for every industry or business to get increased sales and better name amongst consumers. Especially for the business engaged in export business has to sustain a high level of quality to ensure better business globally. Companies who are into export business hold the prestige of the country, and due to this generally quality control standards for export are set strictly. It becomes mandatory to have good quality control of their products as export houses earn foreign exchange for the country. In the garment industry quality control is practiced right from the initial stage of sourcing raw materials to the stage of final finished garment.

In this industry, product quality is calculated in terms of quality and standard of fibres, fabric construction, yarn, surface designs, colour fastness and the final finished garment products. The quality expectations for export are related to the type of customer segments and the retail outlets.

There are a number of factors on which quality fitness of garment industry is based such as performance, durability, reliability, visual and perceived quality of the garment. The national regulatory quality certification and international quality programmes like ISO 9000 series lay down the broad quality parameters based on which companies maintain the export quality in the garment and apparel industry. Quality needs to be defined in terms of a particular frame work of cost. Hence some of main fabric properties that are taken into consideration for garment manufacturing for export basis.

- Overall look of the garment
- Right formation of the garment
- Feel and fall of the garment
- Physical properties
- Colour fastness of the garment
- Finishing properties
- Final produced garments presentation

7.3 Quality Control Department:

Most of the routine decisions will be made by the quality manager who will have an in depth understanding of the company's products and will be highly conversant with customer's attitudes and requirements regarding garment quality.

The inspectors employed by the department work in various sections of the factory, each being responsible for a specific pre-production or production activity. They all report to the quality manager and not to the managers or supervisors of the various sections or departments, because inspectors do not have direct control over production workers but act in a strictly advisory capacity.

Responsibility for the quality of operations of a section belongs to the production supervisor or departmental manager, but they work closely with the inspection team to maintain standards.

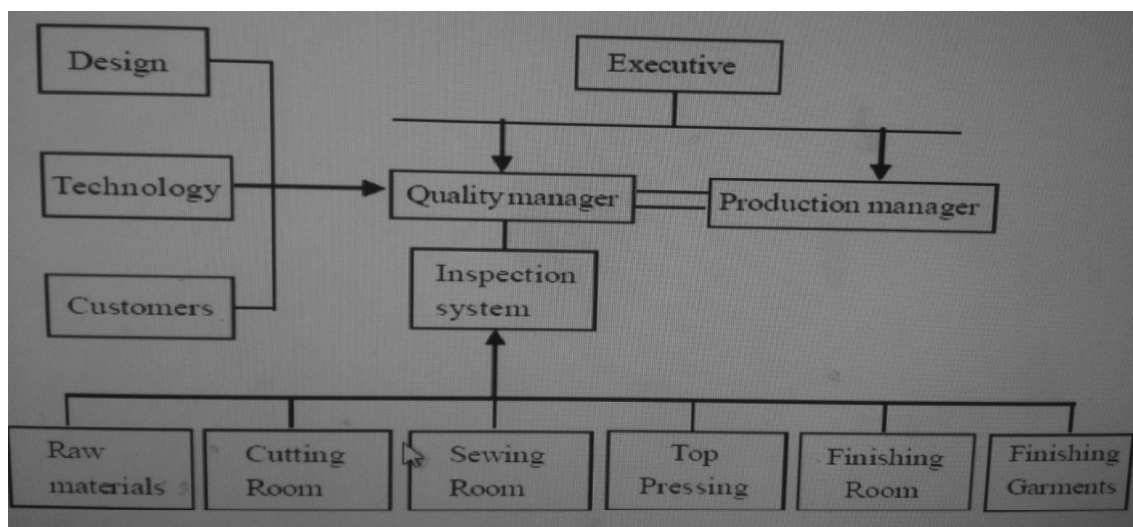


Fig: 7.1 Quality Control Departments

7.3.1 Quality checking:

a) Quality Audit:

The work passed by inspectors is also subjected to audit by means of a random sample drawn at specified intervals from the work passed by each inspector. The objectives of the audit are two folds:

1. To ensure that a minimum of faculty work is being let through.
2. To verify whether the specified standards are being interpreted correctly by the inspector.

b) Quality Monitor:

This can be considered as high-level audit performed at a management level, and takes place at regular intervals of say once a week. A random sample of latest production is taken from the finished goods warehouse and collectively appraised, with discussion on overall quality. Alternatively, discussions made can lead to an agreement on the use of a new or different process technology, which could improve existing quality without an increase in cost. Quality monitors provide managers and technologists with regular and up-to-date feedback regarding the overall effectiveness of their own sphere of operations.

c) Quality Circles:

These are similar to monitoring session but with the participation of the section or line supervisor, the operators and quality control personnel. They are responsible to meet the quality achievements of the unit over a particular period.

Quality is everybody's business in clothing factory starting from design and follows the garment until it is hung finally or stored in the retailers shop. This is called "Quality Chain".

7.4 Product standards-specifications & Quality Control:

Apparel manufacturers and retailers establish standards for quality, fit and performance for the products they produce and distribute.

Standards are a set of characteristics or procedures that provide a basis for resource and production decisions, standards are used to guide product development,

selection of materials, production methods and finishing techniques. Standards reflect the quality level and quality characteristics that are important to a firm's target customers and incorporate a firm's need to make a profit while meeting consumer expectations.

Standards are used in developing specifications for each style in a firm's line. Specifications are brief written description of materials, procedures, dimensions and performance for a particular style. Specifications are used to communicate standards and provide control of products during production.

7.4 .1Sources of Product and Quality Standards:

There are at least four different sources of product standards: company standards, industry standards, national standards and international standards. International standards are important for doing business in global environment. The ISO- International Organization for Standards is comprised of the national standards bodies from 91 countries. ISO has developed a set of standards for quality system i.e. ISO-9000 that is required for quality certification. ISO-9000 is a set of five individual but related international standards on quality management and quality assurance.

7.4.2 Standards for quality, fit and performance:

Quality standards are part of firm's "Standard Operating Procedure" and production planning. Standards reflect the overall intrinsic quality level the firm seeks to achieve. The fundamental purpose of using standards is to provide consistency between products and product lines. Quality standards may affect the costs, intrinsic quality, materials used and methods of production.

7.4.3. Size and Fit standards:

Using basic blocks for style and pattern development provides a basis for consistency among sample sizes for a variety of styles. Grade rules provide consistency in size variations from the standard fit of the sample size standards are needed for particular processes to maintain consistency of fit throughout production.

7.4.4 Performance Standards:

Two types of performance standards used in product development

1. Standards related to the performance of materials
2. Standards for performance of finished products

An apparel company make decisions based on its interpretation of the performance level expected by the consumer. Product performance standards must meet the needs of both consumer and the firm involved in the production and distribution of the merchandise. Materials and products are tested to verify that quality, fit and performance standards are met. The consumer is often concerned with performance related to aesthetics end use and care of a finished product.

7.5 Uses of Specifications:

Once a firm establishes quality, fit and performance standards, specifications for individual products can be developed to be sure that standards are maintained. For some firms, specifications are the result of intense study, testing, examination and integration of information from many sources within and outside the firm.

For each style, specifications are prepared that provide control over acquisition of materials, their performance characteristics and the production processes required to make the finished production. Performance characteristics of materials that might be specified include wrinkle resistance, colourfastness and dimensional stability. Production processes that are usually specified include types of seams and stitches, machine settings and processing sequence.

Specifications are a means of:

- Communication specific product descriptions
- Developing product consistency
- Negotiating bids and contracts

7.6 Writing specifications for Apparel Manufacturing:

Both manufacturers and retailers develop specifications for the products they produce and buy. There is a wide range in the specificity of information presented on a spec sheet.

Product specifications include:

7.6.1 Merchandising:

- Fashion and colour forecasting
- Styling of garment for specific target groups
- Pattern alterations
- Pattern graded by size
- Continuing supply of sample garments and materials

7.6.2 Marketing:

- Advertising, marketing and promotional strategies
- Sales training
- Market research
- Display designs and programs for retail stores

7.6.3 Materials:

- Material samples and colour cards
- Material costs
- Material usage
- Material specification and characteristics
- Suppliers listing
- Laboratory evaluation of materials
- Dye formulas and instruction on dyeing processes
- Inventory control

7.6.4 Equipment & Production Processes:

- Work place diagrams and layouts
- Machinery requirements
- Quality evaluation and control
- Assistance in training personnel
- Supplies of machines and attachments
- Information about patenting
- Research and computer applications
- Updates on machinery and production
- Ware housing and distribution techniques

7.7 Phases of Apparel Specification Development:

Specifications are development in phases as a product begins to evolve and take form. Specifications are often general at first and evolve in greater levels of specificity, as the requirements for a product need to become definite and exact.

General specifications are based on the line plan summary and initial sample making and evolve into different phases.

- a) Design specifications
- b) Style specifications
- c) Engineering specifications

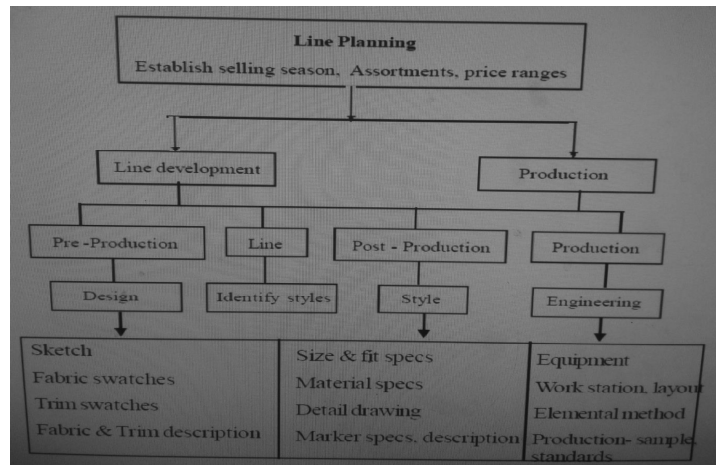


Fig: 7.2 Line planning

7.7.1 Operations of Quality Control Systems:

For the majority of clothing factories, quality control is an in-built function and some of the principles governing its operation are-Design & standards.

Design:

Garment design involves quality frame work of each garment in the collection, which is to be built-up at the design and sampling stage so as to ensure that it can stand up to the basic quality criteria of the company and its customers. Some aspects of this quality frame work are- patterns, fabrics and trims, pattern grading, patter in general, technology.

Standards:

A standard is a specification, which sets out the criteria for acceptable quality and covers all the characteristics that can accurately be measured. Specifications can be drawn up to cover raw materials, operations, garment measurements, etc. Each specification includes plus or minus tolerance to the central measurement and this defines the range within which the quality is acceptable.

There are two types of specifications:

- a) General: These apply to all garments produced by the factory or to specific categories. Ex: all garments must have country origin labels in the designated positions or the nylon bags for individual hanging skirts must be bottom sealed 10 cm below the hem.
- b) Specific: These relate to particular factors and cover materials purchases and all the manufacturing processes including cutting, fusing, sewing, pressing and finishing. In addition, storage and transport conditions are specified so that the garments arrive at the warehouse or shop in mint condition.

7.7.2 Inspection:

Where standards exist, inspection routines must be operated to check whether the item or operation meets the specified range of acceptable quality. Inspection procedures can be of two types or a combination of both.

100% Inspection:

This involves the inspection of every single item or operation, which has been selected for inspection.

Sampling:

This is a more sophisticated technique based on the “ Law of Regularity”, which states that a sufficiently large sample taken at random will exhibit similar characteristics to the whole group from which it was drawn.

Summary:

Knowledge about the quality control is very important for students who are planning their career in apparel industries because quality plays an important role in apparel industries. In the garment industry quality control is practiced right from the initial stage of sourcing raw materials to the stage of final finished garment. For textile and apparel industry, product quality is calculated in terms of quality and standard of fibres, yarns, fabric construction, colour fastness, surface designs and the final finished garment products. However quality expectations for export are related to the type of customer segments and the retail outlets.

Short Answer Questions:

1. Write about importance of quality control in apparel industry.
2. What are the uses of specifications in apparel industry?
3. What are the methods of quality checking?
4. What is the difference between standards and specifications?

Long Answer Questions:

1. Explain about specifications for apparel manufacturing.



Family Clothing, Budget and Wardrobe planning

Structure:

- 8.1 Introduction
- 8.2 Definition of a family budget
- 8.3 Benefits of budget
- 8.4 Family expenses
- 8.5 Clothing budget for a family
- 8.6 Clothing expenditure of a family
- 8.7 Divisions of clothing budget
- 8.8 Wardrobe planning
- 8.9 Tips for shopping

Learning Objectives:

After studying this unit, student will be able to understand:

Definition of a family budget

- Benefits of budget
- Family expenses(annual or monthly)
- Budget planning
- Clothing budget for a family
- Clothing expenses for the family
- Divisions of a clothing budget
- Wardrobe planning
- Tips for shopping

Unit Preview:

Clothing is an essential part of any annual family budget. The family budget means listing of the expenses and incoming money on month to month basis. In budgeting one must consider the size of the family, its income, needs of the family and locality where the family lives.

For a budget to be workable, income should be adequate enough to meet the prioritized need of the family. Anyone can put together a basic wardrobe even on a limited budget. By shopping for and selecting certain classic pieces, we can have an all purpose, stylish wardrobe that will suit all our fashion needs.

8.1 Introduction:

A budget is generally a list of all planned expenses and revenues. It is a plan for saving and spending. A budget is an important concept in micro economics, which uses a budget line to illustrate the trade-offs between two or more goods. In other terms, a budget is an organizational plan stated in monetary terms.

8.2 Definition of a family budget:

A family budget is the main tool used to manage personal finances and save money. A family budget can be simple or detailed, depending on **one's** need for track ones income and expenses for an entire month to make a family budget.

8.3 Benefits of budget:

Budget helps one to achieve one's spending and financial goals, other benefits are as follows

➤ **Keeping track:**

Budget allows one to track one's monthly expenditures so that one can plan key savings strategies for important short and long term goals.

➤ **Limits one's spending.**

A budget will identify expenses that can be cut so that one can set goals on making important long term savings.

➤ **Discipline oneself:**

One's goal is to rid oneself of instant gratification (the symptom of credit card use).

The budget sets guidelines on what and when items can be purchased.

Setting goals :

Budget supports one's financial goals, which may include: saving for one's first home, paying down debt, preparing to go to school, planning for retirement.

Good budgeting skills add these goals into the budget.

8.4 Family Expenses:

In budget "cash in flow" needs to be greater than " cash out flows "Monthly or annual family expenses in each of fourteen different categories including food, alcoholic beverages, housing , clothing, transportation, health care, entertainment, personal care, reading, education, smoking or tobacco, other expenses, contributions, insurance and pensions.

8.4.1 Budget planning:

Sitting down and making a family budget. The effort and thought one put into one's budget can help relieve stress and enable one to manage one's money more efficiently. Learning to budget for one family is the first step towards smart financial management.

Step-I

List one fixed expenses. Include mortgage or rent payments, electricity, cable, food, phone, insurance, loan payments and transportation costs.

Step-II

Look through one's past 12 months of expenses. Write down any expenses that are paid annually. Magazine subscriptions, pest control fees, car registration fees, membership dues and other such expenses. Add these together and divide by 12 to obtain the average monthly cost of these annual fixed expenses. List this result on one's monthly budget sheet

Step-III

Write down one variable monthly expense on one sheet. List the cost of clothing, entertainment, restaurant meals and other variable expenses for both adults and children. Remember to look over the past year and include expenses that do not occur every month, such as school fees, purchasing of gifts etc.

Step-IV

Compare the total monthly expenses to monthly take home income. Note whether the expenses are greater or less than the income. Examine each budget category and decide if one needs to reduce that expense. Involve children in the discussion if they are old enough.

Step-V

Rewrite monthly budget with adjusted figures. Prepare for unexpected expenses by setting up an automatic transfer system with one bank to establish or build a savings account. Budgeting helps establish the habit of saving money. Encourage children to save part of any money that they receive.

Step-VI

Decide the person responsible for keeping track of monthly budget. Rotate the responsibilities occasionally to ensure that both of them understand the income and expenditure pattern, frequent communication will enlighten the budget plan.

Step-VII

Set up an envelope system to break any credit card habit one may have. Commit to paying cash for as many expenses as possible. Pay the fixed expenses before calculating how much money one has left for variable expenses. Put the budgeted amount of cash in an envelope designated for each variable category expense, such as entertainment, clothes, restaurant meals, coffee and gifts. Once the money in that envelope is gone, do not make any additional purchases for the month in that category.

Tips and warnings:

Use budgeting software to streamline the process. Stop using credit cards and pay off any outstanding balances. Establish savings accounts for children. Open a vacation or holiday fund to help save for those expenses. Consult with a trusted friend or adviser concerning any financial difficulties.

8.5 Clothing Budget for a family:

Clothing the family can be an expensive endeavour, especially with the growth spurts that children go through so often when they are younger.

Restrict oneself from impulsive buying. Hold one self to the rule of buying clothes only if one or one family absolutely need them. Purchase new items of clothing, wisely. It is best to invest in a few staple pieces that match existing pieces in one's wardrobe and can be worn in variety of styles.

Take advantage of end-of season clearance and buy out specials, especially on big ticket item such as winter coats. One can easily find discounts of 75% or more on winter clothing at the end of March or April and summer clothing at the beginning of August and September. This can be a bit trickier for younger children because they out grow things so quickly, but for teenagers and older children one can find significant savings.

Consider setting up a schedule for purchasing new clothes and make sure children are aware of the new ruling. It makes sense to shop in the late summer for new school clothes and proper fitting shoes for the fall-repeat the process in the spring. Before going to shopping for new clothes, have one family go through their closets and remove clothing that they no longer wear or outgrown.

Creative thinking and flexibility are the keys to keeping one family budget intact. These tips will help one stick to strict clothing budget and save money for more important things.

8.6 Clothing expenditure of a family:

The family consists of father, mother and two children. The father sets aside part of his income for life insurance and savings with the hope that he is providing for future emergencies.

Because well-balanced meals are required for health and physical growth, a large part of the family's income must be spent for food.

In addition there are such items as operating expenses for the home, church/temple and charity contributions, doctor's bills, recreation and education which a normal family included in its spending. If these are provided for, this family on a moderate income cannot afford to spend more than approximately eight or ten percent on clothes. In some instances the father spends more for clothes than the mother. In others the reverse is true. In this case let us assume that the mother spends more. Most girls of high school age need more clothes than boys of eleven.

8.7 **Divisions of clothing budget:**

The largest division of the budget is outer clothing, which includes wraps and dresses. Shoes and hose generally rank next. This is not difficult to understand at a time when stockings are so sheer that they do not last long. The following figures compiled for the clothing expenditures of several hundred higher secondary school girls show how the expenditures may vary in the different divisions of the clothing budget.

Different divisions	Percent (%)
Outer garments	48 to 54
Under garments and sleeping garments	8 to 13
Shoes and hose	18 to 27
Accessories	4 to 8
Sport clothes	0 to 4

Table: 1 Divisions of clothing budget

8.8 **Wardrobe planning:**

A wardrobe is a standing closet used for storing clothes. In recent days wardrobe became modern invention. Latest cupboards and lockers with hanging spaces, shelves and drawers, evolved slowly in modern wardrobe.

The purpose of wardrobe planning is first to create a list of outfits that quickly allows one to pick one's clothes for the day with a minimum of effort and to invent ones wardrobe to be able to eliminate unnecessary items and to more easily purchase items missing from the wardrobe. This process can be fairly time-consuming but one will find that this one time investment of a few hours will pay off enormous dividends in time, money and sanity.

Using the components in the wardrobe inventory, make a list of the outfits one has. Organize the outfit list in any manner that makes sense to one but it might be easier to start with one item and build every outfit one can think of around that skirt.

Once one are done with the outfit list it can either be typed up or re-written if necessary to make it more organized. Then post the list inside the closet door or some place that's easily accessible.

When one has some time, go ahead and create those new outfits and add them to to the list. Be sure, however, to create a new outfit with any new clothes one buy and add it to one list. And, when shopping clothes, buy items that will build a new outfit rather than end up unworn in the back of the closet.

Limiting the colour palette to one's wardrobe to 3 to 4 main colours will add sophistication to one's look and make clothing easier to combine. Only purchase clothing in colours that flatter your skin, hair and eye colour if you are finding it difficult to determine which colours suit you best, consider obtaining professional advice from a colour consultant. Before buying, check how potential purchases look on you under natural lighting if possible, as store lighting can be deceptive.

Layering pieces and accessories bring your wardrobe to life. For example, a white shirt on its own is simple and elegant but lacks personality adding texture using pieces such as a vest, a waist belt or beautiful statement necklace will create individual style. Layering short sleeve and long sleeve tops under short sleeve/sleeve less top and dresses create different looks and extends one's wardrobe.

8.9 Tips for shopping:

Go shopping with a list of pieces to purchase that will enhance existing wardrobe and stick to it.

Consider taking some of you own pieces (including shoes and accessories if necessary) with you to try with potential purchases.

Check clothing colours in natural lighting if at all possible.

Check store return policies before you buy

Wear clothing that is easy to change out of

Only shop with friends and family whose style you admire

Remember that store lighting, mirrors and sales staff can be deceptive

If it does not make you look and feel wonderful and combine with at least 3 other pieces in your wardrobe, put it back.

Use seasonal trend pieces to give your wardrobe a lift and further increase the possible combinations.

A key idea is to start thinking of your wardrobe as a collection and treat it well.

Approximately cleaned, ironed, repaired and correctly hung clothing will last longer and give you greater pleasure.

Summary:

Every family must also know how the family income is budgeted. Through budgeting, family members learn to spend money wisely, thus saving money which could be used for other family needs. Resources such as time, energy and utilities are also well maintained when income is budgeted. Every family member has different clothing needs. The activities and family status in the family must be considered.

Short Answer type questions:

1. Define family budget.
2. List out the categories that come under family expense.
3. Write briefly about clothing expenditure for the family.
4. What are the divisions of clothing budget?
5. Explain briefly about the tips for shopping.
6. State the benefits of budget.

Long Answer type questions:

1. Write in detail about budget planning.
2. Describe about wardrobe planning.



COMMERCIAL GARMENT TECHNOLOGY

Paper – II

Fabric Embellishment

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Embroidery

Structure

- 1.1. Introduction
- 1.2. Materials
- 1.3. Selection of fabrics and threads
- 1.4. Techniques of transferring designs
- 1.5. Beginning and ending of embroidery stitches.
- 1.6. Types of embroidery stitches

Learning Objectives

After studying this unit, the student will be able

- To acquire knowledge about creating embroidery designs.
- To learn different hand embroidery stitches
- To plan, design and stitch according to fashion / need.

1.1. Introduction

Embroidery is the embellishment or the art or handicraft or decoration done on woven or non-woven fabric with needle and thread or yarn to increase the beauty of the fabric. In embroidery different types of stitches which are known by special names such as cut work, smocking, thread work etc., It also incorporates other materials, such as pearls, beads, mirrors, metal strips sequins etc., Proper selection of design colour combination, threads and accessories if any are required, is more important to get the better outlook of the finished product.

1.2. Materials required

1. Embroidery fabrics
2. Embroidery threads – cotton silk threads, silk threads and synthetic threads
3. Embroidery hoops (frames)
4. Embroidery needles
5. Embroidery scissors
6. Thimble
7. Needle threader

1.3. Selection of fabrics and threads

Tightly woven, smooth surfaced fabrics are suitable for embroidery. Medium weight fabrics are suitable for embroidery other weight fabrics from cotton, silk and synthetic if the threads used are not heavy. Fabrics having evenly spaced surface pattern that supplies guidelines for certain kinds of embroidery such as cross-stitch are also suitable.

Threads from cotton, rayon and silk are available in the market. Mercerized cotton threads are easy to work with, and produce brighter effect. Zari thread is also employed for enriching the embroidery. The threads used for embroidery should always be colourfast to avoid staining on the fabrics and also fading.

1.4. Techniques of transferring designs

Transfer of an embroidery design on fabric is done in a variety of ways.

1.4.1 Direct drawing method

Drawing free hand with the help of a pencil / water soluble pen on the fabric directly is the easiest method for transferring the embroidery designs. It is better to keep the fabric stretched on the embroidery hoop while drawing the picture. Direct method can be used conveniently on organdy, georgette, voile etc.,

1.4.2 Carbon paper method

Different colours of carbon papers are available in the market. Keep the fabric on a hard, flat and smooth surface. Place the carbon paper on the fabric keeping the carbon side down and place the design paper also on the carbon paper. Pin the design papers for preventing it from moving. Trace the design with a pencil firmly but gently. Light coloured paper is used for dark coloured fabrics and dark coloured papers for light coloured fabrics. Carbon paper method is suitable for marking smooth fabrics only.

1.4.3 Using Tracing sheet

In commercial hand embroidery this method is much preferred. Repeated motifs are very often traced using this method. A stiff tracing butter paper is used. Using a sharpener or awl prick along design lines of pattern. Keep the holes close together. For quick pricking, use sewing machine. Remove top and bobbin threads and set stitch length 8 stitch along the design lines.

Position pricked design, right side up on the fabric and pin along all edges. Using a small felt pad, gently rub chalk powder over pickled holes. Remove patterns carefully to avoid smudging of the powder. Use a sharp pencil to connect dots that form design outline.

1.4.4 Final tips

- Be careful not to reverse your design when tracing or transferring / particularly for text.
- There is the possibility of marks not erased fully or coming back. So do test your chosen method.
- The texture and thickness (and colour) of fabric will dictate which transfer method to use.

1.5. Beginning and ending of embroidery stitches

Embroidery stitches should never be started by knotting the thread on the wrong side. It should always be started with a back stitch, so that it is laid permanently. At the end, it can be ended either by back stitch or the threads and layer can be knotted together

1.6. Types of hand embroidery stitches

1.6.1. Stem Stitch

This is a line stitch used for outlining designs especially stems and leaves. It can also be used for filling small designs by working several lines side by side. Work should be done from the bottom upwards each time taking a stitch almost vertically down but with a slant. While working the stitches the thread should be held down with your thumb away from the stitching line.



Fig 1.1 Stem Stitch

1.6.2. Chain Stitch

It can be done side by side to fill large shapes or can be used to work single lines. Work the stitches towards you starting from the top of the line. Bring the thread out to the right side of the fabric. Insert needle in fabric at the same point, holding the thread down with your left thumb. Bring the needle point out a short distance ahead and pull it through keeping the working thread under the needle. The result is a loop. In starting next stitch remember to insert the needle just inside the loop. Magic chain, twisted chain, open chain are some of the variations of this stitch.

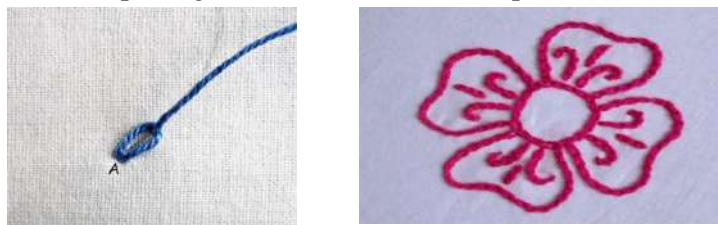


Fig 1.2 Chain Stitch

1.6.3. Feather Stitch

It is similar to blanket stitch, but the stitches slant towards a center line from either side. First mark a line lightly to indicate the center line. Working from top to bottom bring needle out at the beginning of the marked line. Hold the thread down along the center line starting from the right of the line take a stitch with the needles slanting down wards and bring it out on or near the center line with the thread held under. Pull the needle through and take the left stitch from the left of the line with the needle slanting down to the right.



Fig 1.3 Feather Stitch

1.6.4. Satin Stitch

This is a filling stitch used to cover regular or irregular shaped spaces. Bring the needle out at the starting point on the right side and take a stitch carrying the thread across the design and bring the needle back very close to the starting point. Continue in this manner keeping the stitch evenly and very closely till the entire space is filled.



Fig 1.4 Satin Stitch

1.6.5. Button hole Stitch

This stitch is used as an edging for blanket and other articles or as part of design for which the blanket stitch makes the border. The work should be done from left to right, stitching towards you. Bring thread out on the lower line, insert needle in position on upper line and take a downward stitch with the thread under the needle point. Draw out the thread stitches may be of the same size at regular distance apart or grouped and spaced according to the effect desired.



Fig 1.5 Button hole Stitch

1.6.6. Fish bone Stitch

It is another leaf filling stitch. Its finished effect is similar to a fish bone with a spine down the center. Bring the needle up at point 1 and take a small stitch to point 2 down the center line. Bring the needle up at 3, insert at 4 directly across point 3. Exit out from 2, carry yarn under needle point and proceed through to the next stitch. Now point 2 is point 1 of next stitch.



Fig 1.6 Fish bone Stitch

1.6.7. Couching Stitch

Lay a single cord or a number of threads of either matching or contrasting colour on the line of the design. Catch the laid thread down firmly with another thread of desired colour by working small stitches at regular intervals across it.



Fig 1.7 Couching Stitch

1.6.8. Herring bone Stitch

This is used as a decorative stitch as well as for finishing hems and raw edges of seams. Stitches are worked from left to right along two parallel lines. Bring out the thread at the bottom left hand corner of the work. Insert the needle on top line at a point away to the right and take a short stitch through the fabric from right to left so as to get a slanting stitch. Next take a short stitch through the fabric from right to left on the lower line to get another slanting stitch crossing the first one at a point little below the top line. On the wrong side two rows of running stitches are seen. This stitch can be done in the reverse way and used as shadow work.



Fig 1.8 Herring bone Stitch

1.6.9. Roumanian Stitch

Roumanian stitch also known as the antique stitch. Indian filling stitch, Jaina stitch or oriental stitch, is a name used for a technique where by a long stitch is tied down in the center by one, short slanting stitch. The Romanian stitch should be differentiated from Roumanian couching which uses multiple tying down stitches to 'couch' along, laid thread.



Fig 1.9 Roumanian Stitch

1.6.10. French Knot Stitch

This resembles a knot and is usually applied to the centre of the flower. Bring out the thread to the right side. Hold the thread tight with left thumb and wind three to four times around the needle. Now holding the thread firm, insert needle in fabric close to where it first emerged. Pull the thread to the wrong side and bring out the needle to the point where the next knot is to be worked.



Fig 1.10 French Knot Stitch

1.6.11. Double Knot Stitch

This is a complex stitch that makes an embroidered line that has the look of beads in a string. Start the stitch with a long horizontal straight stitch, taking a small vertical bit out of the fabric end. Next pass the needle under the stitch without piercing the fabric. Finally, pass the needle through the straight stitch again with the thread looped under the needle you are now in position to make the next vertical bite.



Fig 1.11 Double Knot Stitch

1.6.12. Bullion Knot Stitch

Bring the thread out on the surface of the cloth and insert the needle a short distance away from that point according to the length of stitch required. Bring the needle up through the first point and wind the thread round the needle for a distance equal to the length of the stitch. Hold left thumb on the coiled thread and pull out the needle at the end of the knot. This is mainly used for embroidering.

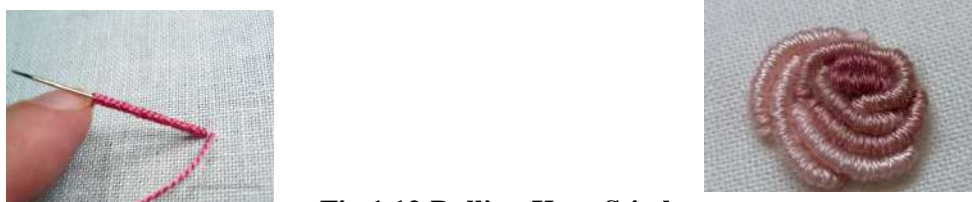


Fig 1.12 Bullion Knot Stitch

1.6.13. Seed Stitch

This consists of pairs of small straight stitches worked side by side and in many different directions. This is used to decorate out lined areas of any design.

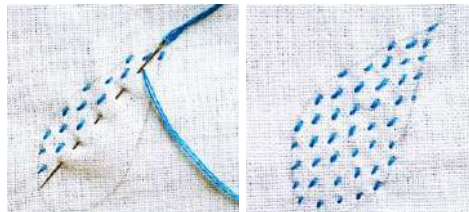


Fig 1.13 Seed Stitch

1.6.14. Pekinese stitch

It is also known as Chinese stitch, blind stitch and forbidden stitch. It can be worked as a single line or in lines packed closely together as a filling stitch. Start with evenly spaced back stitch. Bring the thread up at the very end of the row. Slide your needle up under the second to the last stitch. Don't pierce the fabric but work under and on top of the back stitches. The threads have formed a small loop below the first back stitch. Slide your needle under this stitch from top to bottom, keeping your needle under the loop as well and pull the thread through loosely. Slide your needle up under the third back stitch. Then insert from bottom through the second back stitch. Keep looping your thread in this manner till the end of the row.



Fig 1.14 Pekinese Stitch

1.6.15. Fly stitch

This is one variety of open chain stitch made in the shape of V. Working from left to right bring needle out at a point which will be the top of left side of V. Hold thread down with left thumb, insert needle at the top of the right side of the V and bring it out at the base of the V, keeping working thread under the needle. Draw out the thread and reinsert the needle below the base of the V to hold the loop in place.



Fig 1.15 Fly Stitch

Summary

Embroidery is an art of decorating fabric or other materials using a needle to insert thread or yarn. Embroidery may also incorporate the materials such as pearls, beads, quills and sequines. Embroidery is done with a wide variety of thread or yarn colour. Some of the basic stitches are chain stitch, seed stitch .

Short answer type questions

- 1) Mention the materials required for hand embroidery.
- 2) What type of fabrics are suitable for hand embroidery ?
- 3) What are the stitches used for filling ?
- 4) What is couching ?
- 5) List down the basic stitches used in hand embroidery.
- 6) How is embroidery helpful in embellishing the fabric ?
- 7) Name the techniques of transferring designs.
- 8) Mention any two tips while transferring the designs on fabrics.

Long answer type questions

- 1) Explain any two stitches used as outline of a design with diagrams.
- 2) Write about the methods of tracing designs onto the fabric.
- 3) Explain the procedure of any two knot stitches with diagrams.
- 4) What are the different stitches used for filling areas ? Explain with diagrams.



Study of handling different fabrics

Structure

- 2.1 Introduction
- 2.2 General considerations while handling different fabrics
- 2.3 Handling of different fabrics

Learning Objectives

After studying this unit, students will be able

- To know about the characteristics of different fabrics.
- To learn how to plan hand embroidery according to the design, fabric and threads.
- To know about the care to be taken while stitching on different fabrics.

2.1. Introduction

In India, traditionally cotton and silk fabrics were used as garments but in modern times many different fabrics like polyester, nylon, etc., have come into existence to make garments. The patterns and colour combinations have changed according to the fashion, designs throughout the centuries. According to the consumer preferences the markets are producing varieties of fabrics every day. The designer should have good knowledge about the characteristics of fabrics and quality of the fabric that directly affect the embroidery.

The embroidery stitches should be practiced with different types of threads that are suitable for different fabrics. It is important to plan the design carefully before selecting materials. Many threads used for hand embroidery on sheer fabrics are delicate and light, which are appropriate for light, airy fabrics. Other threads may be heavier, such as gold, or coloured wire and will pull and snag light weight fabrics for planning embroidery factors like fabric, thread and embellishments have to be considered.

2.2. General considerations while handling different fabrics

Different fabrics require different handling procedures.

Washing

Choose the water temperature depending upon the particular fabric. Follow the label instructions. For some fabrics like cotton, linen etc., use cold water.

Drying

Avoid excessive drying of fabrics.

Ironing

Iron the clothes on the wrong side. Before cutting and sewing these preparations are needed to avoid distortion during construction or finishing of garment.

- Check the fabrics that both the warp and weft yarns are at right angles to each other and they should have even width throughout the yard age. If both the yarns are not running exactly at right angles to each other. The fabric will have poor drape in the product of end use.
- While cutting the fabric check the grain perfection. If it is uneven, straighten the fabric by pulling on the bias until the fabric is perfect.
- It is impossible to straighten the synthetic fabrics because the synthetic fabrics are heat set at high temperatures before they appear in the market. So it is better to avoid such fabrics.
- Select the fabric for embroidery according to the end use of the product. Successful embroidery involves selecting the right type of design thread and needle of the fabric, together with a means of holding the fibers of the fabric absolutely stationary throughout the stitching.
- Synthetic or sheer fabrics are light in weight and hence they slip from the hoop or frame. If it is tightened the fabric surface would be damaged by pressure of the hoop. To prevent stretching of the fabric, wrap the hoopin strips of muslin before hooping the fabric or cut two rings of muslin and sandwich the fine fabric in between the inner ring of the hoop.
- Light weight fabrics need loose structured designs with low stitch count whereas pile fabrics work well with fairly simple solid designs. The stretch fabrics can be usually embroidered with light designs although small areas of satin stitch often work.

Handling different fabrics

2.2.1. Crepe

A light weight fabric of silk, rayon, cotton, wool, man-made or blended and characterized by a crinkled surface. This surface is obtained through the use of crepe yarns (Yarns that have such a high twist that the yarn kinks) and by chemical treatment with caustic soda, embossing or weaving (usually with thicker warp yarns and thinner filling yarns) Although traditionally crepe is woven. Crepe yarns are now used to produce knit crepe. It may be manufactured in the range of light and medium weight. The fabric has silk like texture and drapes well. It is used for making dresses, blouses, linings, scarves and in home furnishing too. The fabric has a soft sheen drapes beautifully into wide fares. The fabric is not easy to cut and sew and tends to unravel stretches in the cross wise direction.

- Preshrink light weight crepe before cutting and dry cleaning the fabric or washing by hand in warm water. Do not tumble dry crepe.
- Practice embroidery spare crepe material first.
- Hand basting hems and seams can make it easier to precise when sewing fine crepe. To baste the hem or seam by hand use a very fine thread and needle and sew large to hold the material in place. Carefully cut and remove the thread used to baste once the hem or seam has been completed.
- Use very fine needle to stitch on the fabric.
- Sew it with small stitches and light weight threads while sewing by hand.

2.2.2. Felt fabrics

Felt is a non – woven, non knitted fabric created by sheets of fibre that tangle when pulled by needles or exposed to heat. True felt can be made from a variety of fibres including wool, fur, mohair, cotton, rayon viscose or other synthetic fibers. Felt is made by pounding the fibres compressing them, shrinking and then the felting is achieved by applying moisture, bychanging the temperature and applying pressure.

Felt facts

- Felt does not ravel so there is no need to finish seam.
- Felt is very stable and easy to sew.
- Don't dry clean felt. It is likely to distort in the process.
- Felt can bobble and pill as it's susceptible to further abrasion.
- Felt can tear when under strain and cannot easily be mended.
- It does not recover well when stretched
- Felt can be damaged by steam.

Tips for sewing with felt

Let the felt feed naturally through your machine.

- Don't dry clean.
- Use little or no moisture when pressing.
- Use a pressing cloth.
- Hand wash felt in cool water with mild soap. Rinse and squeeze out excess moisture. Don't wring or twist felt as it will loose shape.
- Cut felt with a rotator cutter for more accuracy. Felt can also be cut with scissors but do use your best fabric scissors.
- Only polyester or cotton threads can be used for felt fabrics.
- Transfer the design onto the felt it can be done by drawing directly onto the felt with a disappearing ink, which is available from most fabric stores. Bold designs are the best designs to trace directly on felt.
- Embroider over the design using whatever stitch combinations are possible Simple running stitch or back stitch, is effective for out lining or use more traditional embroidery stitches. Such as chain stitch, cross stitching is also an effective technique on felt.
- A tear away stabilizer is preferred to print or draw the design on more sturdy surface that needs to be embroidered. Pin the stabilizer with design onto the felt and embroider over the stabilizer, which is torn away when embroidering is finished. Use tweezers to gently pull out any little pieces of stabilizer that are left after tearing.

2.2.3. Lace

Lace is a delicate fabric. It features an open work pattern and is usually made of natural materials like :silk, cotton, wool, viscose. Depending on type, lace ranges from light weight to heavy. Lace is soft to touch especially made with silk, cotton or wool. With synthetic fibres it is more durable.

The lace fabric is perfect for evening, bridal casual wear, home textiles, lingerie finishing. The technique of lace making involves looping, knotting, braiding or stitching thread into decorative open hook pattern.

Advantages

Beautiful :It looks stunning and feminine.

Versatile :The material is an ideal choice of evening and dressy clothes.

Airy :It is breathable and has pleasant texture.

Festive :Casual clothes decorated with lace look stunning.

Disadvantages

Fragile :It can be easily damaged.

Price :It is very costly that hand made laces are very expensive.

Transparency: It is possible to use lace for separate element or in combination with other materials. One may also insert a lining for more opacity.

Care of Fabrics :Lace fabrics require delicate care. Dry cleaning is preferable. If hand wash is allowed, choose gentle cleaning agent. Use cold water and dry on towel after washing. Embroidered lace is not washable.

- Ornamental open work fabric, made in a variety of designs by intricate manipulation of the fiber by machine or by hand.
- Draw out a pattern on a sheet of tissue paper which forms the pattern for embroidery to stitch on to the lace.
- Untwist the screw along the side of embroidery hoop. Separate the two circles of embroidery hoop. Then slide the fabric over the bottom circle. Lay the tissue paper on the lace fabric.
- Position the lace and tissue so that the area that is to be embroidered is centered over the hole of the circle then place the other circle back on top. Press the circles together, then gently tug on the fabric and tissue around the hoop to make them pulled straight. Tighten the screw along the side of the hoop to secure the hoop in place.
- Thread an embroidery needle with colourful embroidery floss.
- Hold the embroidery hoop in hand, keeping the hoop parallel to the floor and insert the needle into the lace. Push the needle into the underside and up through the tissue paper, and pull the needle upwards, until the kurt catches on the lace.
- Stitch around the drawn pattern on the tissue paper rethreading the embroidery needle as needed until the entire pattern has been completed. Knot the floss onto the underside of lace fabric when the pattern is complete and then trim off any excess floss using scissors.
- Tear off the tissue pattern, which will come off with very little effort and will not disrupt the pattern on lace fabric.

2.2.4. Metallic yarn

Any of the ductile metals such as gold, silver and copper and even the cheaper alloys can be drawn out into filaments. They are used to ornament fabrics. Some times base metals are drawn out as fine wires and are covered with most costly metals. These metallic yarns are very flexible, drape very well and give good service.

Properties of metallic yarns

They are highly conductive. light weight, flexible, antistatic behaviour, cut resistant.

Uses of metallic yarns

Metallic yarns are not only used for decorating clothing and other fashion accessories.

- The fibres are used in making up holestry fabrics like klame and brocade which are then used for making luxurious curtains, sofa covers etc.,
- They are also used in suits, protective clothing, cut resistant gloves of butchers and in garments for people who work in risk machinery.
- They can be found in other fashion accessories such as hand bags, belts and even shoes.
- They are used in sarees.
- The fibres are extensively used for embellishing apparels, braids, draperies.

Care and Maintenance

The fabrics are dry cleaned with per chloroethylene. The fabric should be hand cleaned with woolite and cold water should never be bleached. Like other synthetic fabrics metallic fabrics should be ironed at the lowest setting, without using a steam iron.

Metallic thread is thinner than rayon or polyester thread. It has a polyester core so it has more stretch. Metallic yarns fray a lot when threading the needle. Hence a needle with larger eye can be used so that it is easier to thread.

Stitch more slowly and attentively to avoid thread breakings or formation of loops or knots.

Allow the needle to hand frequently from the fabric so that the thread can untwist. Consider turning the needle to half – twist as the needle comes out of the fabric. To prevent thread from curling.

Fancy fabrics made of metallic yarns are often embroidered. Even though these fabrics have rough surface, they should be treated as delicate fabrics.

When working with metallic fabrics avoid design with the following properties. Many overlapping objects that create three and more stitch layers.

- Design with many small stitches.
- Design with very dense areas.

Make sure that an appropriate backing is used. Metallic thread usually works much better with backings that have a viscose or cotton in them.

Ensure that suitable type of fabrics are used for embroidery.

Ironing on backside is required after stitching to minimize the rough hand of metallic yarn.

2.2.5. Jersey

Knitted fabric Jacquard Jerseys are single jerseys fabrics made of circular knitting machines using Jacquard mechanism. They are the simplest method of making patterned fabrics. They are produced with interesting patterns which may have any one of the following.

- Combination stitches or
- Combination of yarn types in terms of colour textures etc.,

Jacquard fabrics have different coloured loops made of different threads in the same course/ Floats are inherent features of single Jersey fabrics. They are widely used in the Sweater industry. It is soft, stretchy knitted fabric of cotton, nylon, rayon, wool or often synthetic fibers. Transfer embroidery design to the front of freshly laundered clothing item using a transfer paper. Turn the clothing item inside out and adhere the stabilizer to the inside of it, on the reverse of where the embroidery will be completed.

Turn clothing right side out again and hold the fabric firmly, but without stretching it, and begin working on the design with embroidery thread and needle. The actual method of embroidery will depend on the design. Large filled in areas should be out lined in back stitching first before being filled in with Satin stitch and specially stitches should be worked from outside of the design to inside.

Trim away the stabilizer that is outside the embroidered design area with small, sharp scissors being careful not cut any of the embroidery threads.

The weight of the stabiliser used will be determined by the thickness of the fabric and the density of design. If a thicker fabric is used with a design that includes a lot of shapes, it needs heavy stability with thinner fabric and less solid designs can be done with thinner stabilizers.

2.2.6. Pile fabrics

The insulative property of pile fabrics is based upon the principle of air spaces entrapped between fiber. But the fibers which are usually acrylic, modacrylic or a combination of them are held in place by being knitted into a base material resulting high pile material. Pile fabric can be made to look very attractive and they give immediate sensation of warmth on contact. Pile fabrics feature short lengths of yarns and up from the base of the material much like blades of grass is a lawn. Pile is by woven loops. Uncut loops give a looped pile fabrics such as terry cloth. Cut loops give a velvet fabric.

Basting

Always baste with silk thread which can be removed. Most of pile fabrics need 14 size needle for stitching.

- Place the design to be embroidered on a flat surface and place a piece of tear away on the top of the image. Trace the design onto the stabilize using a tracing pencil or dark pen or marker.
- Place the stabilizer on the top of the velvet fabric and pin the edges. Insert a few stitches through the stabilizer and fabric to keep the image in place.
- Place another sheet of tear away stabilizer into an embroidery hoop and place the velvet and top stabilizer on top of the hoop.

Insert a few stitches through the three layers to keep the velvet and the image stable. Thread several strands of embroidery floss through the eye of embroidery needle. Put the floss through and knot the ends together. Use 2 to 3 strands for a thin design and 5 to 6 for a thicker one.

Insert the needle through the bottom stabilizer, into the velvet and through the top stabilizer. Continue stitching through the image, inserting the needle through all three layers each time. Pull firmly on floss but don't pull hard enough to distort or wrinkle fabric.

End the final stitch of embroidery on the underside of the bottom stabilizer and tie the floss in a knot. Release stabilizer hoop and cut all of the loose stitches made to hold the fabrics together. Cut around the image on the stabilizers. Pull gently to remove the remaining pieces of stabilizer and be careful not to tug on the stitches.

2.2.7. Plastic fabrics

Plastic is a high polymer usually combined with other ingredients, such as plasticizer and filler. Plastic can be recycled, coloured, reused mould or drawn into wires or various other shapes.

Characteristics of plastics

- Plastic is a poor conductor of heat and electricity.
- Plastic does not react with air and water and with many of the chemicals.
- Plastics are light weight, durable, cheap and very strong.
- Plastics are non – biodegradable substances.
- Plastic does not rust.

Pins must not be used as they leave permanent marks. Use long stitches because if the plastic is not backed with fabric it tear like a perforated paper. The fabric presses easily on wrong side under a cloth but keep the temperature of the iron low, otherwise the plastic coating may melt.

The plastic is used for making toys, suitcase, bags, cabinets, brush, chairs and many other items.

2.2.8. Sheer fabrics

A sheer is a translucent light weight fabric providing both shade and privacy. Examples are chiffon, crape, georgette and voile.

Characteristics of Sheer fabrics

Woven using fine yarn, the opaqueness and weight of a sheer can be measured by the denier of the yarn used, ranging from 20 – 100 Denier. Available in a wide range of designs and colours sheer can feature stunning techniques achieved through Jacquard weaving and a special hand crafted practices such as embroidery and clipping.

Pin a piece of tissue paper to the back of chiffon fabric to cut it. The tissue paper, will help to stabilize the fabric, making it easier to cut. Be sure to pin all the way around the fabric so that it is secure against the tissue paper.

Heavy weight water soluble stabilizer also can be used as they would be entirely removed after washing.

All the sheer fabrics need to be hooped gently to avoid marks. The simplest way to protect the fabric is to place buffer between the fabric and the hoop. The buffer could be fabric, backing or tissue paper. Wrap the buffer to the inner ring of the hoop to avoid snagging the goods that stops the fabric from slipping and deeper hoop impression.

Lighter, open and airy designs will work best on chiffon fabrics. Light designs make the fabric to drape in a natural way where as the heavy designs with solid fill make the fabric stiff and prevent drape. It also pokes at the edge or outline of the design.

A solid design also can be used with cut away stabilizer, but it is visible through the fabric. After finishing stitching soak in water for 10 to 15 mins till the stabilizer gets dissolved.

2.2.9. Synthetic fabrics

A synthetic fiber is a chain of small units of chemical substance joined together. Many such single units combine to form single unit called polymer. The fabric is like nylon and polyester are extremely strong and light weight and non absorbent when compared to natural fabrics.

Characteristics of Synthetic fabrics

Synthetic fibers are cheaper than natural fiber. Synthetic fabrics are more durable than natural fiber. Synthetic fabrics are dried up in less time. Synthetic fibres are easy to maintain and wash.

These are available from light to heavy weights. These fabrics are slippery, shift into the hoop and add pucker to the fabric. To avoid these, following factors could be considered.

Transfer the design on to the fabric and spray a stabilizer with temporary spray adhesive and smooth the fabric over it.

To keep the fabric from pulling away from the sides of the hoop add tape to the sides of the inner hoop, but not to the corners.

Finally add pieces of rubber shelf mat to the bottom of the inner loop, on top of the tape.

Sturdier sport fabrics are able to handle light to medium fill designs. If working with light weight fabrics, use designs that have light fills.

Medium weight cut away stabilizers are suitable for most types of fabrics.

2.2.10. Finished fabrics

Mercerized cotton is a special kind of cotton fabric that is more lustrous than conventional cotton. The strength of the fabric increases and also takes up dye a little more readily. It also may not shrink or lose its shape as much as regular cotton. Threads with high sheen can be used on this kind of fabric which reflects the beauty of the embroidery.

Dimensions of the synthetic fabrics are set by heat setting. If the machine is fed with the fabric having both warp and weft at right angles to each other it produces a highly durable fabric suitable for embroidery. Fabric faults such as bow and skewness occur if the fabric is not fed properly through the tenter frame. These fabrics do not fall properly and becomes unsightly when made into garments.

Embossed, parchmentised and burnt out finished fabrics are not very much suitable for embroidery as the fabric itself has interesting pattern and embroidery if done will interfere and create confusion.

The beauty of the printed fabrics may be enhanced by stitching the outline of the bold designs or filling up a vast solid area of the design to break the monotony.

Summary

Creating hand embroidery on different types of fabrics needs skill to select accessories, backing threads, backing material etc., to produce a good quality design. The designer should be familiar with basic embroidery techniques which will be suitable for fabrics. Embroidery design should be selected based on the type of fabric used. Then the type of threads, accessories to be used and the method to stitch should be planned to avoid flaws after stitching. Some fabric like Crepe, Chiffon, georgette, knitted, velvet etc., sag while stitching. Hence a stabilizer should be used to keep the fabric stable. While stitching, light weight fabrics are embroidered with light and airy designs. Solid fills may be avoided. Pile fabrics should be sandwiched between two stabilizers to avoid wrinkles on the fabric.

Short answer type questions

- 9) What are the factors to be considered before cutting fabrics.
- 10) Mention any two tips for sewing felt fabrics.
- 11) Write short notes on crepe fabrics.
- 12) What are the advantages of lace fabrics?
- 13) Name the properties of metallic yarn.
- 14) What are the characteristics of plastic fabrics?

15) What are the characteristics of synthetic fabrics?

16) Write short notes on pile fabrics.

Long answer type questions

5) What are pile fabrics? Explain the precautions to be taken for stitching.

6) Explain about synthetic fabrics.

7) Write about crepe fabrics.

8) Explain in detail about lace fabrics.



Fabric Painting

Structure

- 3.1 Introduction
- 3.2 Materials required for fabric painting
- 3.3 Procedure for painting
- 3.4 Basic techniques for painting
- 3.5 Techniques used in painting

Learning Objectives

After studying this unit, students will be able

- To acquire knowledge about fabric painting.
- To learn the techniques of different strokes used in painting
- To acquire knowledge about the colour scheme and combinations used for painting
- To decorate fabrics with painted designs.

3.1. Introduction

In painting it is essential that you enjoy what you are doing. There are no secret tricks or easy routes. You must keep on practising and trying different methods till you get right method. Fabric painting is a skill of applying colours on the fabric to make it attractive which is very exciting experience. Painting techniques make stunning creativeness which is made by the depth of hues and shades or the creativity of the textures formed. Prior knowledge of the colours, techniques, fabrics, use of appropriate techniques for design etc., will help in improving the results considerably while painting directly on the fabrics.

3.2. Materials required for fabric painting

3.2.1.

Cotton fabric is always better to start painting. Thin and smooth fabric allow fabric colour to spread very fast. Bulky fabrics will not absorb very fast. Bulky fabrics will not absorb colour quickly and allow creating novel effects. Textual fabrics such as georgette, denim, organdie are most suitable for dry stroke. Selection of fabrics for various applications is most important.

3.2.2. Paints

Paints from any reputed company can be used. They are available in many forms like bottle or tubes which can be used direct and few along with medium. They are applied using brushes.

Regular colours

These are ready to use wash proof colours. These are pure tones and tints of different colours.

Pearl colours

These colours give a beautiful lustruous finish.

Metallic colours

They are available in metallic shades with the metallic dust to incorporate.

Glitters

These are available in easy-to-squeeze plastic bottles can be used directly on the surface like a pen. Use glitters on T-shirts, Salwar suit, dupattas etc.,

Pop-ups (or) 3D out liners

These colours give a three-dimensional effect. They don't swell when ironed. They are used only for out lining.

3.2.3. Brushes

Brushes of different sizes and shapes are calibrated by their thickness smaller sides are used for fine work while the larger sides are used to lay a wash or to paint a large surface.

Round brushes are used for lining, outlining and filling small masses. Round brushes are also helpful for stamping the shapes like metals. Flat brushes have versatile role in fabric painting. One needs to achieve control on usage of flat brush.

Tips on brush care

- A good round soft brush must become pointed when dampened. Brushes normally contain siding to protect them. To break the stiffness wash the brush in lukewarm water and soap till it feels soft.
- For even application, wet your brush for 5 to 10 minutes before you start painting.
- Leaving your brush with its bristles down in water will spoil the brush.
- Clean your brush thoroughly when you finish painting.
- To clean the brush, stroke it on a bar of soap and rub the bristles on your palm. Then clean it in Lukewarm water. Repeat this till the entire colour is removed.
- Dry the brush thoroughly before storing it. Store it in any hallow vessel with the bristles up to avoid damage.

3.2.4. Frame

Wooden / Metal frame can be used to hold the fabric tight. Fabrics are usually mounted on frame for ease of application. Frame also helps to avoid the contact of fabric to the ground and thus let all the full quantity of colour gets absorbed.

3.2.5. Paint Palatte

A shallow inside the the plate with surface to dispense the paint.

3.2.6. Paper

Tissue paper to remove excess water from the brush.

3.2.7. Jar / Bowl

Shallow jar / Bowl filled with water for rinsing the brush.

3.3. Procedure for painting**3.3.1. Pre wash the fabric**

The only preparation required prior to painting is to prewash and dry the garment. Prewashing is necessary to prevent shrinkage which may damage painting. Don't add softener while prewashing.

3.3.2. Press fabric

It is necessary to press the fabric to remove all wrinkles and ensure that surface is flat.

3.3.3. Transfer patterns

The painting designs can be drawn directly or traced using pencil or chalk powder, carbon paper method etc., for light colour fabrics, use a dark chalk and vice versa. Position the pattern and tape it in place and draw carefully on the fabric.

3.3.4. Paint

Paint the design on the fabric with desired colours and strokes.

3.3.5. Post treatment

Painted fabrics need to be dried thoroughly preferably 24 hours before ironing it to heat set. Place a cloth over the fabric to iron or it can be ironed on the wrong side of the fabric preventing the paints from getting into the iron.

3.4. Basic Techniques for painting**3.4.1. Brush Control**

- Comfortable position to hold the brush is between the forefingers like a pencil with the thumb keeping it in place.
- Avoid holding it too firmly, or at too much of a slant.
- Make sure that there are no water droplets on the brush handle.
- Aim to give loose movement from the wrist to shoulder which transfer a flowing action to the brush.
- The contact of hand and piece of work will give balance.
- Always pull the brush hairs along with your movement.
- Start the work with moderate and uniform speed.

3.4.2. Brush loading

The technique of brush loading determines how the brush hairs take up paint enabling to use the brush in the ways required. If the brush is not loaded properly the stroke produced will fall short of its potential.

For the correct effect, it is necessary to learn the various methods of loading colours on the brush. To load the brush, first wet it thoroughly with water. Remove excess water on a rag.

You will have to side load the brush when you need to fade colour gradually from dark to light.

Side loading will help create light, medium and dark shades with a single stroke.

3.5. Techniques used in painting

3.5.1. Wet brush technique

- Dip the round brush in water
- Blot out excess water.
- Pick up a small amount of paint that is enough to blend.
- Blend it into the brush by stroking repeatedly over the same spot which helps in even distribution of paint.
- Now try painting a stroke, which may be dry.
- Repeat the steps to get a watery transparent stroke from start to finish.

3.5.2. Dry brush technique

- Dry brush is best applied using a brush with stiff bristles.
- Load the brush with minimum amount of colour on the bristles in this technique.
- The brush has to be completely dry when loading.
- After taking the colour on the brush, remove the excess colour onto a rag, before painting.
- Make a stroke and it appears as if it is stranded and the paint diminishes gradually.
- Wipe the brush little more on paper towel and paint another stroke.

3.5.3. Tipping

- Load the round brush completely with one colour.
- Just dip the tip of the brush into second colour.
- Only a small amount of colour is required.
- Give the stroke with a brush loaded with two colours.
- Tip the brush with two colour for a multicoloured version.

3.5.4. Dot work

- The tip of the brush is used to make a small dot.
- Dip the wooden end of the paint brush in paint and stamp on the fabric to produce dots of decreasing / increasing sizes by increasing / decreasing the pressure and rotate the brush to make dots.



Fig 3.1 Dot work

3.5.5. Comma stroke

- Press the round full loaded brush to flatten out the hairs into a rounded shape.
- Pull the stroke into a gentle curve, releasing pressure as you pull.
- Slow down as the stroke tails off and lift the brush cleanly.
- The flat end of the stroke is referred as head and thin end as the tail.
- Practice to paint commas in all directions.



Fig 3.2 Comma stroke

3.5.6. Chisel stroke

- The chisel stroke uses the chisel edge (tip) of the liner brush to paint a line.
- Slide the chisel along to make a clean, thin stroke or make a smudge line effect by scribing to the left and right very slightly.



Fig 3.3 Chisel stroke

3.5.7. Flat comma

- Set the flat brush down in an upright position, applying pressure on the broad side.
- Pull the stroke round downwards, releasing pressure as the chisel approaches.
- Tail off in a sliding motion on the chisel.



Fig 3.4 Flat comma

3.5.8. S stroke

- Here a round brush is being used. Hold the brush up right, lightly gliding on the surface in a gentle curve motion while applying more pressure.
- Keep up the pressure at mid point and reverse the direction before starting to release pressure.

- Slow down to tail off the stroke neatly as the hairs realign
- Lift the brush neatly.



Fig 3.5 S stroke

3.5.9. Tear Drop

- Being on the tip of the round brush moving in a straight line.
- Gradually apply pressure, flattening the hairs as the line lengthens.
- When the hairs are flattened to the desired fullness, come to full stop.
- Stand the brush up and lift off cleanly.



Fig 3.6 Tear drop

3.5.10. Line work

- Line work is used to outline images and their details and is usually applied when a project is nearly complete.
- Out lining can be done with using either a linear brush or permanent ink pen or permanent brush pen.



Fig 3.7 Line work

Non – Brush techniques

3.5.11. Spray

Spraying is a very simple and easy technique that can be used with a stencil or a mask. The spray deposits tiny droplets of colour and give stand like finish.

- Secure the mask on the fabric with a tape or pin.
- Dip tooth brush in the colour and hold the brush in your hand in such a way that your thumb can easily reach the bristles.

- Press the bristles gently and release them to create a spray. Fill the full area of the mask.
- Repeat on the other areas to create the required design.
- Let the first colour dry before spraying with other colour.
- You can also use a stencil with the spray technique to create a design.



Fig 3.8 Spray technique

3.5.12. Impressions

- Cut potato in half. Make out shape with a pencil on the potato.
- Cut out excess area smoothen out the shape to make a three dimensional block.
- Dip the block in colour. Drip off excess colour and make the impression.



Fig 3.9 Potato impressions

Shading

It is the darker of the shadowed areas of the design. The shaded colour is always darker than base coat colour. Shading gives depth to your painting.

Summary

Painting is a creative skill where the painting depicts the thought and skill of the painter. Fabric painting is one kind of painting practiced by number of people and a type of embellishing fabric.

Different kinds of brushes are used for painting. Each stroke depends on the type of brush used. Wide variety of paints like metallic, pearl, acrylic, etc., colours are used for painting the fabric. Washing the fabric prior to painting is very important. Post treatment with hot iron is equally important from better fixation of the paints on to the fabric. Care should be taken while selecting brushes and paints / colours.

Short answer type questions

1. Mention the materials required for fabric painting.
2. Write any two tips on brush care.
3. Name any four techniques used in painting.
4. What type of colours are mostly suitable for fabric painting ?
5. Define Shading.
6. Name any four techniques used in painting.
7. Write short notes on 3D outline.
8. Name the types of colours used in fabric painting.

Long answer type questions

1. Explain the procedure for fabric painting.
2. Explain non brush techniques for painting.
3. What are the different strokes done by a round brush explain with illustrations?
4. Write in detail about the basic techniques for painting.



Patch Work, Applique work and Quilting

Structure

- 4.1 Introduction
- 4.2 Patch work
- 4.3 Applique
- 4.4 Quilting

Learning Objectives

After studying this unit, students will be able

- To acquire knowledge on patch work, applique work and quilting.
- To develop creative skills in planning, designing and stitching
- Learning the techniques of stitching and finishing of the products
- To acquire knowledge about the colour scheme and combinations used for painting

4.1. Introduction

In olden days fabric scraps or worn out pieces used for making patch work, applique and quilting. Instead of throwing the used pieces it can be used to make a wide range of products. After the woven fabric has been introduced in the market, the techniques like patchwork, quilting and appliqué are developed. This fabric art gives ideas on how to decorate with special fabric, types and decorative stitches with special fabric. Various articles can be made using used clothes.

4.2. Patch work

Patch work is done using small pieces joined together to form a pattern. This can be backed by a lining to give neat finish. Interesting and intricate designs can be made to suit various household uses.

4.2.1. Materials required

Drawing tools

Ruler, pencil, graph paper, thin card board, papers etc.,

Sewing tools

Matching thread, hand needle, pins, scissors etc.,

Templates

These are patterns used to make the shapes of patches and backing paper. Many types of patch work require the use of templates to keep all the cut pieces the same size and shape.

Suitable fabrics

Fabrics of similar weight and texture give durability to patch work. Foundation fabric may be made out of closely woven cotton fabric. It is better to use pre shrunk fabric to patch work. Medium weight, evenly woven fabrics work best.

4.2.2. Designing patch work

The simple and basic shape used for patch work design is square. A square can be drawn accurately using the lines of graph paper as guide. Circles, triangles, rectangles, semicircles can be designed to patch work.

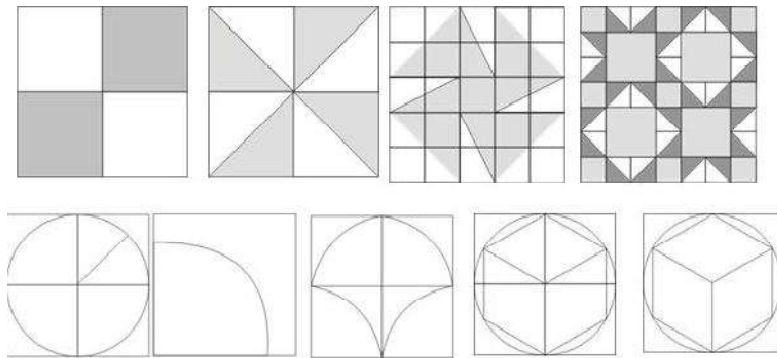


Fig 4.1 Process of designing patchwork using different shapes

4.2.3. Borders and dividers

Two other elements in patch work are dividers and borders made of strips of fabric, they are joined to other patch work units to become part of the overall patch work fabric. Dividers are sewed between blocks and strips of blocks ; borders are sewed to the outer edges of the joined patch work units.

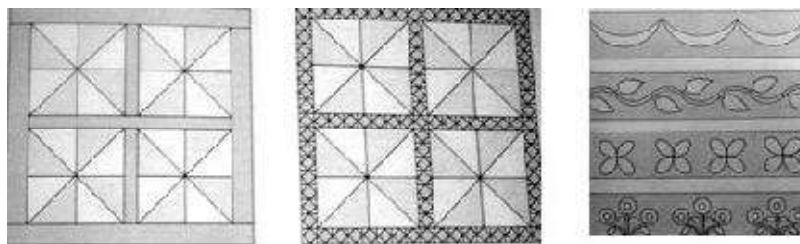


Fig 4.2 Designing Borders and dividers

4.2.4. Influence of colour on patch work

Colour selection and placement are central to the overall design impression of a patch work. It is simple to choose and arrange single coloured fabrics for a single pieced block but for multi – block patch work the effect of different coloured fabrics on one another should be considered when the blocks are joined. Dominant colours are used to emphasize any area of the design. By combination of both darker and lighter shades will create balance in the design.

4.2.5. Method of working patch work

4.2.5.1. Making templates

The first step in the construction of a patch work is to make cutting and marking template for the different shapes in the design. To make the templates of correct size and shape, first draw to the finished size each of the units in the patch work.

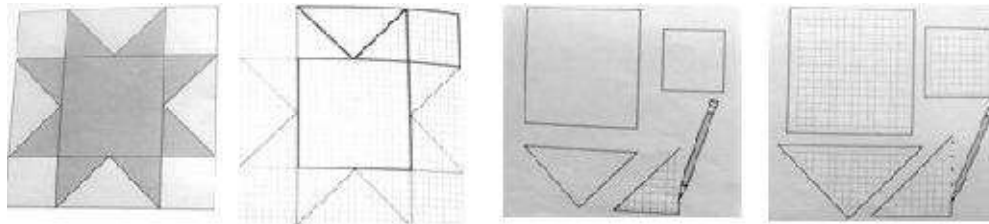


Fig 4.3 Designing process of a patch work

4.2.5.2. Marking the fabric

Cutting templates are used first to determine the amount of fabric needed for a patch work then cut out the pieces.

4.2.5.3. Sewing patch work

In hand technique after cutting the patches using the templates, the seam allowance of the patches are turned to the wrong side and tacked. Since most pieces are joined with plain seams, a marking template is used mainly to mark seam lines. The marking templates of some one – shape patch works are used to make paper backing pieces.

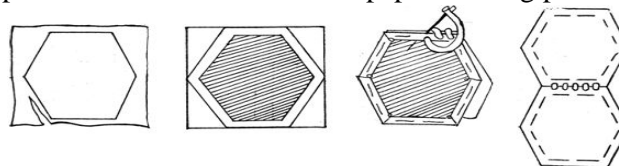


Fig 4.4 Process of sewing patches

4.5.5.3.1. Joining patches

To insert patches, first join the pieces that form the angle. Pin the piece to the inserted along one side of the angle. Pin the piece to be inset along one side of the angle starting at the inner corners of the seam. Stitch from the inner angle to the outer edge. Next, pin the inset piece to the facing side of the angle and again stitch from the inner corner to the outside edge starting at the same point as the first stitching line.

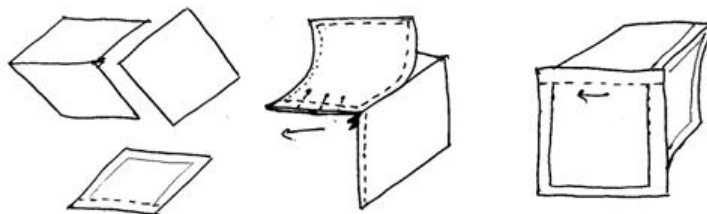


Fig 4.5 Joining of patches

While joining rows and multiples of patches pin carefully at each matching seam line, to ensure that the patches are correctly aligned. When pinning border strips ready for stitching, mark and pin the border strips at measured intervals corresponding to the patch work pattern for an even fit.

4.2.5.4 Pressing

Press seams prior to sewing and always before the next stage in the piecing sequence. The seam allowances are pressed on adjacent rows in opposite direction to reduce bulk. Puckers at the corner can usually be eased out by removing stitch from one of the seams. After joining the complete block and all the seams have been pressed, press the complete block on the right side.

4.2.6. Types of Patch work

4.2.6.1. Pierced or Mosaic patch work

It is most commonly found patch work. It utilizes pieces of fabrics in different shapes to form geometric pattern and such pattern are set to one another to form a final pattern. Number of shapes is in use like squares, rectangles, triangles, diamonds, hexagon, pentagons, floral shapes etc.,

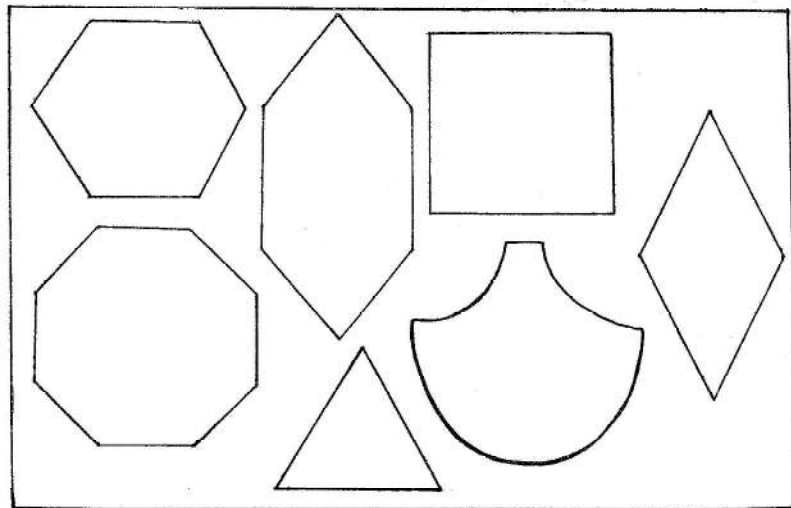


Fig 4.6 Commonly used shapes in Patch work

4.2.6.2. One – shaped patch work

One shape patch work in which all the pieces are of the same shape and size. A one – shape patch work can have greater charm, in a single colour, two or more, carefully arranged can produce an attractive overall design.



Fig 4.7 One shaped Patch work

4.2.6.3. Block unit patch work

The fabric pieces are just joined into a block that itself becomes the basic shape. Most pieced block units consists of precisely shaped pieces that form a definite design with in a square, when several such units are joined, a secondary overall design can be formed.

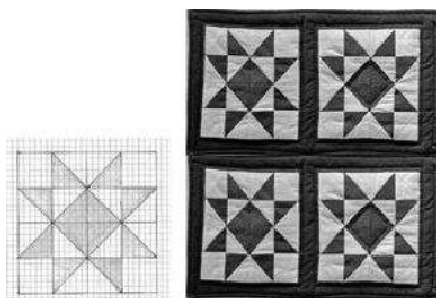


Fig 4.8 Block unit Patch work

4.2.6.4. Crazy patch work

Crazy patch work design is unique among pieced block patch works in that pieces that form the designs are of random sizes, shapes and colours. Originally crazy patch work was worked as one large block unit. An easier way of working is to sew the pieces to form small block units then sew these blocks together. The only element that has to be exact in size and shape is to block of the base fabric to which the pieces are sewed.

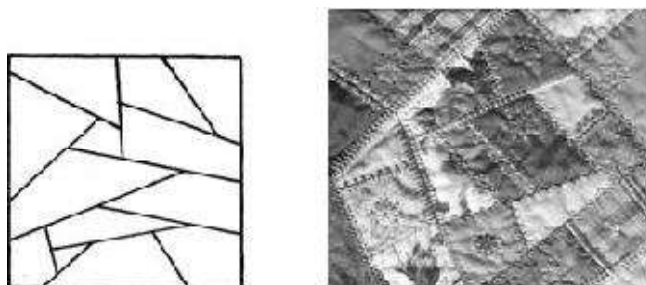


Fig 4.9 Crazy Patch work

4.2.7 Patch work uses

Patch work is most often used to make quilts, but it can also be used to make bags, wall – hangings, warm jackets, skirts, waist coats and other items of clothing.

4.3. Applique

4.3.1. Introduction

Applique means applying a shape of fabric onto a background fabric to make a pleasing design. Applique may be done by hand or machine. There are many ways to accomplish this. Applique is used in quilt designs and for embellishing apparel or other items for home décor. A decorative design made of one material sewn over another is called appliqué. In context of sewing, appliqué refers to needle work technique in which pieces of fabric, embroidery or other materials sewn on to another piece of fabric to create designs, patterns or pictures.

4.3.2 Materials required

- Tools such as scissors, needles, pins, thread, thimbles, iron, sewing machine etc.,
- Drawing materials like tracing paper, pencil, tailors chalk or carbon paper, thick paper for templates.
- Fabric pieces or scraps of different types.
- Additional embellishments like ribbons, buttons, rhine stones etc., (optional)

4.3.3 Suitable fabrics

Natural fabrics with tight weave like cotton, silk and wool are the best fabrics.

- Firm, closely woven and colour fast fabrics increase the durability of fabrics. To make sewing easy, it is better to avoid stretchable, loosely woven or bulky fabrics and fraying fabrics.
- **Ground or base :** Poplin material is used for most of the appliqués and in all the cases the fabric is pre shrunk.
- **Applique motifs :** Cotton fabrics with prints or solids are chosen that will hold necessary crease as the motifs are appliqué on to the ground.
- **Border :** The selected fabrics could be the same fabrics as the backing or one of the appliqué motifs or in a complimentary colour pattern.
- **Backing :** Choose printed or solid colour cotton fabrics that combine well in colour and design. The length wise grain line of the backing fabrics should run in the length of the appliqué work to keep it straight.

4.3.4 Interesting facts

- Applique design always look better and long lasting. If the appliqué fabric has been adhered on to the back ground or base material. This is easily accomplished by using fusible webbing or fabrics.
- Fused appliqué fabric does not sag or wrinkle.
- Most of the fabric intended for appliqué must be backed with glue or fusible webbing with few exception. fur, leather, vinyl, fleece or any special fabric that will melt or crush upon coming in close contact with heat should not be fused at any cost.

4.3.5

4.3.5.1 Designing an applique

Trace the appliqué design piece (s) from the template onto the paper side leaving about ½ inch between each piece. If the design consists of two or more pieces retrace each pieces separately straightened out the edges that are covered by another piece instead of cutting the exact shape.

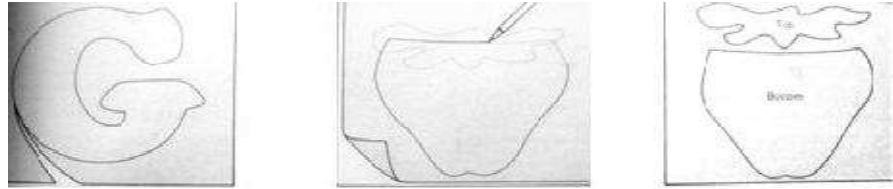


Fig 4.10 Drawing for an appliqué design

4.3.5.2 Transferring design

Before transferring a design cut back ground of the desired size. Mark the center lines by folding and creasing the back ground fabric on the folds. To transfer the design, position template right side up on back ground fabric and pin in place. Trace around the templates using either a sharp pencil or pen. If the design has two or more pieces assemble all pieces into their correct positions and pin them to the back ground fabric. Trace around the design formed by the template.

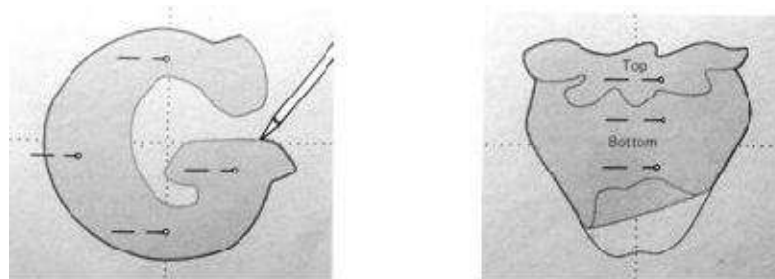


Fig 4.11 Transferring design on to the fabric

4.3.5.3 Cutting appliques

The first step is to decide the kind of fabric pieces or scraps used to make the design. An interesting overall design can be achieved by balancing the colours, prints, solids and textures. Consider the compatibility of the appliqué fabric and the back ground fabric in terms of care. An Appliqué has to be laundered to prevent shrinkage and bleeding of colour from one fabric to other.

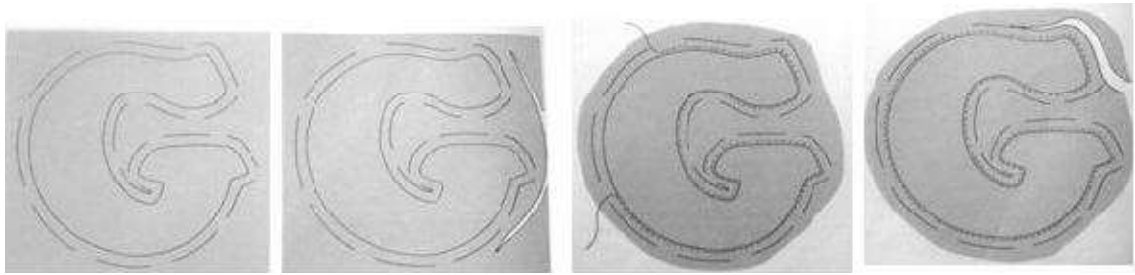


Fig 4.12 Cutting appliqué on fabric

To cut the appliqué pin the template on the right side of the fabric and trace the outline of the template. Mark required seam allowance outside the seam line. Wide seam allowances are given to the loosely woven fabric. Cut the margins of the fabric so that enough fabric is left to facilitate for stay stitching.

After cutting the outer margin line, stay stitch outside the inner marked seam line to facilitate easy turning. It can be done on the sewing machine by setting stitch length to 12 – 15 stitches per inch. Stay stitching is recommended to make easier to turn the edges. Now trim the margin by cutting the appliqué on outer marked line. Clip seam allowances around curves and corners, so that the edges can be properly turned.

4.3.5.4 Cutting curves and corners

For the easy stay stitching, turning of appliqué the curves and corners the seam allowances should be slightly trimmed accordingly. For the inner curves clip seam allowances on the inner side of the curve. Keep the space between the clips closer together along the deeper curves. For outer corners notch out pieces along seam allowances, to avoid forming of bulky pleat when the edges are turned on. At outside corners, blunt the seam allowances to reduce the formation of bulky pleat while stay stitching where as for inside corners slightly clip into the point of the corner to allow ease for stay stitching.

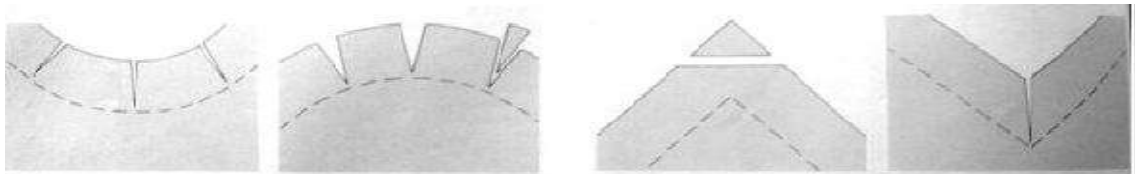


Fig 4.13 Cutting inner curves and outside corners

4.3.5.5 Types of applique

Depending upon the types of sewing the appliqués are divided into the following types.

4.3.5.6 Over lay or onlay applique

This is a simple form in which the appliqué design is laid on the top of ground fabric. To work with the outline of the design should be marked on to the ground fabric and also on other piece of fabric, usually of contrasting colour. The design could also be traced onto a chart paper or any thick paper to make the templates of the design. According to the design, the templates are cut and placed to check the overall appearance. Later the fabric can be cut using these templates.

There are two methods of attaching on lay appliqué. In the first method, the edges of motif are turned in and so the motifs cut with 8mm seam allowance. It is placed over the ground fabric on the right place with grain matching and held in place by large tacking stitches. (Fig 4.14) To turn the allowance underneath small snips are being made where necessary to accommodate the curves. The appliqué is permanently secured either by hemming or by any decorative stitch such as bottom hole, chain, stem or cross stitch.

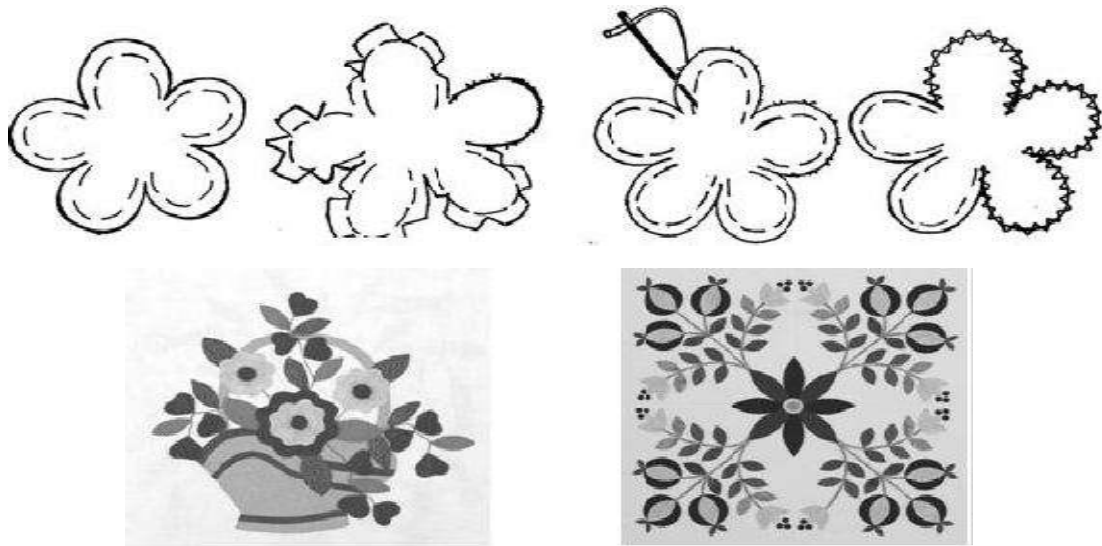


Fig 4.14 Steps in making on lay appliqué, finished products

In the other method, the motif is cut to exact size and placed over ground fabric and held temporarily by tacking. Later it is secured permanently to the ground fabric either by button hole stitch or machine stitch (Fig 4.15) Machine stitching is more often used on bed spreads and other furnishings. Zig-zag machine stitch is used to lay appliqué using this second method.

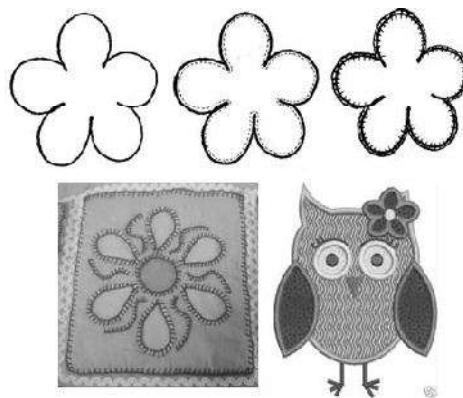


Fig 4.15 Steps in making on lay applique

4.3.5.7 Inlay applique

This type of appliqué has the design set into, rather than onto the ground fabric, as in on lay appliqué. The design is drawn both on ground and other contrasting piece of fabric. The design motif is carefully cut off from the ground fabric (Fig 4.16) The motif on contrasting coloured fabric is also cut carefully and pieced over the hole, made in the ground fabric. A muslin cloth is placed beneath ground fabric for support. The motif is held exactly in the hole and finished either by herring bone or other suitable technique.

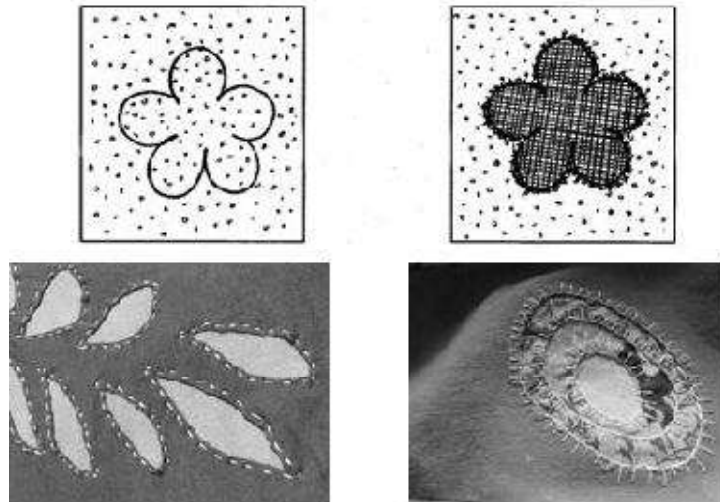


Fig 4.16 Steps in making Inlay applique

4.3.5.8 Inlay applique

This consist of a motif cut out from the main ground to reveal another fabric underneath. Two layers of fabric are taken and the edges of the top fabric are cut in a particular design and turned under to reveal the underlying fabric . The two layers of fabric is then carefully cut about 8mm inside the marked outline. The excess is turned under by making small cuts for accommodating the curves and hemmed.

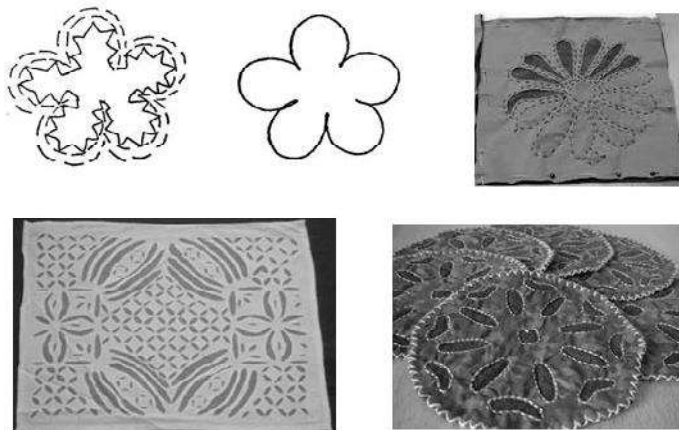


Fig 4.17 Reverse applique

4.3.5.9 Mola or Sanblas applique

It is related to the standard reverse appliqué form. In these two or more layers of fabric is held together by tacking. A design is cut from upper most to the bottom layers to reveal fabric underneath in the form of a contour map. The bottom layer is never cut. Turn the edges of the inner shape inside, cut the curves or corners as necessary and slip stitch carefully to the bottom layer. Then turn and finish the outer edge with slip stitch. The appliqué work can be embellished by use of other decorative embroidery stitches and miscellaneous mirror and bead work.

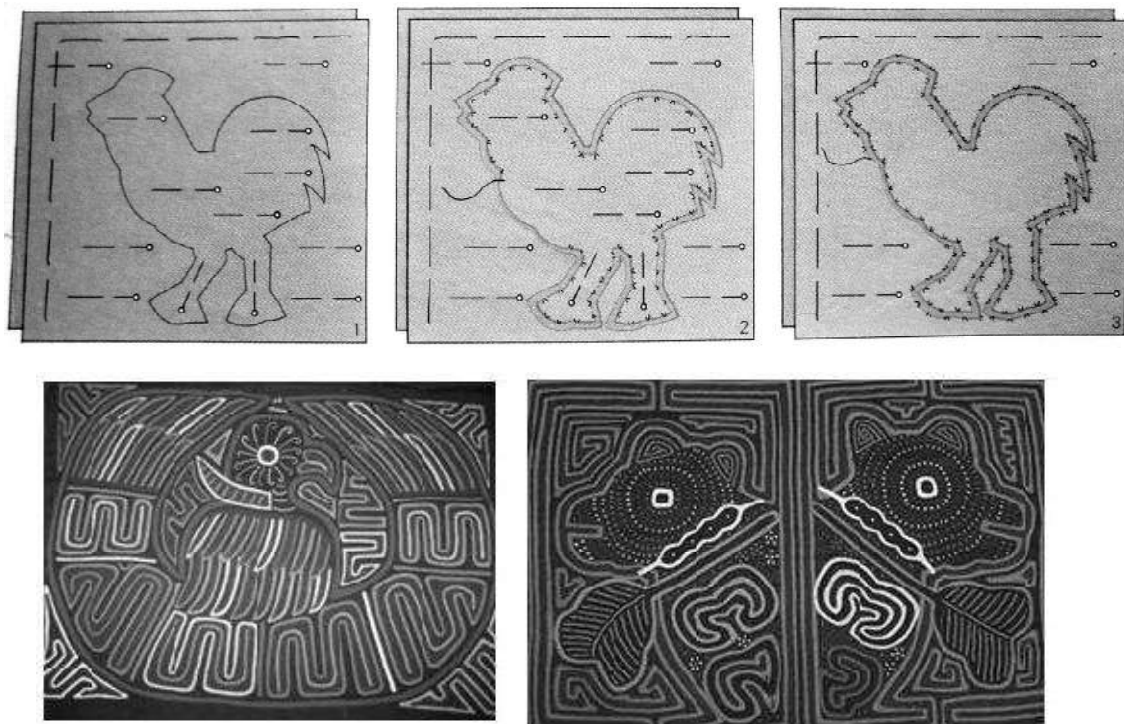


Fig 4.18 Steps in making Mola applique

4.4 Quilting

Quilting is the process of sewing two or more layers of fabric together to make a thicker padded material or quilted garment. Typically, quilting is done with three layers. The top fabric or quilt top, batting or insulating material and backing material.

The process of quilting uses a needle and thread to join two or more layers of material to make a quilt. The quilter's hand or sewing machine passes the needle and thread through all layers and then brings the needle back up. The process is repeated across the entire area. Rocking straight or running stitches are commonly used with these stitches being purely functional or decorative. Quilting is done to make bed spreads, art quilt wall hangings, clothing and a variety of textile products.

The whole process of making a quilt or quilted garment involves steps such as designing, piecing, appliqué and binding. A person who makes is called a quilter. Quilting can be done by hand, via a sewing machine, or by a specialized long arm quilting system.

4.4.1. Materials required

- Layers of cloth, face fabric
- Sewing tools like needles (called as between needle used for quilting), scissors, frames, matching thread etc.,
- Materials for stuffing such as cotton, wool, synthetic wadding, an old blanket etc.,

4.4.2. Suitable fabrics

- Closely woven material that is soft and pliable and light to medium weight gives a smooth finish for all types of quilting.
- Cotton such as poplin, sheeting materials, muslin, broad cloth, pure silk, fine wool etc., are highly suitable.
- Rich fabrics such as velvet, satin and silk can also be used for special quilted effects.
- Soft organdy, voile and organza are used for delicate effect.
- Heavy and stiff fabrics do not easily conform to the quilted contours and hence better to avoid.
- For backing or bottom layer, fine quality muslin is good. It has become decorative now-a-days and made from fabrics bright in pattern and colour and similar in style and type to the fabric layer.
- Padding material may be cotton batt or polyester batt available in sheet form in the market. For filling, cotton wool serves best. However, polyester will also produce the same effect.
- A thin light filling is very good in quilts. The advantage is that it is easier to sew compared to heavier or thicker filling. It is important to make small and even stitches in quilts. If the filling is thinner, it is much easier for the needle and the thread to go through, If quilt is meant for bedding, then choose a thicker filling for warmth.

4.4.3. Designing a quilt

There are many kinds of quilting designs giving a different look or effect. In general already patterned top layer (such as patchwork or appliqué) is more appealing than simple quilting. The type of fillers also influences the quilting designs. For example if a cotton quilt is used, not more than a 3 inch square area is to be left unstitched to prevent from shifting and separating into small lumps. Wide spaced designs hold the filler down less and so will result in a puffer surface.

4.4.4. Method of Quilting

Quilting is a method of joining two layers of fabric together to make a thicker padded material. It is done with three layers, the top fabric filling material and backing material. The process of quilting uses a needle and thread to join all the three layers of the fabric to form a quilt.

4.4.4.1. Making Templates

The design can be transferred onto the fabric with dark pencil or templates of particular shapes, stencils of design etc., Templates are made from either cardboard or plastic in the same way as patch work. First mark the outline of the templates and then fill in any internal details by hand or any stencil templates cutting the major internal lines with long dashes, wide enough to draw with a pencil.

4.4.4.2. Marking quilting design

Quilting design is marked on the top fabric layer before it is assembled with the other layers and set into the frame or hoop. The design is either drawn directly on the fabric or using templates of the chosen design with tailor's chalk or sharp pencil. First mark the outer edge of the quilting design with either a single or double line for finishing the raw edges. Next, draw motifs and border patterns. Start at the centre of each border and work out to the corners to ensure that the pattern is symmetrical on all the sides.

4.4.4.3. Quilting Process

To work this equal dimension of upper fabric, lining fabric and backing fabric are fixed to the frame. These layers are tacked first to keep all layers together securely to remain smooth and wrinkle free throughout the quilting process.

The design is worked either in running stitch if worked from down muslin side or back stitch from the upper layer. Maintain even stitches, throughout and the number of stitches to take will vary according to the type and thickness of the wadding / batting. To avoid puckering on the fabric, work on the design from the center to the sides. To finish at the end of a pattern line, make a small knot close to the last stitch. Make a small stitch and pull the thread through to the back, anchoring the knot in the filling. Finish the raw edges either by folding edges together and stitch (self binding) or separate binding.

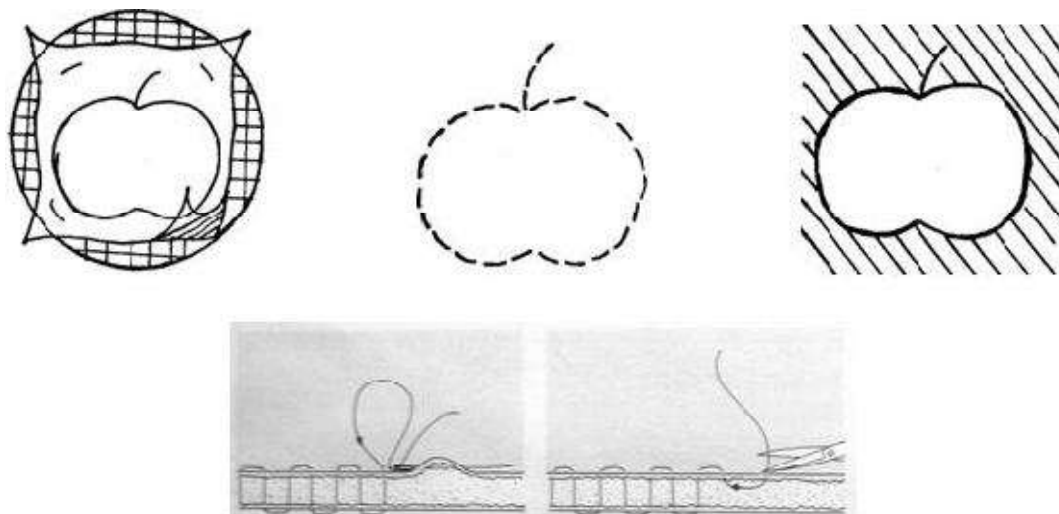


Fig : 4.19 Process of Quilting

4.4.4.4. Finishing edges

Finishing of the quilt is necessary to conceal the raw edges. It depends upon the type of quilt and its design. The edge finish should be planned from the beginning so that enough fabric is purchased.

4.4.4.5. Self finished

There are two kinds of self finish which are discussed below.

4.4.4.5.1. Extended binding

To prepare for self finishing, the backing should be large enough to extend beyond the top piece by the desired binding width including seam allowance on all four sides. Cut both top and filler to finish quilt size.

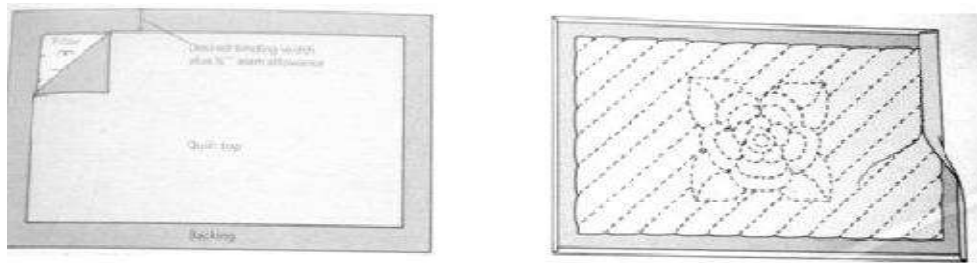


Fig : 4.20 Finishing the quilt using extended binding

4.4.4.5.2. Slip stitched edges

Line up the edges of the quilt top and backing. Trim the batting as it should be shorter than the top and backing fabrics. Fold the seam allowances from the top over the batting. Turn under the backing seam allowance. Align fold ; pin and slip stitch them together.

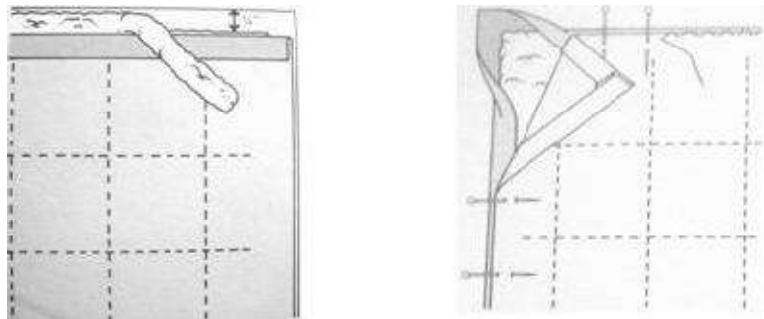


Fig : 4.21 Finishing the quilt using slipstitched binding

4.4.4.6. Bound edges

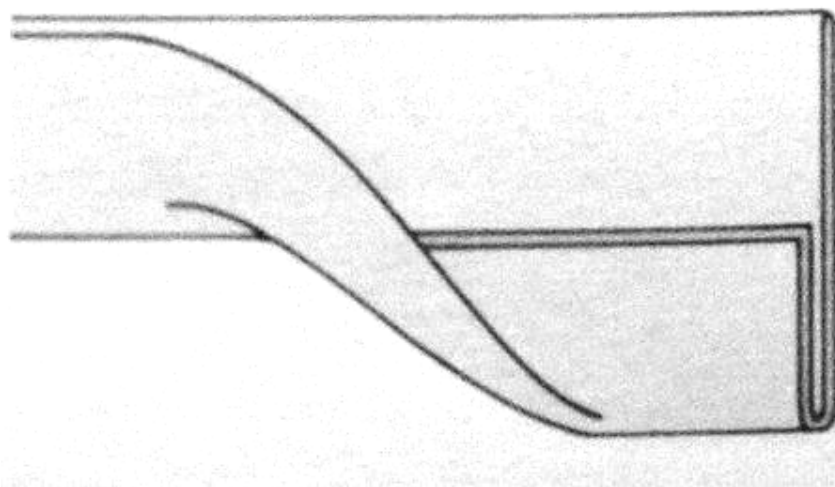
Binding is a type of edge finish in which a separate strip of fabric is used to cover the raw edges of the quilt. It also helps to avoid bulky hem of the quilted garment. To make bias binding cut strips of fabric along the true bias of the fabric. For continuous binding the strips are cut to length that is enough for all the four sides.

4.4.4.6.1. Single binding

Fold the strip in half length wise with wrong sides facing and press the fold lightly. Open the pressed strip and fold the edge in so that they meet at centre and press. To apply on the fabric, open one folded edge with right side of binding facing quilt top, pin binding to the edge of quilt. Stitch along the fold line of the binding. Press binding up and turn it over the raw edges so that the fold meets the stitched line on the backing. Pin it in place and slip stitch to seam line by hand.

**Fig : 4.22 Single binding****4.4.4.6.2. Double binding**

For a double binding, fold the strip in half length wise then fold halved strip in place and press. To sew, open the folds and pin binding to the quilt top with raw edges of binding and quilt aligned. Stitch binding to quilt same as single binding.

**Fig 4.23 Double binding****4.4.4.7. Handling corners**

Corners in binding are applied in a curved or straight way. If a corner is curved, binding must be done on bias. If the corner is square, the binding can be applied so that corners are straight or mitered. The techniques for all three remain same whether the binding is single or double.

4.4.4.7.1. Handling curved corners

To bind a curved corner, pin bias binding to quilt edges as shown in (fig. 4.24) Gently stretch the binding to round the corner and stitch along the fold. Press binding up and fold over to the backing. Binding will naturally mould over the curved raw edge of the quilt and slip stitch to backing at stitch line.

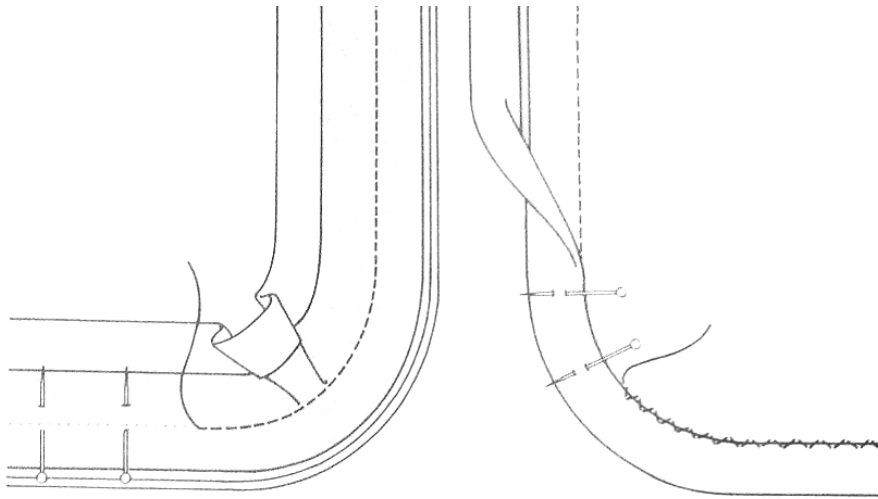


Fig : 4.24 Binding a curved corner

4.4.4.7.2. Handling straight corners

For straight corners, bind two opposite sides of the quilt. Then pin and stitch binding to one of the two remaining sides, letting the binding extended at both the ends. Turn the extended portion of the binding over the bound edge, and then finish binding the raw edge in the usual way. Repeat the same procedure to bind the remaining raw edge.

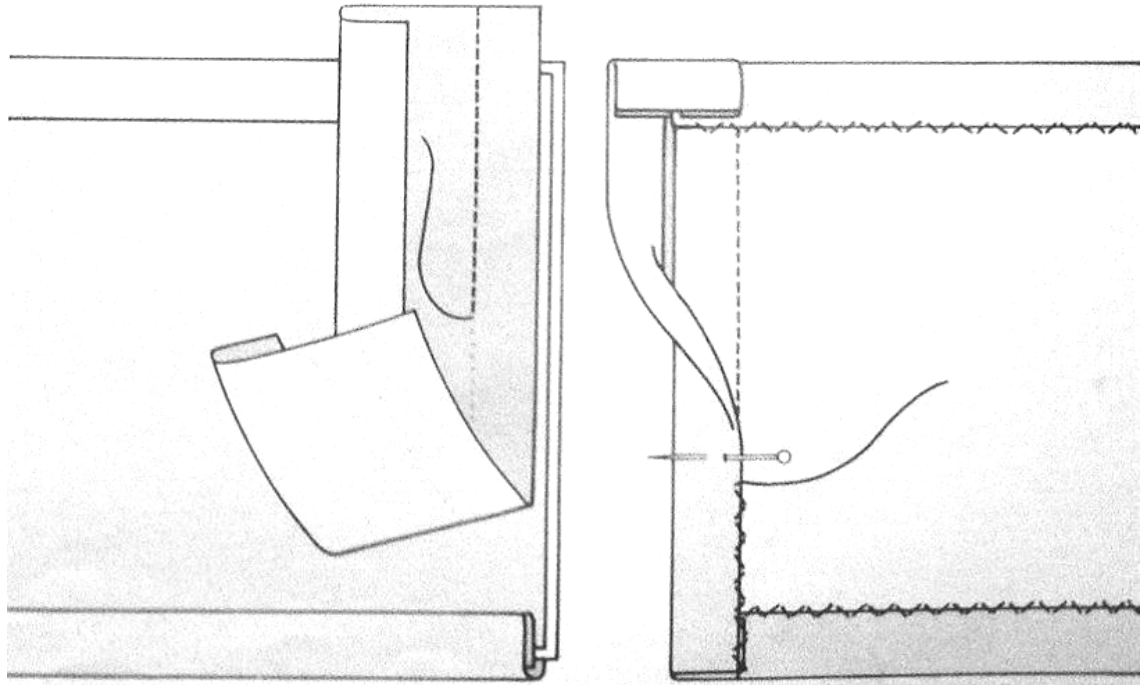


Fig : 4.25 Binding a straight corner

4.4.4.7.3. Handling mitered corners

For mitered corners, Pin binding is done to one raw edge of the quilt. Stitch along binding fold nearest raw edge, stopping and securing stitches at point where adjacent seam will cross the seamline. Fold free binding to right, perpendicular to stitched edge, forming diagonal fold. Press fold and bring binding straight back aligning right hand fold with right edge and stitch. Press the binding away from the quilt top and then fold it over raw edge to backing. A miter will form on the quilt top. Another miter will be formed by manipulating binding on back on backing side, bring folded edge to stitched line and pin. Fold excess binding under at corner and then bring adjacent binding together to form a miter slip stitch binding along fold and miter.

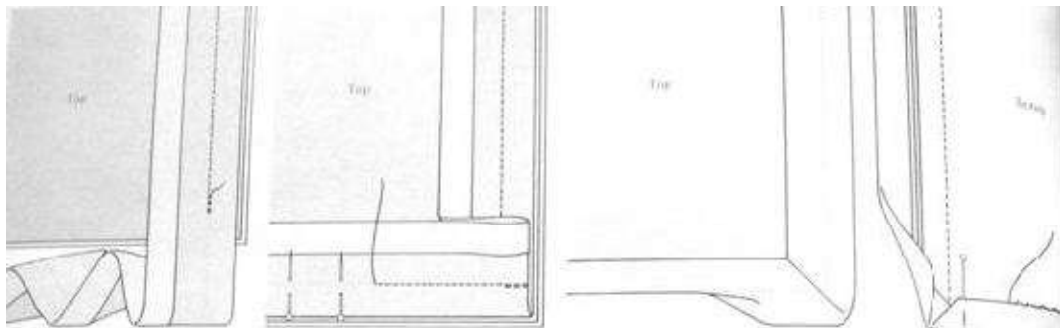


Fig : 4.26 Stitching of Mitered corners

4.4.5. Types of quilting designs

4.4.5.1. Outline quilting

The outlines of the shapes already present on the top fabric layer. Patchwork and appliqué are most commonly used for making this type of quilts. Sometimes selected areas of the shapes are given outline. Otherwise the outline of a shape is repeated in concentric quilting lines.

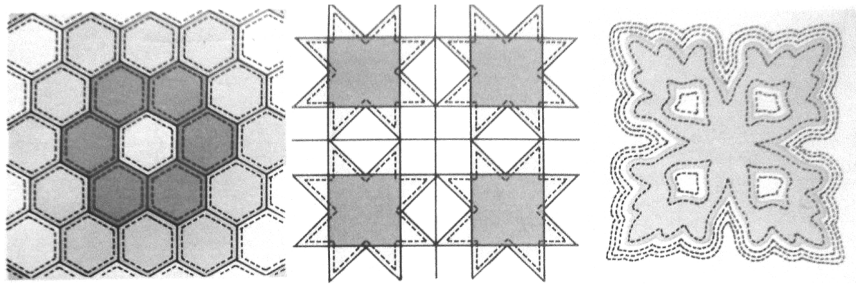


Fig : 4.27 Outline Quilt

4.4.5.2. All over patterns

It produces a regular pattern by repetition of one or more shapes. They are used to cover the entire surface with a simple background or fill open areas or within quilted motifs.

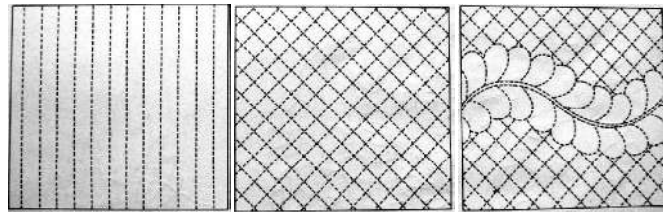


Fig : 4.28 All over patterns

It can be stitched in the form of straight line, criss cross, diamond shape, circle, half circle, combination of the lines or circles etc., according to the chosen design (fig 4.28).

4.4.5.3. Ornamental pattern

Different kinds of motifs are used, either they can be purchased or prepared. These motifs usually contain intricate details and could be well seen when done on a plain fabric surface. Elaborate design act as central motif and smaller motifs may surround the centre design or corners.

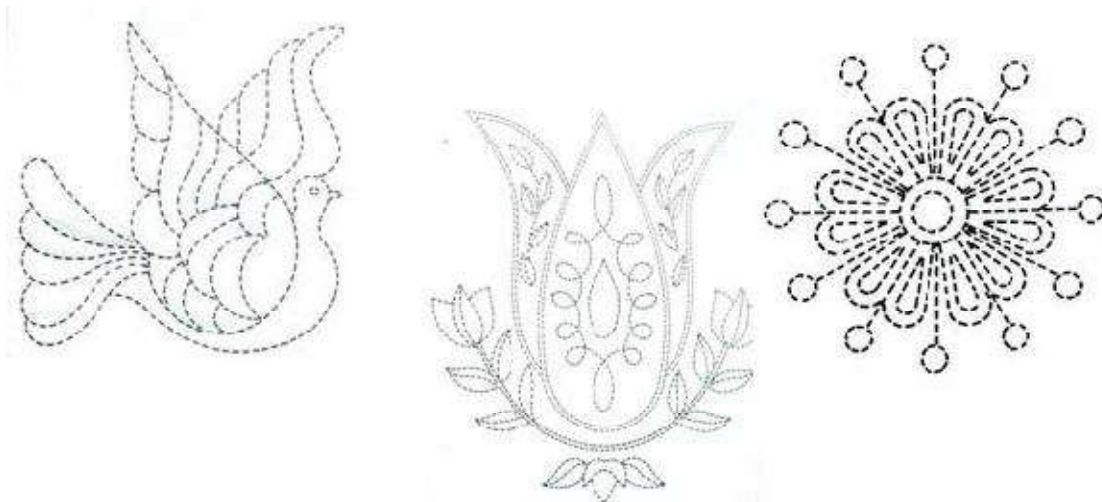


Fig : 4.29 Ornamental pattern

4.4.5.4. Border pattern

Border designs are made up of repeated patterns of motifs that frame and complement the main design on a quilt. Motifs like creepers, flowers, feathers, geometric shapes etc., can be used. Combination with related corner motifs also creates a different look. Plan any border design on a graph paper. Select the design and corner motifs then work out from each corner to centre of sides adjusting design repeats in between.

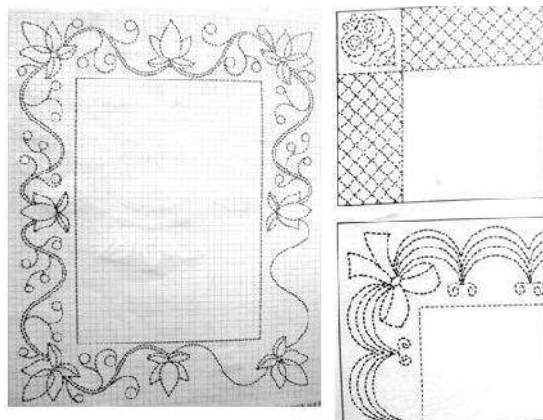


Fig : 4.30 Border patterns

Summary

The patch work, appliqué work and quilting are very simple to stitch and produce a variety of textile products. Basic stitches like running stitch, back stitch, slip stitch, button hole, zig zag etc., are used for finishing. It depends upon the design and interest of the designer. Combinations of all these three techniques can also be used for creating different range of products. Different colours, patterns, textures and shapes of fabric pieces are used to make patch work, appliqué and quilts.

Short answer type questions

- 1) List out the suitable fabrics for patch work.
- 2) What is appliqué work?
- 3) Define quilting.
- 4) What is patch work?
- 5) What are the materials needed for appliqué work?
- 6) How do you stitch curves and corners in appliqué?
- 7) Differentiate patch and appliqué work.
- 8) Differentiate patch and appliqué work.
- 9) In brief explain the cutting process of appliqué.

Long answer type questions

- 1) Describe the types of patch work with diagrams.
- 2) What are the types of appliqué? Explain.
- 3) Define quilting. Explain different types of quilting.



Study of Traditional Embroidered Textiles of India

Structure :

- 5.1 Introduction
- 5.2 Kantha work
- 5.3 Phulkari work
- 5.4 Kasheedha work
- 5.5 Chikankari Work
- 5.6 Mirror Work
- 5.7 Kasuti Work

Learning Objectives

After studying this unit, students will be able

- To gain knowledge about traditional embroideries.
- To know about how each state is famous for its Embroidery work..
- To understand the origin of technique and design with reference to colours, motifs, layouts of different embroidered textiles.
- To learn about the evolution of embroidered textiles over a period of time.

5.1. Introduction

Embroidered textiles of India provide the visible index to stitches, fabrics, methods of enrichment used. Elaborately embroidered clothing for religious purposes or as household items have been a mark of cultural heritage in India. Indian arts and crafts have become world famous. Traditional techniques of embroidery have been passed over from generation to generation thus creating heirlooms of technique and products over the various geographical locations along the length and breadth of the country. A few of such crafts of the Indian states have been briefed in this unit.

In this chapter the Indian embroideries are classified on the basis of region as follows.

- a) North India
 - (i) Kashida of Kashmir
 - (ii) Phulkari of Punjab
 - (iii) Chamba Rumal of Himachal Pradesh
- b) Western India
 - (i) Kutch Embroidery of Gujarat
 - (ii) Parsi embroidery of Maharashtra
- c) Central India
 - (i) Chikankari of Uttar Pradesh.
 - (ii) PhoolPattikakaam of Uttar Pradesh.
 - (iii) Zardozi of Uttar Pradesh
- d) Southern India
 - (i) Kasuti of Karnataka
 - (ii) Lambadi embroidery of Andhra Pradesh

- e) Eastern India
 - (i) Kantha of West Bengal
 - (ii) Sujani of Bihar
 - (iii) Pipli appliqué of Orissa

5.2. Kantha Work

A folk art of Bengal is referred to as the “art of rags”, since the base is of waste / used material special significance of making Kantha is having quilted effect on the fabric. They also include appliqué work and embroidery on quilts. Kantha stands as a model of skill done by all classes of people and worked by West Bengal Women. They show creativity resourcefulness, imaginary power and patience. Hoogli, Patna, Stagaon, Haridpur, Fulna and other parts of East and West Bengal are the major places of production of these Kanthas.

Motifs used

Lotus flowers, human and animal figures, floral and foliage symbols, tree of life, creepers, animals and bird forums, fish, sea-monsters, mermaids, sub-marine scenes, domestic articles like mirrors, pitcher, nut cracker, umbrella, musical instruments etc.,

Colours used

The colours of the threads used are blue, green, yellow, red and black. The threads normally used are taken out from the borders of the discarded saris which are used for the base. Today instead of threads drawn from the borders vividly coloured silk or bright embroidery strands are used.

Fabric used

All types of silk, cotton and wool mostly old one.

Stitches used

Main stitches used are darning, satin and loop. For the border stem stitches are used. Most common and typical stitch used is very small darning stitches giving dotted lines. Appliqué work also is seen on Kanthas.



Fig 5.1 Kantha work

Kinds of Kantha**Lep Kantha**

This is a thick quilted wrap used in winter as a cover.

Bay ton

It is used as wraps for books, valuables etc., It is square in shape. Has a central motif and two to three borders.

Durjan (or) Thalia

It is square in shape and is supposed to be a wallet cover.

Arshilta

It is used as wrap for mirrors and combs.

Oar

Is rectangular in shape, is used for pillow cases.

Rumal

This is hand kerchief of the size twelve inches square.

Sujani

It is a bed spread with less thickness and is used as a spread during ceremonial occasions.

End Use

Now-a-days Kantha Embroidery is done on single layer of white or coloured fabric base using contemporary motifs. The products range includes stoles dupattas, saris and suit materials.

It was presented to the bride groom as well as used as wrap valuables and gift other uses of Kantha include bags for keeping money and book cover.

5.3. Phulkari Work

Phulkari is an embroidery style that originated in Punjab. It is used and embroidered in different parts of Punjab namely Jalandhar, Amritsar, Kapurthala, Hoshiarpur, Ludhiana and Patiala. Phulkari literally means flower craft. Phulkari is considered as an important part of the trousseau in Punjab each of a particular type of Bagh. The needle work is widely practiced by women of Punjab and holds significance in a life of a woman from her marriage till her final abode to heaven. The maternal grandmother starts embroidering chobe. A bagh or Phulkari, therefore, is not only a beautiful traditional art but a symbol of maternal love and faith expressed in embroidery.

Fabric used

The beauty of Phulkari depends a great deal on the colour of the ground material. Khadder cloth was always used for embroidering baghs and Phulkari. It was hand spun and hand-woven cotton material. The colour of the Khadder fabric was mostly red, white, blue or black.

Threads used

The threads used are pure silk. It is untwisted silken floss of golden yellow, green, white, crimson red and orange are the five used.

Motifs used

The motifs are made up of horizontal, vertical and diagonal stitches producing geometrical pattern in Phulkari designs. The motifs used in Phulkari are inspired by objects of everyday use like rolling pin, sword, flowers, vegetables, birds, animals etc., Usually one motif is left unembroidered in an offbeat colour. This motif is called ‘nazarbuti’ which is considered to ward off the evil eye.

Stitches used

Long and short darning stitches are used in Phulkari. It is a unique method of embroidery that, it is worked entirely with double satin stitch which looks the same on both sides of the cloth.

In Phulkari the ornamentation is dispersed where as in bagh, the whole field is covered with pat or silk floss and not even a thread of the base fabric is visible with beautifully blending colours.

Kinds of Phulkari

There are many types of Phulkaris. They may be grouped into four or five main classes.

The Chope

The chope and suber were wedding Phulkaris and were presented to the bride by her maternal relations during the marriage ceremony.

Saloo

The plain red or dark red khaddar shawl known as Saloo was used for daily household wear.

Tilpatra

These shawls have very little embroidery and are of inferior quality khaddar and are often gifted to servants during marriages. Tilpatra literally means dotted with “til” seed design.

Nilak

It was worked on black or navy-blue khaddar with yellow and crimson red pat. That is popular among the peasant women.

Kinds of Baghs

Ghungat Bagh

Ghungat Bagh or The veil shawl because it has triangular patch of embroidery on that portion of the shawl which covers the head when worn.

Varida Bagh

Varida Bagh presented by the bride groom’s mother to the bride.

End Use

Phulkari is done on apparels especially dupatta, offerings to the God, house hold linen.



Fig 5.2 Phulkari work

5.4. Kashida Work

Kashida is an embroidery style from Kashmir that is done by men. Kashmir embroidery and shawls are well known for the beauty of the colour, texture, design and technique all over the world. The wool embroidery of Kashmir is universally famous probably the best known of Indian embroidery is the Kashidha of Kashmir. The finest shawls with intricate embroideries have become a fascination in the market.

Colours used

The most commonly used in Kashmir shawls are white (Sufed), green (Zingari), Purple (Uda), blue (ferozi), yellow (zard) and black (mushki), crimson (gulmar) and scarlet (Kirmiz).

Motifs used

The motifs are mostly taken from nature. Animals and human figures are not seen in Kashmir embroidery probably because of the muslim influence in the area.

- Birds motifs are parrot, wood pecker, canary, magpie and king fisher.
- Floral motifs used are iris, lotus, lilly, tulip and saffron flower.
- Other designs are grapes, pulses, cherries, almonds and blossoms.
- The chenar leaf is considered to be an important motif.

Fabric used

The base material for Kashida is cotton, wool, silk in a variety of colours like white, blue, yellow, red, green and black.

Threads used

Threads used to execute Kashidha are wool, silk, cotton and art silk.

Stitches used

The common stitches used are satin stitch, the stem stitch and chain stitch. Occasionally darning and herring bone are also used.

Kinds of Embroidery

The three styles of embroidery followed in Kashmir.

Sozni

It is intricate embroidery that uses stitches like fly stitch, stem stitch and darning stitch.

The Aari

The aari style, also called Zatakdozi employs hook or aarti to fill in motifs with chain stitch.

Couching

In Kashmiri couching zari thread is laid on the fabric along the pattern and is held in place with another thread.

End Use

Kashmiri embroidery is primarily done on shawls and regional garments like pheron. Chain stitch embroidery is done on woollen floor rugs called Gabbas and Namdas. Now-a-days Kashidha is also used to decorate household items like bed covers, cushion covers, lamp shades bags and other accessories.

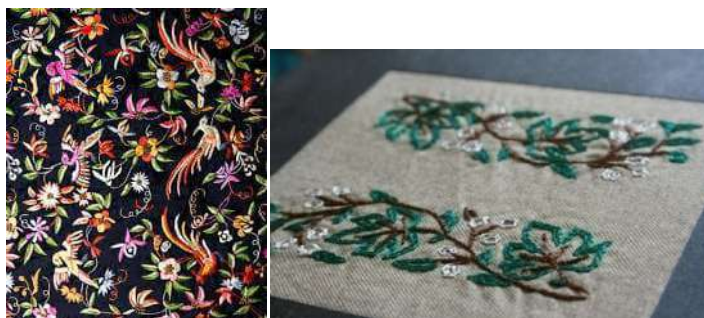


Fig 5.3Kashidha work

5.5. Chikankari Work

Chikankari is called white embroidery practiced in Lucknow, Uttar Pradesh. To show the purity of river Yamuna white commonly used.

Fabric used

Plain white fabric is used for this embroidery. It is mostly done white on white. Fine musclin cloth is usually used but today it is done on cambric and similar fabrics.

Stitches used

Ordinary stitches like satin, stem, back herringbone and button hole stitches are used.

Kinds of embroidery

There are two types of chinkankari work flat style and the knotted embossed

The stitches are named as Taipchi, Khatawa, Buhkia, Murri, Phanda and Jali.

Bukhia

Constitutes of a inverted satin stitch or herring bone with designs outlined on the right side of the fabric. The thread is chiefly below the cloth. It is also called shadow work because the stitches that cover the wrong side of the cloth are in herring bone producing a shadowy effect.

Murri

Falls under embossed knotted style. Murri means rice grain. It is usually done on muslin cloth, murri is worked in the center of the flowers. This is a knotted variety of stitch to give a rich heavy embossed effect. It is actually a French knot stitch.

Phanda

Phanda resembles grains like millet. This is also in embossed knotted style. This is smaller and shorter form of murri stitch. These are used to fill petals or leaves in a pattern.

Jali work

Lace like trellis which look like drawn thread work. This is done by piercing up the fabric into holes and not by drawing out threads. The warp and weft threads are pushed apart with the needle into holes and tightened to give the cloth the appearance of net.

End use

Traditionally embroidery was done mainly for male garments such as kurta, bandi, choga etc., for summer wear. It is used in sari borders, blouses, neckties, and white caps. Chikankari reflects purity that is dainty and delicate work.



Fig 5.4 Chikankari work

5.6. Mirror work

Banjara mirror work is the famous traditional embroidery done by Sugali tribal people commonly called as Lambadas – a nomadic people from Andhra Pradesh. The colourful embroidery is done by the women to decorate their costume namely Phetia or skirt and Kanchali or blouse.

Motifs

The motifs are mainly geometrical grid like patterns.

Stitches used

Banjara work is famous for patch work, mirror work, bead work, with little embroidery using heavy stitches like herring bone, satin and chain stitches.

Fabrics

A thick cotton fabric like casement is mainly used to make skirt / ghagra and blouse / choli. The orhni part of the costumes is also adorned with this embroidery, but a light weight fabric is used to make this. All fabrics used are of dark colours.

Threads

Crude woollen fibers from goats are used in olden days. Presently cotton, silk threads of bright colours are used to make the stitches in Banjara work.

End Use

In the past Lambadi women, embroidered their garments and other utility products like pouches and bags. Now-a-days the embroidery is done on a variety of products like cushion covers, bed covers wall hangings and accessories like bags, head bands, waist belts etc.,



Fig 5.5 Mirror work

5.7. Kasuti Work

Kasuti embroidery is practised in Karnataka. The embroidery considered as an auspicious craft is executed by women, Kasuti embroidery is famous in many places especially in the districts of Bijapur, Dharwar, Belgaum, Miraj, Sangli and Jamkhandi.

Motifs

They are from temple architecture the gopurams of South India and also lotus flower, raths and palaquims bird motif such asparrot, the peacock, the swan and squirrel are common. Animal motifs used are sacred bull the elephant and the deer and tulsi pot etc.,

Fabrics used

The material on which Kasuti embroidery was done earlier was mostly commonly used as blouse pieces and sarees today, Kasuti embroidery is done on any type of fabric. It is done on curtains, cushion covers and many other household articles of hand woven cloth. As far as designs are concerned, Hindu motifs predominated here.

Threads used

Today mercerised cotton threads such as Kohinoor and Anchor threads or pure silk thread of strong nature and fast colours are used.

Stitches used

The embroidery uses a combination of horizontal, vertical and diagonal stitches. The motifs are not traced on the fabric and the embroidery is executed by counting the yarns in the base material.

Stitches used

Four types of stitches are used in Kasuti. They are

(a) Gavnti

It is a line and back stitch or double running stitch. This name is derived from Gaonti meaning a knot in Kannada language.

(b) Murgi

Appears like the steps of a ladder as the stitches are in zig – zag line.

(c) Negi

It is ordinary running stitch. It has the overall effect of a woven design.

(d) Menthi

It is an ordinary cross stitch.

Colours used

For Kasuti are orange, green, purple and red, white is predominant on a black and dark background.

End Use

Traditionally the embroidery was done on Ikkat sari and other apparel items like women's blouse and children's bonnets. Presently it is also done on home products like cushion covers, bed covers, curtains and accessories like hand bags, mobile pouches, belts etc.,



Fig 5.6 Kasuti work

Summary

Learning Traditional embroideries of India is very important for fashion designer. India has its own traditional embroidery therefore, each state shows its uniqueness in the work done by its people. This chapter helps in visualising the traditions followed, motifs, stitches, fabrics, threads used and products prepared using these traditional embroideries. It also indicates the changes that have taken place during the course of time in making these traditional embroideries. It helps the fashion designers to take the traditional art into international market.

Short answer type questions

4. Name any four traditional embroidery from India giving the states and their specialities.
5. What are the stitches and motifs used in Phulkari embroidery ?
6. List down the unique features of Kashindha embroidery.
7. Mention any four types of Kantha embroidery utilities.
8. Enumerate the types of stitches used in Chikanchari.
9. Write about gavanti and methi stitches in Kasuti embroidery.
10. What kind of fabrics are used for Banjara mirror work ?

Long answer type questions

- 6) Explain in brief about Kasuti embroidery.
- 7) Give details about stitches used in Phulkari work.
- 8) What is Chikankari embroidery ? Explain.
- 9) Explain in detail about the Andhra Pradesh traditional embroidery.



Printing methods

Structure:-

- 6.1 Introduction
- 6.2 General theory of Printing
- 6.3 Types of Printing

Learning Objectives: -

After studying this unit, students will be able

- To learn the techniques of printing to enhance the beauty of the fabric.
- To understand the general theory of Printing.
- To get familiar with different kinds of printing methods.

6.1. Introduction

Textile printing is one of the procedures of textile decoration. It is like localised dyeing of textiles. The process of printing on textiles using wooden blocks was common in India since 12th century. India holds a rich tradition of block printing. In printing a pattern or a design is generally imprinted on the fabric in one or more colours by using dyes in the paste form. Fabric that is to be printed must be signed bleached and cleaned.

6.2. General theory of Printing

Printing of textile material is the process of application of colorant to a predominant area of the design. For printing, dye or pigment is required as the colourant. The printing on textile is done with the application print paste that is prepared by using dye / pigment, binder, thickener, water and other print auxiliaries. A print paste limits the colorant to a limited part of the fabric, unlike dyeing where the colourant should be applied uniformly throughout the fabric. This section would discuss the role of the different ingredients used in printing of textiles.

The main colouring compound in the printing is Dye / Pigment.

Water

A small amount of water is required in printing to dissolve the dye into the print paste. Water is a convenient and easily available medium to mix and disperse the dye molecules in the thickener.

Thickener

The purpose of thickener is to produce a medium for the dye paste. The viscosity of the printing paste is very important as it affects the clarity and depth of the printed pattern. The physical and chemical properties of thickener should be such that it should not crack immediately after printing thickeners can be any one of the following.

- Natural gum such as gum Acacia, gum Arabic or gums from starches.
- Man made natural polymer based gum like carboxy methyl cellulose, sodium alginate.
- Man made synthetic compounds such as polyvinyl alcohol.

Steam

After printing the next process is generally steaming. Steaming ensures adequate penetration of the dye molecules in to the fiber. This is possible because steaming provides energy for the dye molecules to enter the fiber structure Steaming also helps in swelling of the fibers. So that the dye from the print paste can enter the fiber polymer system.

Dry heating

Thermo plastic fibers tend to be hydrophobic and do not swell sufficiently in water when subjected to steaming. Dry heating softens the fiber and allow the dye molecules to enter into amorphous region of the fiber structure.

Washing

Washing is done to remove the thickener and other printing paste from the surface of the fabric after printing process.

6.3. Types of Printing

Printing has been divided into (A) Hand Printing (B) Machine Printing

(A) Hand Printing

(i) Block Printing

Block Printing was practiced by Chinese and Indians some two thousand years ago. The design is carved on line which is generally cut into a thickness of $\frac{1}{4}$ inch. The cut piece of line is struck to wooden piece of the same size. Many printers use only wooden blocks on which the design has been carved. The blocks are placed on the print paste and stamped on the fabric to be printed and allowed to dry. Then another block carrying the paste of different colour is stamped over it to form the multicoloured patterns. The process is repeated over the entire fabric.

It is slow and costly process uniform pressure is needed to transfer the colour. The intensity of the colour cannot be uniform throughout. It is a manual method of printing which is still practised in India mainly in the following states.

Table 6.1 Block printing locations in India

States	Locations
Andhra Pradesh	Machilipatnam (Kalankari)
Telangana	Hyderabad
Gujarat	Ahmedabad, Kutch, Porbandar, Rajkot
Rajasthan	Bagru, Chittoli, Sanganeer, Jaipur, Jodhpur

Madhya Pradesh

Bangh, Behrongarh, Indore, Mandsar, Burhanpur

Uttar Pradesh

Benaras (Block – makers) Farrukabad, Pilakhuan (block makers)

West Bengal

Kolkata and Serampore

**Fig : 6.1 Block Printing****(ii) Screen Printing**

Originally, this technique was referred to as silk screen printing because the screens were made of fine, strong silk thread. Today they are also made of nylon, polyester, vinyl and metal. Screen printing is done with the use of either flat or cylindrical screens.

Depending on the number of colours that are required for printing the same number of screens need to be prepared. The print paste is then applied on the fabric by using a squeegee. Print paste is applied on the screen and the squeegee then moves across the screen forcing the print paste through the screen and into the fabric. Rotary Screen Printing is the most popular method of printing and most economical printing method in the textile printing industry. It has also high production rate.

**Fig : 6.2 Screen Prints**

(iii) Stencil Printing

Stencil printing is originated in Japan. Its high cost limits its use and importance. In this printing, the design must be first cut in cardboard, wood or metal. The stencil may have a fine delicate design, or there may be large spaces through which great amount of colour may be applied. A stencil design is usually limited to the application of one or two colour and generally used for narrow width of fabric like block printing. This method is very slow.

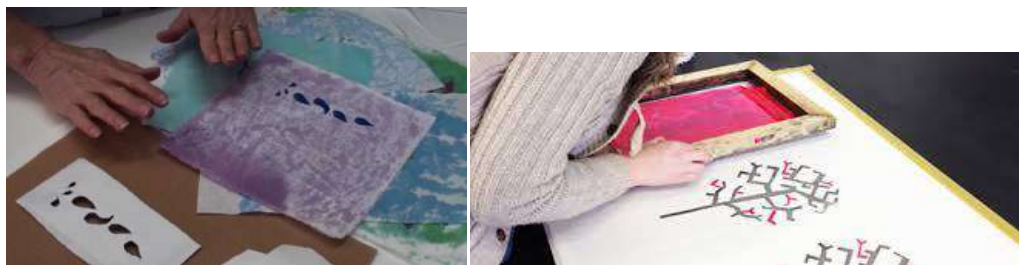


Fig : 6.3 Stencil Printing

(B) Machine Printing

Machine printing includes direct roller printing, duplex printing, discharge printing, resist printing, pigment printing, transfer printing, photo printing, flock printing and digital printing.

(i) Direct Roller Printing

Roller printing was developed in 1785. Thousands of yards of coloured fabrics were produced in an hour by this method of printing.

In this printing, several copper cylinders or rollers are engraved with design. Engraving the designs on the roller is hard and careful work lasting many days, but actual printing by this method takes very little time.

The roller is as wide as cloth. The number of rollers required depends upon the number of colours used in the design. One roller prints one colour only. The roller printing machines comprises of a large central cylinder around which passes the fabric to be printed, this cylinder rotates with the moving fabric, number of colour printing rollers, carrying different colours, press against the fabric and the central cylinder. Thus if there are five colours in the design there are five colour printing rollers. Each of these rollers is made of copper and engraved with the respective design. Furnished rollers which move at intervals, containing the colour or dye are placed close to the design rollers. The dye is absorbed by the brush like surface and transformed to the design engraved rollers.

Next to the design roller is a big iron cylinder or roller around which the cloth is drawn as it is printed. The cloth to be printed needs a rubberized blanket (for padding) and grey cloth Rasc between the engraved rollers and the cylinder. The blanket gives a good surface for sharp printing and the grey cloth protects the blanket besides absorbing the excess dye.

Printing machines of this kind can be provided with upto fourteen rollers, as they are able to produce patters in fourteen colours. The roller printing machine prints only one side of the fabric.



Fig : 6.4 Roller Printing

ii) Duplex Printing

In Duplex printing, the printing is done on both sides. The fabric may be passed through the roller printing machine in separate operations. This printing forms clear outline on both sides of fabric.



Fig : 6.5 Duplex Printing

iii) Discharge Printing

This type of printing is suitable for fabrics with the dark backgrounds. The fabric is first dyed. A discharge paste which contains chemicals to remove the colour is then printed on the fabric, to produce a white pattern on a ground colour. This print is done on materials like cotton and rayon.



Fig : 6.6 Discharge Printing

iv) Resist Printing

This is just the opposite of discharge printing. In this type of printing, resist materials paste is printed first on the white fabric and the fabric is then piece dyed. The resist material used are resins or clay gum. It is put in a patterned form on fabric and is subsequently immersed in dye. The dye will affect only the parts that are not covered by the resist paste. The place where resist material has been put remain undyed. After fabric has been passed through subsequent dyeing, processes, the resist paste is removed, leaving a pattern on dark background.



Fig : 6.7 Resist Printing

v) Pigment Printing

In this, dyes used are insoluble in water and very fast to light. The pigments are made into colour, printing paste, using various ingredients especially resin to act as binder to the pigment to the printed fabric.

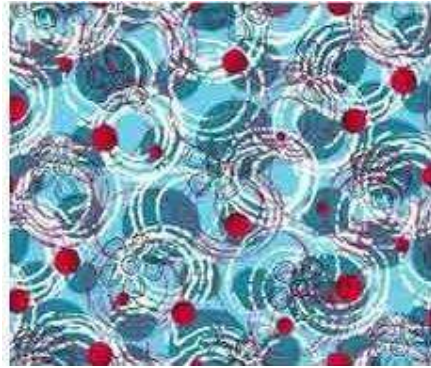


Fig : 6.8 Pigment Printing

vi) Photo Printing

In this type, the fabric is coated with a chemical that is sensitive to light. The negative of the design is put against the fabric surface and the light is made to fall on it. The design on the negative gets printed on the fabric. The fabric is then washed. Black and white designs and coloured designs can be printed on the fabric print design.



Fig :6.9 Photo Printing

vii) Transfer Printing

Transfer printing is the process of transferring an image to fabric by the process of sublimation, transfer, melt transfer or film release method. In this method the image is generally printed on a paper carrier using rotative dyes. When heat and pressure are applied to this paper the dyes are transferred to the fabric. Volatile disperse dyes are used for transfer printing.



Fig : 6.10 Transfer Printing

viii) Digital Printing

Digital printing is the latest advancement in the method of printing, in which digital inkjet printing machines are used to print the design on the fabric. As the process is computerized, screen or block preparation is not necessary to transfer the design on the fabric. The inks used for digital printing can be based on dyes or pigments. It gives more flexibility to change the design than block or screen printing.



Fig : 6.11 Digital Printing

ix) Flock Printing

This is a technique of adhering minute pieces of fiber to form design on fabrics using a suitable adhesive, a design is roller printed on to the fabric then flock of cotton, wool, viscose rayon, nylon or acrylic are applied to the fabric in manner that causes it to adhere in an upright position and produce a pile like, velvet – textured design.



Fig : 6.12 Flock Printing

Summary

The various methods of printing are adopted to enhance the beauty of the textile materials. The vision and vocabulary of the artisan and functional usage of a particular artcraft have led to important contributions in the development of artistic design in India. This is clearly seen in Kalamkari from Andhra Pradesh and printed textiles of Rajasthan. The preservation, revival and study of the best traditional designs and motifs is necessary to provide a guide to good craftsmanship. These designs embody the indigenous talents synthesized over time with new cultural impacts and the imagery of sign and symbol.

Short answer type questions

11. Define printing.
12. What are the types of printing?
13. Name any two states and its locations for printing?

Long answer type questions

- 10) Explain the procedure for printing.
- 11) Describe any two methods of hand printing.
- 12) Explain any three methods of machine printing.

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COMMERCIAL GARMENT TECHNOLOGY

Paper – III

Apparel & Fashion Designing

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INTRODUCTION TO DESIGN ELEMENTS

Structure

Introduction

1.1 Elements of Design

1.2 Line

1.3 Form

1.4 Colour

1.5 Texture

Learning Objectives

After studying this unit, the student will be able to:

Understand the importance and types of art elements used in dress designing

Identify the elements that influence clothing design development

Apply the relevant elements in various dress designing aspects.

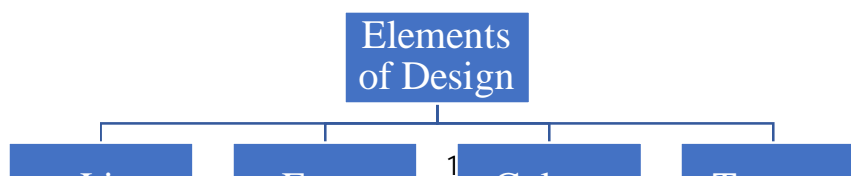
1.0 Introduction

Designing process involves the combining of Design Elements and Principles in new and exciting ways to create fresh and pleasing combinations. Generally, a successful and good design is achieved when all the elements and principles of design work together harmoniously with the theme of the garment. Over-designed fashion usually does not sell well. There are many ways to develop ideas and themes. For daily wear, the garment is simple and practical, so the elements used in creating the garment are less noticeable. For an evening gown, the elements used in creation should be appropriate that the creation is sensational. The elements of design provide a baseline for designing beautiful garments. Garment designing should involve three aspects-structure, function and decoration.

1.1 Elements of Design

The main elements of design are line, form, colour and texture. The designer should try as many variations possible before creating the design that has perfect combination of fabric, colour, line, shape and perfect use of balance, proportion, emphasis and repetition. A design can be defined as arrangement of line, form, colour and texture that create visual image. The principles of design in the design which should be arranged with care as not to disturb the theme of the design.

The following are the elements of design



1.2 Line

Line is the distance between two points joined together and is a continuous movement of a point along a surface. Line is the most important design element which is the simplest one. Every line has length, thickness and direction. Line is used to define shape, contours and outlines. Lines offer a path of vision for the eyes when one is wearing an object/outfit. The arrangement of lines in clothing design can cause to appear heavier or thinner than what actually is. Lines within a garment are created by darts, seams and decorative details. Each kind of line produces its own special effect. Straight lines denote force and strength and have a masculine quality; curved lines are the lines of nature, they are graceful and gives a feminine effect.

1.2.1 Characteristics of Line

Width-thick, thin, tapering and uneven

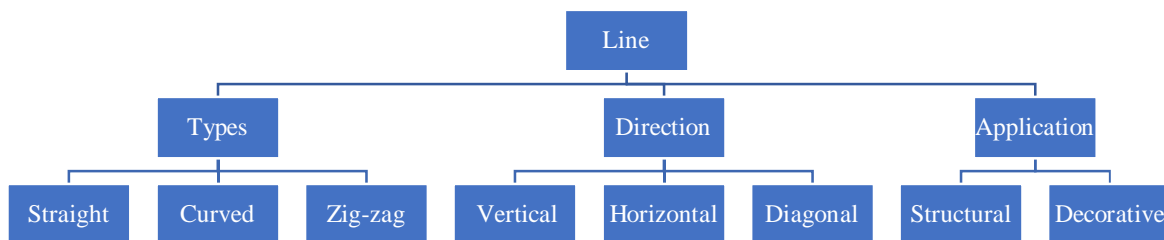
Length- long, short, continuous and broken

Direction-vertical, horizontal, diagonal, curved, perpendicular, oblique, parallel, radial, zig zag

Focus-sharp, blurry, fuzzy and choppy

Feeling- sharp, jagged, graceful and smooth

1.2.2 Classification of lines



- 1) **Straight lines:** Straight line in a garment emphasizes the body angularity and neutralizes the roundness of the body. They oppose natural curves and signify permanence, neatness, flatness and strength. They create a feeling of elegance, boldness, power and stability. Fig 1.1
- 2) **Curved lines:** Curved lines emphasize body curves and counter thickness and sharp angles. Curved lines can be a full circle or may even appear almost straight. Curved lines are considered graceful, feminine, romantic and thoughtful by nature. The curved lines in a diagonal direction are the most graceful and can be seen in the soft folds of material in a draped dress Fig 1.2.
- 3) **Zig-zag lines:** Zig-zag lines in a garment emphasize the angularity. They have sharp points which change the direction abruptly. They create a feeling of confusion in the

- 4) garment, so they should be used limitedly. Zig-zag lines are always teamed up with vertical or horizontal lines to give best results Fig 1.3.



Fig 1.1 Straight line



Fig 1.2 Curved line

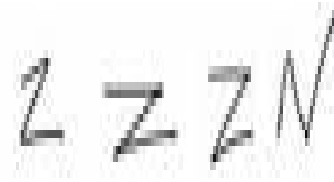


Fig 1.3 Zig-zag line

- 5) **Vertical lines:** The vertical lines produce an illusion of added height to the outfit design by adding and contrasting coloured vertical block in the centre or a centre panel added with vertical line gives an added height to the outfit. These lines tend to make a short person look tall Fig 1.4.
- 6) **Horizontal lines:** Horizontal line adds width to the garment and decrease the apparent height, for example a wide contrasting coloured belt shortens the height of the figure by cutting the garment into two segments, however the belt has the effect of slimming the waist line, the coloured will not shorten the height of the outfit as well as the wearer Fig 1.5.
- 7) **Diagonal lines:** Diagonal lines can add or decrease the height of the wearer depending on their slope. Long uninterrupted diagonals tilting almost vertically are the most lengthening and most dramatic of all lines. Diagonal lines when combined with vertical or horizontal lines give best result rather than using alone for the entire dress results in a disturbing effect Fig 1.6.



Fig 1.4 Vertical line



Fig 1.5 Horizontal line

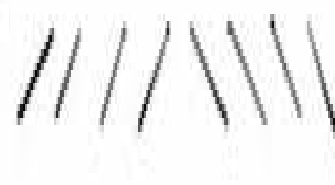


Fig 1.6 Diagonal line

- 8) **Structural lines:** Structural lines require maintaining the structure of the garment. They are most visible lines in the garment given the fabrics are plain. These lines are found in seams, yokes, darts, panels, zippers, tucks, in knitted garments. These lines signify neatness and slimness in a garment.
- 9) **Decorative lines:** Decorative lines are created by adding details to the surface of the clothing. Rows of buttons, braids, fringes, ruffles, faggoting, flaps, and scarves are some examples of decorative lines introduced into a garment.



Fig 1.7 Structural Lines

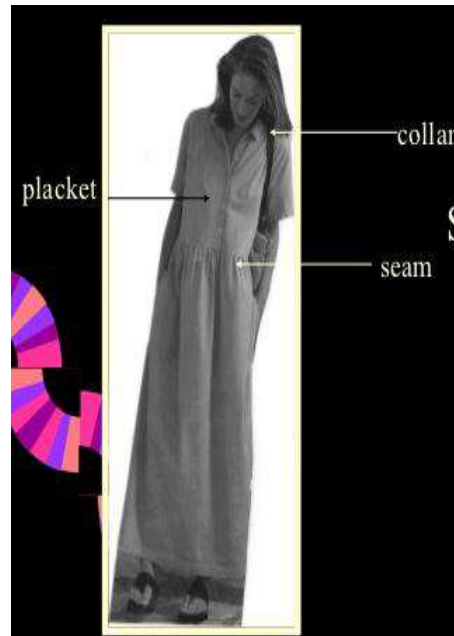


Fig 1.8 Decorative Lines

Optical Illusions created by Lines

The horizontal lines are of the same length. The eye follows each line until it meets a line that turns downward or upward. The lines look shorter when lines turn downward and longer when lines continue upward. Fig 1.9

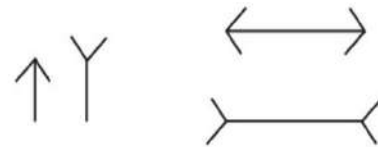


Fig 1.9

The two of each set of rectangles are the same size, but the use of a vertical or horizontal line within each rectangle creates an illusion of varied size. When two or more vertical or horizontal lines are used, the spacing between the lines will affect the illusion created. Fig 1.10



Fig 1.10

Generally, vertical lines that carry the eye up the figure without interruption, will give a taller, more slender illusion. Lines that stop the eye from traveling upward by moving the eye from side to side or back down will create a shorter and heavier illusion. Fig 1.11



Fig 1.11

In clothing, lines often combined into designs that appear to form an arrow, or the letters T, I or Y. These configurations cause certain optical illusions. Lines that form an arrow tend to deflect the gaze downward. They shorten, or reduce the height of a person. Lines that form a “T” also stop the upward movement of the eye. The height is again cut, but width is given to the top. Lines that form an “I” tend to give a vertical feeling that is contained at the top and bottom. They carry the gaze upward and make the body look somewhat taller and thinner. Lines that form a “Y” keep the gaze moving upward even further. The appearance of even more height is given to the body with a raised collar or a V neckline.

Lines spaced far apart make the figure look larger than they are nearer. A panel at the center of the dress can create this effect. Also when the lines are bold, they draw the attention of the on looker. Thick stripes create this illusion. They make a person look larger than they actually are. Wide stripes broaden while narrow stripes have lengthening illusion. Fig 1.12

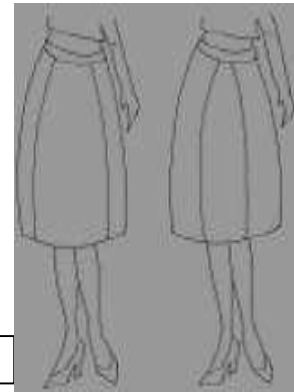
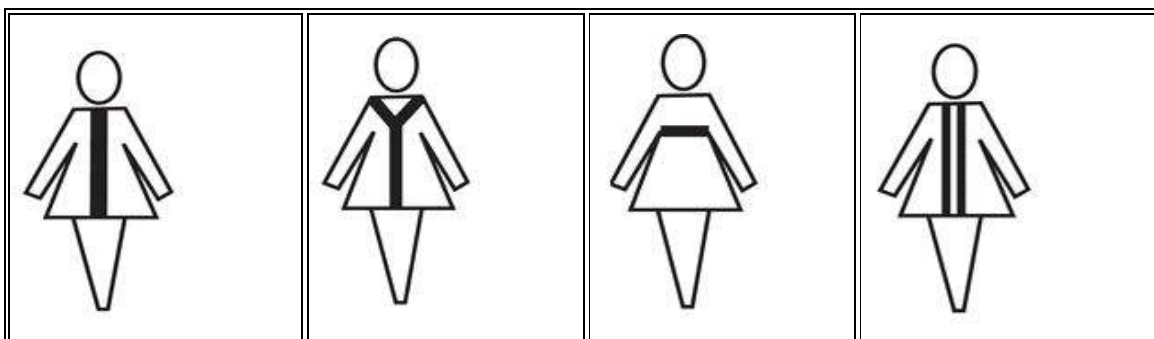






Fig 1.12

Some examples with figures



The single vertical line moves the eye upward, with nothing to interrupt its movement.	The magic "Y" creates a feeling of height as the eye is guided upward, with nothing to impede its vertical motion.	The longer your eye can travel upward without being interrupted by a horizontal line, the taller the figure will appear.	Two vertical lines spaced close together form a narrow panel that moves the eye up the figure.
			
A vertical illusion becomes a horizontal illusion when a vertical line is topped with a horizontal line, causing the eye to move from side to side.	A vertical line suddenly appears shorter when the eye is forced downward.	The sooner the eye encounters a horizontal line, the shorter the figure will appear.	Two vertical lines spaced far apart form three wide panels that move the eye across the figure.

1.3 Form/Shape

Form: Form is an object having three dimensions like length, width and depth. The human form changes visually with clothing, especially as fashion changes.

Shape: Shape describes the outer dimensions of an object. Through clothing design, the shape of the human body is often revealed in a natural way, but sometimes even distorted. The shape of clothing on a human body, communicates silently, the messages about the wearer.

The shape of the body plus the lines of garment create an overall form that defines the garment silhouette. Often the silhouette gives the first impression because it is seen from a distance and it is contrast to a background. The silhouetted form of the clothes next to body reveals the shapes of various parts of the body line, and the garment, such as sleeves, shirt or pants. The human body is a form and by viewing it analytically, its various perspectives are revealed. The human form changes visually with clothing, especially as fashion changes. Through clothing design, the shape of the human body is often revealed in a natural way, but sometimes even distorted.

Every fashion period has a specific shape of garment which once determined can be modified and re-styled for variation in design without changing the basic shape of the garment. It has been observed that an easy fitting shape of the garment is easily accepted and largely varies

as well as has longevity of stay; where as a tight fitting garment is generally short lived since it is suitable to only perfect figure types. It is therefore advisable that the designer chooses an easy silhouette to keep on creating for a longer duration.

1.3.1 Basic Shapes

The shape and form can emphasize specific areas of the body while downplaying other less desirable areas. The shape tends to change depending on the current trends. In dress designing there are many shapes — each season adaptations of one or more of these predominates the fashion picture.

The prominent shapes in recent times are as follows:

1.3.1.1 Trapeze dress is a dress style that is narrow at the shoulders and very wide at the hem of the dress. It's like an A-Line dress, but the Trapeze dress has a much wider hem than the A-Line, and they often end below the knee.

1.3.1.2 Tent dress is a style that is wide like the Trapeze dress, but the hem is flounced. Tent dresses also do not fall below the knee like the Trapeze dress usually does.

1.3.1.3 A-Line dress is a popular style whose silhouette is narrow at the shoulders and gradually flares out towards the hem of the dress. This is where it gets its name from, because it's shaped like a capital letter "A." These dresses usually end somewhere at the knee or higher, never below.



1.3.1.4 Pencil dress style is one that sports a straight and narrow cut, which makes it fit close to the body. In more modern fashion, Pencil dresses can be found with rather short hem lengths, but their original design is usually a hem that falls to the knee.

1.3.1.5 Bell dresses are a beautiful style that is cut fitted at the bodice, and they have a big, wide skirt that billows out in a bell shape. These dresses can be both short and long with hems ranging anywhere from the knee to the ankle. These types of dresses are more popular for semi-formal to formal social events and gatherings.

1.3.1.6 Balloon dresses have a similar shape to the Bell dress, because they have the fitted bodice at the top and a wide hem, but Balloon dresses are loose and flow. They have all the fabric of a Bell dress without the bell shape, so the hem bounces with you as you walk. This is where the “balloon” part of their name comes from.

1.3.1.7 Mermaid dress is a very formal and long style of dress. It is cut straight and narrow like the Pencil dress to the knee, and from there the skirt flows out into a flounced hem. This is where the “Mermaid” name comes from—the dress looks like a mermaid’s tail. Sometimes the “tail” of these dresses are long enough to be considered a dress train. They’re a very elegant style.



1.3.1.8 Empiredress is a very formal and long style dress. It has a Yoke up to the chest and close down to the ankles.

1.3.1.9Charlestondress is a short dress supported by straps reaches up to knees and the hem line is flounced.

1.3.1.10 Sheath dress is the same as the Pencil dress, except longer! Straight and narrow cut. But while the Pencil dress hem doesn’t fall below the knee, Sheath dress hems do! These hems don’t fall to the ankle, but usually just below the knee—never past mid-calf.

1.3.1.11 Fit’n’flare dress, these dresses are often mixed up with A-Line dress, since the Fit’n’flare design also sports a narrow top and wider hem, but the Fit’n’flare style is always fitted at the waistline whereas the A-Line dress is not!

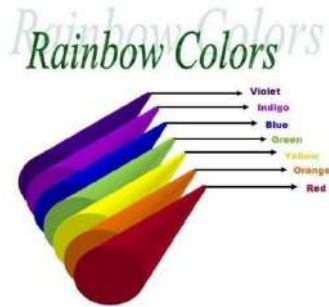
1.3.2 Visual effects of shapes

The visual effects created in the dress by the use of different shapes can affect the physical appearance and the mood of the wearer.

- Full, wide shapes make you look bigger
- Trim, compact silhouettes make you look smaller
- Straight, tubular shapes make you look taller
- Form fitting clothes reveal any unattractive contours, should only been worn by figures that are near-perfect

1.4 Colour

Colour is the visual element. It is the most exciting design element as it is the first thing noticed in a garment attracted by consumer. It carries aesthetic, visual and commercial value. Colour is simply light of different wavelengths and frequencies and light is just one form of energy made up from photons. Colour is a visual language. It is personal and universal sending a message of endless variation. The application of colour is to use it beautifully. Colour is the major deciding factor. It is a property of light, a sensation, which occurs when light enters eyes. Colour enables one to express them, to affect the feeling and also to reveal the personality of the wearer.



The colours present in a rainbow are a spectrum called VIBGYOR. But there are only three basic colours, Red, Blue and Yellow. These are the primary colours. By mixing primary colours Secondary colours are obtained and by mixing secondary and primary colours Tertiary colours are obtained. Mixing colors is an essential skill for any person who hopes to dress well. Mixing colors can create two effects — harmony or disorganization. When colors are mixed in an outfit, the colors

used are that work with each other to create an appearance that's pleasant to look at, not a mash of color that looks chaotic. If too many colors are mixed or colors mixed in a non-harmonious way, it leads to a chaotic and disorganized appearance. The colour enables one to express them, to affect, they reveal the personality of the wearer. Colour has a power to thrill and shock, irritate or sooth, attract or repel.

The study of colour may be approached from any one of the following five angles:

- Physiologist: The physiologist is concerned with the way in which the eye receives the sensation of colour.
- Chemist: The chemist studies the chemical properties of the natural and the artificial colouring materials used for the manufacture of dyes and prints.
- Physicist: To the physicist the significance of colour is merely its wavelength and its intensities.
- Psychologist: the psychologist shows the effect of colours on persons and on each other.
- Artist: The artist is the persons who play with colours and are those who mix paints and Dyes.

1.4.1 Visual effects of Colour

Color is one of the first things people notice about clothing. Even simple silhouette can be enhanced by using effective colour schemes. Colors can also be paired by temperature (warm or cool colors), saturation (vivid colors often look youthful, while faded ones look vint



age), mood (bright & fun, dark & serious), theme (location, season, holiday), and other qualities.

The use of color can create illusions of the figure size in the same way line does. The brightness or dullness and the lightness and darkness of colors also affect the illusion created. Color should be selected on the basis of complexion-hair, skin, and eyes-as well as on figure size.

1. Dull and dark colours seem to recede and make the figure appear smaller. Bright and light colours have the opposite effect.
2. Monochromatic colour schemes make the person to look thinner and taller.
3. Contrast colour combinations make the person to look short and stout.

The common meanings of the colours

- **Red:** Passion, Love, Anger
- **Orange:** Energy, Happiness, Vitality
- **Yellow:** Happiness, Hope, Deceit
- **Green:** New Beginnings, Abundance, Nature
- **Blue:** Calm, Responsible, Sadness
- **Purple:** Creativity, Royalty, Wealth
- **Black:** Mystery, Elegance, Evil
- **Gray:** Moody, Conservative, Formality
- **White:** Purity, Cleanliness, Virtue
- **Brown:** Nature, Wholesomeness, Dependability
- **Tan or Beige:** Conservative, Piety, Dull
- **Cream or Ivory:** Calm, Elegant, Purity

1.5 Texture

Texture is the surface quality of garments. Texture that you feel with your fingers is called tactile while texture that the artist recreates on a flat surface is called visual texture. Tactile texture is three-dimensional because it has height, width and depth. Visual texture is two-dimensional because it lacks actual depth. Texture has a unifying effect. When used together in an ensemble a single texture can hold it together. The emotional impact of texture is another major factor.

Texture increases or decreases the appearance of body size. It can draw added attention to the design. First and foremost, texture holds attention. Fashion is a visual medium and with inventive use of textures, the designers aim to hold and attract the attention of the consumer. Along with other elements of design like line, form, space, and colour, texture is forever creating new emotional experiences. The softness of a baby blanket, the crisp feel of the disposable hospital bed sheet, the rustle of a newly tailored wedding gown are all things which we always remember because of the texture and its experience.

Interestingly textures have weight, size, bulk and light absorbing or reflecting properties. To appear pounds thinner, look for fabrics that are medium to lightweight which are crisp, but not stiff. Very stiff fabrics appear to add weight to the body. Examples include linen, twill, gabardine, most double knits and fine-wale corduroy.

1.5.1 Types of Texture

There are specifically 3 main types of fabric texture

Original texture: This is the texture of a cloth that is structurally created at the time of manufacturing process itself; different yarns interact to create a beautiful texture naturally. The textural effect varies with the types of textile fibers used in its making, yarn weight, stitch size, and yarn structure.

Treated texture – This refers to the texture of a textile that is mainly dependant on the finishes applied on it for changing the appearance as well as increasing its functionality. There are about 70+ different types of fabric finishes applied to fabrics

Supplementary texture – This is texture created by additionally attaching other materials on the surface of the textile after it is made; E.g. embroidery done on fabric.

Visual texture – This texture refers to printed patterns on the surface of the textile after it is made. Eg



Original texture



Treated texture



Supplementary texture



Visual textures

1.5.2 Determinants of Texture

Texture is determined by the arrangement of component parts in the fabric. These are the fiber, yarn, weave and the finish given.

Fiber: Fibers are the basic components that are made into yarns. Fibers of wool produce soft texture while that of linen produce crisp texture. The short fuzzy fiber of cotton will produce a full appearance due to the fuzz. The smooth and long filaments like silk fibers and synthetic fibers make fabrics that are shiny, smooth and cool to touch.

Yarn: Yarns produced from the fibers are twisted in different ways. Yarns with low twist will produce a shiny texture because that natural gloss is not lost in high twist. Novelty yarns that are looped or coiled in manufacture of yarn create interesting surface contours

Fabric: Fabric is constructed either by weaving, knitting, felting and etc. Often fabric construction method determines the texture. Satin weave of loosely twisted yarns produce shiny texture where as twill weave fabric has dull texture.

Finish: Finish given to the fabric also determines the surface texture of the fabric. Finishes like sizing gives stiffness, moiré finishing adds shine and watermarks design to the surface of the fabric. Singeing makes the surface smooth and napping make the surface fuzzy.

1.5.3 Effects of Texture

Smooth and flat textures make people look smaller. They are suitable for almost all figures and physiques. They can hide some figure irregularities because they can hold their own shape. These fabrics will not add apparent weight unless the fabric is thick. Fabric examples include flannel, percale, velveteen, crepe, linen, shantung, seersucker, wool challis etc.

Rough textures-Dull or matte texture tends to subdue the colours of fabrics. These textures absorb light and generally make the figure look smaller. Sheer fabrics also tend to do the same as the skin of the wearer is seen through them. Fabric examples include raw silk, flannelette, taffetas, gingham, denim, wool jersey, sailcloth, broadcloth and chambray.

Shiny texture: These fabrics make the figure appear larger and reveal figure irregularities. Shiny fabrics are best for average to slim figures that have regular proportions.

Soft and clingy textures: Fabrics that are soft and drapable, cling to the body and show every contour and reveal body irregularities. Their use should be limited to those people who wish to reveal their body. This fabric clinginess to the body can be changed by the addition of lining to a garment. Examples: T-shirt jersey, chiffon

Moderately Crisp textures: These fabrics have moderate amount of stiffness in light weight. Persons with medium or average body look best in crisp textured fabrics. Garments with tailored cut helps accentuate body curves enhancing the overall personality of the individuals concealing the body shapes. Examples: Denim, corduroy, velvet

Stiff or extra crisp textures: Textures that are stiff stand away from the body **hide** body irregularities. Exclusively stiff fabrics appear to add weight to the body. Small physique persons should avoid these fabrics, as they look dwarfed. Overweight people look heavier because these fabrics stand away from the body, creating the illusion of additional thickness. Persons, who are average tall in height, having either average or thin body, are benefited by wearing very stiff fabrics. Examples: vinyl, taffeta, leather.



Smooth and flat



Dull and rough



Shiny texture

Nubby and Bulky textures seem to add volume to the figure. Small figures are overpowered by these textures, but they are good for tall, slender figures. They can be used to balance an irregular figure. Example: Bulky sweater for figure with small bust and full hips. Examples: tweeds, boucle, sweater knits



Moderately



Soft and



Stiff or extra



Nubby and

Various textures

are created by the fibers used in the fabric Can be used in the complete design such as the weave or knit of the fabric Can be used as an embellishment such as collars or sequins

SUMMARY

Designing process involves the combining of known design components in varied ways to create new products. In creating a design one of the components which are necessary are design elements. Design elements, line, shape, colour, texture are the guide lines which are helpful to create visually pleasing and aesthetic garment. The garment design involves three main aspects in a garment-structural, functional and decorative. A garment should be structurally appropriate, functionally valuable and decoratively according to current fashion trends. The elements of design should be carefully and wisely utilized to achieve desired effect in the garment.

Short Answer Questions

1. Name different elements of design that help in dress designing.
2. What is a line?
3. Name different lines used in designing.
4. What are characteristics of line?
5. Define form/shape.
6. List out different shapes used in dress designing.
7. What are the visual effects of shapes?
8. What is texture?
9. List out different types of textures.
10. List out determinants of texture in a fabric.

Long Answer Questions

1. Write the classification of lines in detail.
2. Explain optical illusions created by lines.
3. Describe different shapes with illustrations.
4. Detail the visual effects of created by colour.
5. What are the factors which determine the texture of a fabric?
6. Explain the effect created by texture in dress designing.

PRINCIPLES OF DESIGN

Structure

2.0 Introduction

2.1 Principles of Design

2.2 Balance

2.3 Rhythm

2.4 Emphasis

2.5 Proportion

2.6 Unity/Harmony

Learning Objectives

After studying this unit, the student will be able to:

Understand the importance and types of Art principles to be followed in dress designing

Identify the principles involved in clothing design development

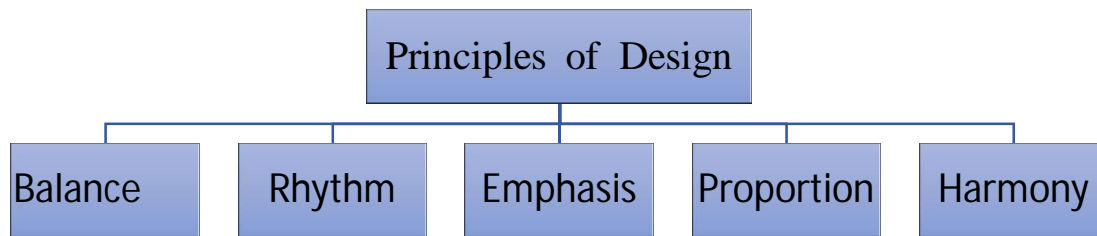
Apply the relevant principles in various dress designing aspects.

2.0 Introduction

The primary purpose of wearing clothes is for protection, e.g. to keep warm, modesty. Nowadays, people wear different clothes for different occasions and identities. They also choose clothes by following their aesthetic sense and the fashion trend. Changes that take place in the fashion industry is followed by people everywhere on all levels of society. Fashion carries prominent social significance and impact on human behaviour. Design is very much a part of the daily live. Designs are made with different goals such as designs for a special person / function / occasion market. A good design should be functional and carries certain aesthetic values. Apart from analysing the current fashion trend, designer has to understand the design principles for creating aesthetic values. The design should also meet the needs of the target group / occasion and be able to express the individuality and creativity of the designer. Designer may not be consciously aware of these principles while they are working on their designs but when something is wrong with a design, they are able to work on the problems to make the design perfect and harmonious by taking into account the principles of proportion, balance, rhythm, emphasis, harmony.

2.1 Principles of Design

Designing is the process of combining known components in different ways to create new products or effect. The principles of design are the guide lines for the use of elements of design to create an attractive garment, different forms of expression in artistic manner with care as not to disturb the theme of the design. They are used for creating, discussing and evaluating garment design on and off the individual or dress form.

The following are the Principles of Design**2.2 Balance**

Balance is the distribution of the visual weight of objects, colors, texture, and space. If the design has a scale, these elements should be balanced to make a design feel stable. In symmetrical balance, the elements used on one side of the design are similar to those on the other side; in asymmetrical balance, the sides are different but still look balanced. In radial balance, the elements are arranged around a central point and may be similar.

Balance in fashion design can be achieved with the use of features, such as seams, hemlines, and necklines. Symmetrical applications of balance (for example, a straight hemline) are the normal, but asymmetrical balance can be effective. There are many incidents where asymmetrical necklines have achieved popularity. Asymmetrical balance is more complex and trickier to achieve than symmetrical balance. For example, a one-shoulder gown might look interesting with its asymmetrical neckline, but a jacket with one lapel larger than the other would just look bad.

2.2.1 Types of Balance

Balance in fashion design can be achieved with the use of features such as seams, hemlines, and necklines.

1. **Symmetrical balance** occurs when there is equal amount of weight on both sides of the garment. This occurs when identical objects are equidistant from a center point or otherwise called as the exact mirror image of the other half. Most clothing is created with symmetrical balance. In dress design the feeling of dignity or formality is created by formal balance. This is also influenced by colour, texture & cut. Formally balanced designs often give an impression of stability. (Fig 2.1 a)
2. **Asymmetrical Balance** creates a feeling of equal weight on both sides, the design details are divided unequally from the center. Asymmetrical designs also are called informal designs because they suggest movement and spontaneity. For example, a skirt or top that has a deliberately jagged, uneven hemline has asymmetrical balance. Asymmetrical balance is more complex and trickier to achieve than symmetrical balance. For example, a one-shoulder gown might look interesting with its asymmetrical neckline, but a jacket with one lapel larger than the other would just look bad. (Fig 2.1 b)
3. **Radial balance** occurs when the major parts of the design radiate from a central point. For example, pleats, seam, gather, darts or motifs radiate from the focal point creating a sunburst effect. This type of balance is found frequently in necklines. Due to intricacy of construction it is found mostly in expensive clothing. (Fig 2.1 c)



Fig 2.1 Types of Balance in Dress Design

2.3 Rhythm

Rhythm is created when one or more elements of design are used repeatedly to create a feeling of organized movement. Repetitions can be either of uniform size, or decreasing or increasing size, a gradual change of colour. Rhythm is the flow of lines, shapes, textures and colours of garment. The flow should be carried gently from one part of the garment to the other part. Rhythm creates a mood like music or dancing. Use of rhythm is important in achieving pleasing effects. To keep rhythm exciting and active is essential.

2.3.1 Types of Rhythm in Clothing Design

Rhythm as a design technique can be achieved through use of different kinds of techniques. Rhythm is done by repetition, progression or gradation, radiation, transition, and opposition.

Rhythm through Repetition:

Rhythm is created by duplicating or repeating a shape, pattern, line, colour, or texture. Rhythm is achieved by repetition or regular repeats of motifs of design, shapes, buttons, tucks, pleats, laces, edgings, color, textures, fabric designs etc. This can be done with all parts having the same shaped edges. They might be squared, rounded, or scalloped. Fig 2.2 a shows repetition of a motif.

Rhythm through Gradation or Progression:

Rhythm is created by gradual change in size or colour in a design. Gradation implies a gradual increase or decrease of similar design elements. Colours can go from light to dark or textures from fine to coarse or vice versa. Shapes may range from small to large, and lines may range from thin to thick. The gradual changes provide continuity while giving a feeling of movement. An systematic sequence of gradually increasing or decreasing changes in sizes of motifs buttons, trims, flowers, ruffles, intensity, fabric design also create rhythm. Fig 2.2 b shows progression of Bow on the garment both in size as well as in monochromatic hue.



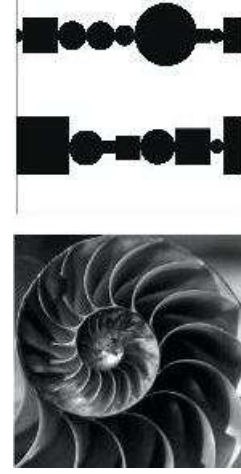
a. Repetition



b. Gradation



c. Radiation



d. Transition

Fig 2.2 Types of Rhythm in Dress Design

Rhythm through Radiation: Rhythm created by identical objects coming from a central point or axis. Rhythm by radiation creates a feeling of movement in different directions. This organized movement originates from a central point of gathers, folds, tucks, darts, pleats and lines. Direction of radiation may be in a similar or one direction, opposing direction or both the directions, or in all directions. Fig 2.2 c shows radiating lines from waist in all directions.

Rhythm through Transition: Rhythm created by curved lines that carry eye across a straight surface. Transition is a fluid rhythm created when a curved line leads the eye over an angle. The curved lines of transition cause the eye to change direction gradually rather than abruptly. Transitional lines and shapes sweep and glide over the figure in a rolling rhythm leading the eye gracefully and easily from one area or direction to another. There is no abruptness like that of jagged lines. It is found in dropped shoulder designs, puff sleeves and cap sleeves. Transition can also be achieved by using scarves, shawls, ruffles and gathers in an outfit. Fig 2.2 d shows two examples of transition one in shape and other in size.

2.4 Emphasis

Emphasis is the part of the design that catches the viewer's attention. Usually the designer will make one area stand out by contrasting it with other areas. Emphasis in clothing may be achieved with contrasts of colours or textures, lines, or unusual shapes. A good design should highlight the important features of the body and draw attention away from the figure faults. A combination of lines, details, colours, shapes, trims and accessories gives the focal point added strength. A poorly planned emphasis adds confusion to the eye and the onlooker might lose interest in the design.

2.4.1 Different ways to Create Emphasis in Garments

1. Line (a curve in the middle of straight lines). Unusual lines and shapes by virtue of their individuality are eye arresting. (Fig 2.3 a)
2. Shape (a circle in a field of squares) Unusual shapes of collars, sleeves, pockets, jewelry, outsized buttons, belts and trims can be used to create local interest.(Fig2.3 b
3. Contrast colour- one red pattern on a background of grays and blacks colour of line, shape, texture, and accessories will create emphasis. Using contrasts too many times often lose their impact in the design. (Fig 2.3 c)
4. Value (a light or dark area in the middle of its opposite)
5. By using unusual texture (rough vs smooth). (Fig 2.3 d)
6. Contrast can also be created by contrasting orientation in space (horizontal, vertical, diagonal) some related factor must be used to connect these contrasts or else it results in confusion. (Fig 2.3 e)
7. Style (a geometric shape in an otherwise naturalistic image) (Fig 2.3 f)
8. The placement of decoration on a plain, contrasting background permits the decoration to be dominated embroidery appliqué, jewelry, buttons and belt, buckles when used on a contrasting background are emphasized and become areas of interest. (Fig 2.3 g).



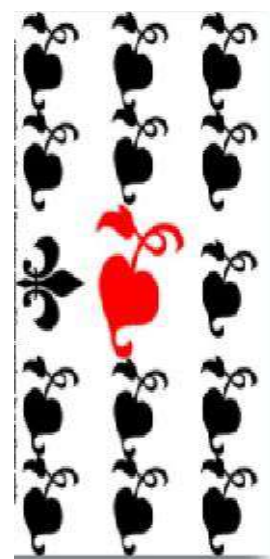
a Unusual lines



b. Exaggerated Sleeve



c. Contrast Colour Buttons and Pattern





g Jewellery on plain background



d Contrast Texture



e Orientation in space



f Geometric shape

Fig 2.3 Different Ways to Create Emphasis in Dress Design

There are a number of techniques that a fashion designer may use to place emphasis on a feature of a garment or a fashion accessory. Such techniques may include the addition of embellishment, cut-outs, ruffles, peplums, and so on. Exaggerated or unusual designs, such as the leg-o-mutton sleeves that were popular on 1980s wedding gowns, also create emphasis, highlighting a particular area. Knowing about emphasis, which can be part of the design itself or emphasis on the body because of the way a garment is designed, can help any woman when she is selecting a garment or fashion accessory. Every garment has an area of emphasis on it which makes the center of attraction of the garment. Emphasis can be achieved by means of Contrasting Colors, Bold and Unusual shapes, Eye catching patterns, Complex Textures, Attractive Design Details Interesting Trims. There are some details which emphasis on face with the use of collars in contrasting colors, a bright coloured scarf or necktie, jewellery and hats.

2.5 Proportion

Proportion can be defined as a pleasing relationship between the garment and its different parts. Proportion means the size of a part in relation to the size of the whole. Proportion is the feeling of unity created when all parts (sizes, amounts, or number) relate well with each other. Size and scale are important aspects of proportion. When considering bodies, it would be unusual to have a head that is bigger than the torso. The same goes with garments. It would be unusual to have sleeves which are bigger than the whole outfit. Proportion in fashion design is the principle that says various components of a garment or accessory look good together (i.e. with balanced size and scale). To be pleasing, most fashions are made with balanced proportions to bring out the natural shape of the body. Proportion includes the relationship of height, width, depth and surrounding space of each design. Proportion in relation to clothing design and to that of body conformation is important aspect to be considered by the designer in order to create a well proportioned garment style.

There are two types of proportions to be considered

1. **Proportion applied to clothing design:** Garment designs should be related to the structure and proportion of the human body. The golden mean equations are used to produce garments that may be divided visually into 3:5, 5:8, and 8:13 horizontal sections. This is because, the body proportions have 3/8 of total figure from the waist to top of the head and the remaining 5/8 of the body is from the waist to soles of the feet (Fig 2.4). To coordinate with this, most outfits are divided unequally. These divisions may not be measured exactly & accurately, but they are within certain limitations, because we accept certain variations if they are pleasing to the eye.
2. **Proportion and body:** The human body size can be divided into three general categories- small, medium and large. The body size should be identified for using it as a guide in selecting all clothing and accessories. The small person should limit himself or herself to items that are of small or medium scale, e.g., excess of jewelry do not look good on small statured people. The middle or medium sized person may select from the small, medium or large scale. The person who is of medium body size can wear a wide variety of garments and different types of fabrics according to their body size. The large person should be limited to the large or medium scale.



Fig 2.4 Proportions Followed in Dress Designs

A proportionate garment design needs to be synchronized with the motifs, the placement of the motifs and the desirability of the garment to the wearer. The colours in a garment also provide proportion to the garment. The best examples of this are Indian ladies suits which follow an inverted proportion system. Although miniskirts are designed in poor proportion as the shorter length of the garment proportionate the longer legs of the wearer.

When choosing outfits, proportion is important when dressing to try to achieve certain effects, and many fashion tips are based on this design principle. For example, a short person (who wants to look taller) would avoid wide, baggy pants. A tall person (who wants to look

shorter) would avoid very long, skinny jeans. Sometimes people who are small avoid large pieces of jewelry, while tall people avoid small pieces.

In order for clothing to have visual appeal on the human body, it is recommended that it flatter the natural shape of the body of the wearer. The design details found in clothing contribute to the overall proportion of an ensemble. Details such as yokes, collars, pockets, accessories, buttons, and trimmings should be in proportion to the overall size of a garment. Clothing proportions can be manipulated using elements of design to visually alter body proportions and create an illusion about figure.

2.6 Unity/Harmony

Harmony/ Unity is a summary of all of the other elements and Principles of design, means that there is pleasing relationship among all aspects of a design within the garment. Unity is the feeling of harmony between all parts of the work of art, which creates a sense of completeness. When the principle of unity in fashion design is applied well, a garment or fashion accessory should look good overall silhouette of the garment should be in a good relation to the body shape of the garment. Style lines should be consistent on every area of the garment. All areas of the garment should reflect the same shapes so that the continuity of the design is not broken. Similar or contrasting textures should be used in a pleasing way. Unity in the color combination should be there to provide harmony. Small differences in the hem lengths of sleeves and garment ends should be avoided as they interfere with the horizontal movement of the eye. Harmony is important to all outfits if you wanted to look good. Harmony is the way the outfit flows together. To add harmony to an outfit, one should pick colours and prints that work well together and complement each other to be pleasing to the eye. Without harmony the outfit may tend to look chaotic and disturbing to look at. All elements of design strive to have unity when placed together in a piece of art. The elements of principle of design should be so placed that neither should be overdone. There should be no competition between the elements.

A completely united design is that which spoils with the removal or addition of even a single dot, line, shape, color or texture. The elements are placed in perfect harmony with each other. Rhythmic effect created by frills of the dress. In an effective application of the principle of unity, each element enhances the others, rather than distracting from the design. It should look as though it goes together, and it should look as though all the design elements are contributing to make a harmonious whole. Harmony in a garment relates to the overall look of the garment, in which garment, hairdo, accessories all make the whole look.

SUMMARY

One should know both the potentials and limitations of each principle for efficient usage. The principles of design are flexible, as demonstrated by the diversity of styles in which they are seen. Designing principles can be used to create, discuss and evaluate garment designs on and off the body. Elements create psychological effects and physical effects which should be carefully balanced for an appropriate appearance. The principles are the directions for designing a garment and the elements are the ingredients. The directions (principles) are flexible and should be interpreted within a current fashion or problem the designer is trying to solve. For example, the directions (principles) would apply differently for a design of a costume than for a design of a current fashion garment. The ingredients (elements) are raw materials that must be combined. These elements change the taste or look of the garment. A dress is more eye-catching in a bright colour than a dull, neutral color, even though the design is the same.

Short Answer Questions

1. What are the Principles of design?
2. What is Symmetric Balance?
3. What is Asymmetric Balance?
4. What is Radial Balance?
5. List out types of Rhythm.
6. Define Proportion.
7. What is Golden Mean Equation in Proportion?

Long Answer Questions

1. Discuss about types of Balances used in Apparel designing.
2. Explain different types of Rhythm used in garments.
3. What are different ways to create Emphasis in a dress design?
4. What are various Proportions considered in garment design?
5. How important is Harmony in dress making?



COLOUR

Structure

- 3.0 Introduction
- 3.1 Characteristics of Colours
- 3.2 Colour Wheels/ Colour Systems
- 3.3 Colour Schemes
- 3.4 Warm colours, Cool Colours and Neutral Colours
- 3.5 Colour Expression/ Colour Definitions
- 3.6 Use of Colour in Designing
- 3.7 Visual Effects of Colour

Learning Objectives

After studying this unit, the student will be able to:

Recognize the significance of colour in designing.

Understand different properties of colour.

Gain knowledge about different colour wheels or colour systems.

Acquaint with different colour schemes and their usage effectively in designing.

Know the usage of different colours to achieve different physical effects or illusions in designing.

3.0 Introduction

Colour is the most exciting designing element. Colours put happiness and liveliness to a person's life. The type of colour combinations chosen by an individual reflects one's inner self. The bright colour reflects happiness and adds positive vibes to one while the dull colours reflect the sadness in a person's life and some colours add peace to one's life. Colour is the first thing that is noticed by the people. The choice made while selecting the colour combination depicts the image that a person wants to display. Colour is one of the elements of nature that made human living more aesthetic and fascinating in the world. Colours are supposed to be associated with emotions, human qualities, seasons, festivals and passions in our life.

3.1 Characteristics of Colour

1. **Hue:** Hue is the attribute of a wavelength of light that a person is able to see. Hue and colour are often used synonymously, but hue refers to the name of the colour in the visual spectrum — red, orange, yellow, green, blue, and violet. These hues, along with the six intermediate hues of red-orange, yellow-orange, blue-green, blue-violet, and red-violet, are the pure colours that circle the colour wheel. These twelve hues can be blended to produce an untold number of colours.

2. **Value:** Value is the attribute that defines the lightness or darkness of a colour in terms of how close it is to white or black. The lighter the colour, the higher its value. For example, navy blue emits less light and has a lower value than sky blue. It is the change in value that gives the ability to see objects as three-dimensional. Value also guides the perception of space. There are greater value differences between objects closer to a person than those that are at a distance.
3. **Chroma/Intensity:** Chroma is not a familiar word because it is often expressed as intensity. Chroma is the attribute that expresses the brightness of a colour. Chroma/Intensity defines the brightness or dullness of a colour. High chroma/intense colours are described as clear, pure, brilliant, bright, rich, bold, or vivid. Colours that are less intense are described as toned-down, soft, muted, subtle, misty, dull, drab or dusty.

3.2 Colour Wheels/Colour Systems

The colourwheel or colour system is the basic tool for combining colours. The first circular colour diagram was designed by Sir Isaac Newton in 1666. The colour wheel is designed so that virtually any colours you pick from it will look good together. Over the years, many variations of the basic design have been made, but the most common version is a wheel of 12 colours based on the RYB colour model.

3.2.1 Munsell Colour System

At the beginning of the 20th century, Professor Albert H. Munsell brought clarity to colour communication by establishing an orderly system for accurately identifying every colour that exists. The Munsell Colour System is a three-dimensional model based on the principle that each colour has three qualities or attributes: hue, value and chroma. The system (Fig 3.1) consists of three independent properties of colour which can be represented cylindrically in three dimensions as an irregular colour solid: *hue*, measured by degrees around horizontal circles; *chroma*, measured radially outward from the neutral (gray) vertical axis; and *value*, measured vertically on the core cylinder from 0 (black) to 10 (white). Munsell determined the spacing of colours along these dimensions by taking measurements of human visual responses. His book was successful at creating a standardized set of colours that continues to be used by artists and publishers to this day. Munsell standardized colours make it easy for people to communicate in the language of colour. The simplicity of the system has helped it to gain wide acceptance by artists, designers, photography, printers and are used in commercially available paint and pigment mixing guides like the Colour Wheel.

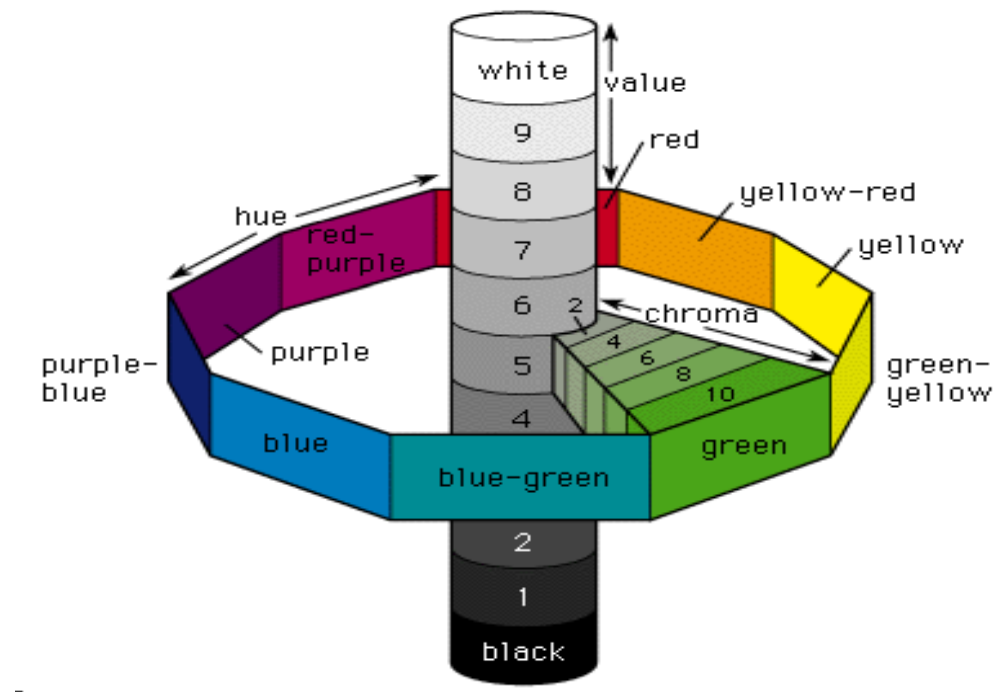


Fig 3.1 Munsell Colour System

3.2.2 Prang Colour System

Prang colour system was developed by David Breweser based on three primary colours. Its structure is simple and practical. The most common colour wheel is based on the theories advanced by Louis Prang in 1876 and is commonly known as Prang colour wheel or Prang colour chart (Fig 3.2). It is a standard 12-hue chart with 3 primary, 3 secondary and 6 tertiary hues.

Primary Colours are Red, Yellow and Blue in the art world. They are considered primary colours because they cannot be made from mixing other colours but they may be mixed to make most other colours. The three primary hues are placed at equal distance from each other on the colour wheel.

Secondary Colours are Green, Orange and Violet (or Purple). They are the colours that result in mixing two of the primary colours together in equal amounts. Orange is a mixture of red and yellow, green is a mixture of yellow and blue, purple is a mixture of red and blue.

Tertiary Colours are result of mixing primary colour with its adjoining secondary colour. The six colours yellow, green, blue, purple, red, and orange, are called the standard colours..

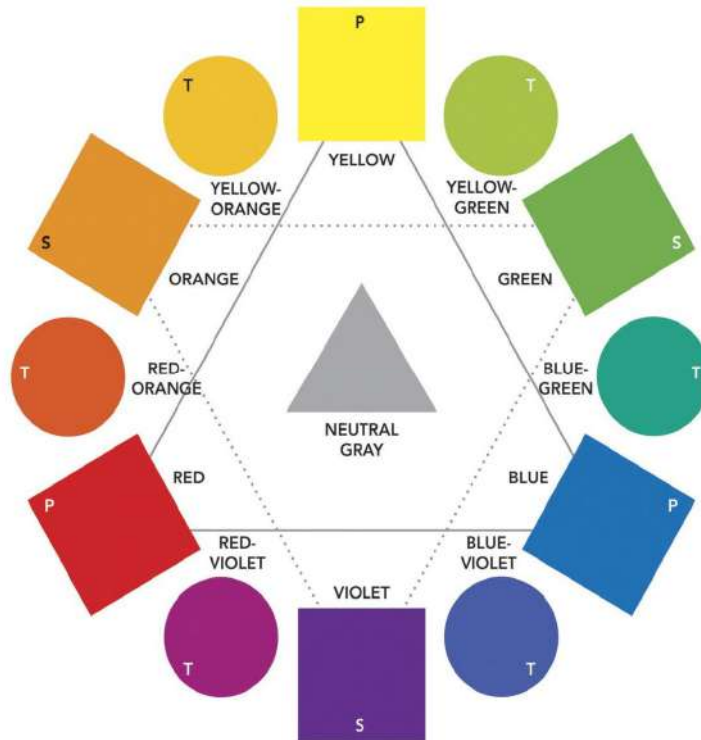


Fig 3.2 Prang Colour Chart

3.3 Colour Schemes/ Colour Theories

Colours when combined should be used at the right proportion or else they clash and give an awkward appearance rather than being beautiful and aesthetic. An understanding of colour schemes helps the designer to achieve the best result in dress design. There are many colour schemes followed in the industry.

Some colour schemes which are effective are colours that are directly next to each other (i.e. yellow and yellow-orange; yellow and yellow-green; violet and blue-violet, etc.), colours that form right (90 degree) angles with each other (i.e. yellow and red-orange; blue and violet-red; green and orange, etc.). Colours directly across from each other (i.e. yellow and violet; blue and orange; red and green, etc.). Colours that form a T (i.e. blue, orange, and violet-red; yellow, violet, and red-orange; yellow, blue-green, and red-orange, etc.). Colours that form an X (i.e. blue, orange, violet-red, and yellow; violet, blue-green, and red-orange, etc.)

The popular colour schemes are as follows:

1. Monochromatic Colour Scheme

A monochromatic colour scheme is a one colour part that uses different tints and shades of a hue. Neutral colours such as black, white can be added to monochromatic colour scheme to create interest in the design (Fig 3.3)



Fig 3.3 Monochromatic Colour Scheme

2. Analogous Colour Scheme

The colours those are directly adjacent on the colour wheel. This is sometimes called as related colour scheme. This creates a minimized contrast, giving a very consistent look. Analogous colour schemes are great for looking a little more restrained. The combination of yellow, orange-yellow and orange or yellow, yellow-green and green can be seen in nature (Fig 3.4).

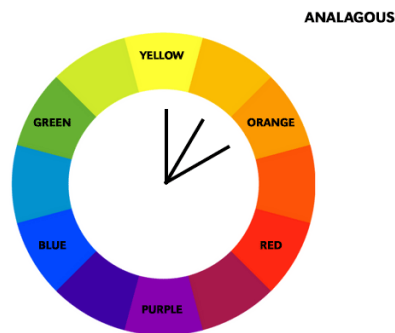


Fig 3.4 Analogous Colour Scheme

3. Triad Colour Scheme

Triad Colour scheme combines the colours which are equidistant from one another on the colour wheel. This creates the most balanced form of contrast. To soften the contrast tints and shades of the hues could be combined (Fig 3.5).

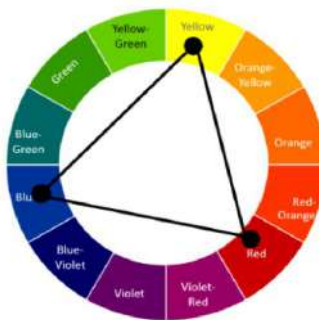


Fig 3.5 Triad Colour Scheme

4. Complementary Colour Scheme

Complementary colour scheme combines the colours that are directly opposite one another on the colour wheel. This creates the most vivid contrast in an outfit. Each of the colour looks even brighter. Teamed together in an outfit, these colours give a jolt. However using tints and shades gives a pleasing effect. A soft tint of one hue is usually attractive with a deep shade of the second colour (Fig 3.6).

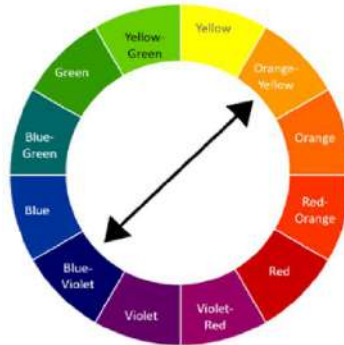


Fig 3.6 Complementary Colour Scheme

5. Split-Complementary Colour Scheme

Split complementary colour scheme creates a three colour palette with one primary colour and two colours adjacent to its opposite on the colour wheel. This colour scheme has the benefit of creating contrast while reducing the chance of the contrast overwhelming in a design. Using split complementary colours make a strong impact that doesn't overwhelm the eye (Fig 3.7).

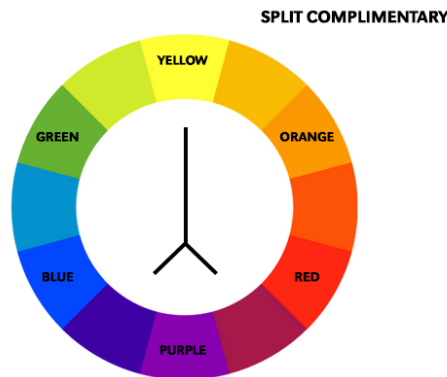


Fig 3.7 Split Complimentary Colour Scheme

3.4 Warm colours, Cool Colours and Neutral Colours

Colours can be divided into categories: warm colours, cool colours and neutral colours.

3.4.1 Warm colours

Warm colours are colours that reminding us of things that are warm. These colours fall on the Red-side of the colour wheel. Warm colours include red, orange, and yellow, and variations of these three colours. They are associated with heightened emotions and passion as well as joy and playfulness. Thinking about the vibrancy of a bright orange or the intensity of deep, rich red, warm colours can be stimulating, making them a good choice for rooms that see a lot of activity.

Red is a very hot colour. It's associated with fire, violence, and warfare. It's also associated with love and passion. Red can be associated with anger, but is also associated with importance (think of the red carpet at awards shows and celebrity events). Red also indicates danger (the reason stop lights and signs are red, and that warning labels are often red).

Orange is a very vibrant and energetic colour. In its muted forms it can be associated with the earth and with autumn. Because of its association with the changing seasons, orange can represent change and movement in general. Orange is also strongly associated with creativity. Orange commands attention without being as overpowering as red. It's often considered more friendly and inviting.

Yellow is often considered the brightest and most energizing of the warm colours. It's associated with happiness and sunshine. Yellow is also associated with hope, as can be seen in some countries when yellow ribbons are displayed by families who have loved ones at war. Bright yellow in designs can lend a sense of happiness and cheerfulness. Softer yellows are commonly used as a gender-neutral colour for babies (rather than blue or pink) and young children. Light yellows also give a more calm feeling of happiness than bright yellows. Dark yellows and gold-hued yellows can sometimes look antique and be used in designs where a sense of permanence is desired.

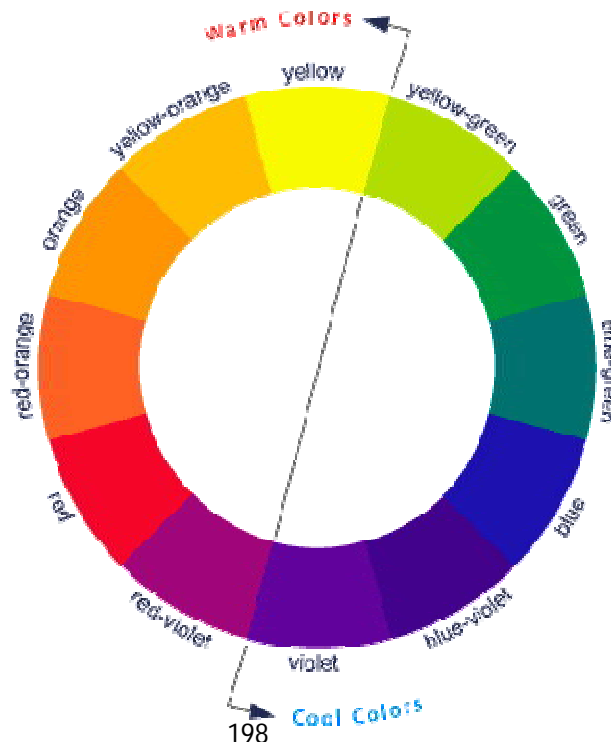


Fig 3.8 Warm Colours and Cool Colours

3.4.2 Cool colours

Cool colours remind us of things we associate with cold or coolness. They are on the Blue-side of the colour wheel. Cool colours are more subdued than warm colours and are colours that can often be found in nature scenes, water and at night. They are the colours of night, of water, of nature, and are usually calming, relaxing, and somewhat reserved. That's why cool hues are natural to unwind and relax. These cool colours are often associated with calm, abundance (green), peace (blue) and spirituality (purple).

Blue is the only primary colour within the cool spectrum, which means the other colours are created by combining blue with a warm colour (yellow for green and red for purple). Blue is also used extensively to represent calmness and responsibility. Light blues can be refreshing and friendly. Dark blues are more strong and reliable. Blue is also associated with peace and has spiritual and religious connotations in many cultures and traditions. The meaning of blue is widely affected depending on the exact shade and hue. In design, the exact shade of blue you select will have a huge impact on how your designs are perceived. Light blues are often relaxed and calming. Bright blues can be energizing and refreshing. Dark blues, like navy, are excellent for corporate sites or designs where strength and reliability are important.

Green is a very down-to-earth colour. It can represent new beginnings and growth. It also signifies renewal and abundance. Alternatively, green can also represent envy or jealousy, and a lack of experience. Green has many of the same calming attributes that blue has, but it also incorporates some of the energy of yellow. In design, green can have a balancing and harmonizing effect, and is very stable. It's appropriate for designs related to wealth, stability, renewal, and nature. Brighter greens are more energizing and vibrant, while olive greens are more representative of the natural world. Dark greens are the most stable and representative of affluence.

Purple is a combination of red and blue and takes on some attributes of both. It's associated with creativity and imagination. Dark purples are traditionally associated with wealth and royalty, while lighter purples (like lavender) are considered more romantic. In ancient times, the dyes used for creating purple hues were extracted from snails and were very expensive, so only royals and the very wealthy could afford them. In design, dark purples can give a sense of wealth and luxury. Light purples are softer and are associated with spring and romance.

3.4.3 Neutral colours

Neutral colours often serve as the backdrop in design. They're commonly combined with brighter accent colours. But they can also be used on their own in designs, and can create very sophisticated layouts. The meanings and impressions of neutral colours are much more affected by the colours that surround them than are warm and cool colours. One also gets neutral colours such as black, brown, grey and white (along with variants of these such as tan, beige, ivory and so forth) (Fig 3.9).



Fig 3.9 Neutral Colours

Black is the strongest of the neutral colours. Black often represents mystery and power but sometimes also death when used in another context. On the positive side, it's commonly associated with power, elegance, and formality. On the negative side, it can be associated with evil, death, and mystery.

White is at the opposite end of the spectrum from black, but like black, it can work well with just about any other colour. White is often associated with purity, cleanliness, and virtue. In the West, white is commonly worn by brides on their wedding day. It's also associated with the healthcare industry, especially with doctors, nurses and dentists. White is associated with goodness, and angels are often depicted in white. In design, white is generally considered a neutral backdrop that lets other colours in a design have a larger voice. White in designs can also portray either winter or summer, depending on the other design motifs and colours that surround it.

Gray is a neutral colour, generally considered on the cool end of the colour spectrum. It can sometimes be considered moody or depressing. Light grays can be used in place of white in some designs, and dark grays can be used in place of black. Gray is generally conservative and formal, but can also be modern. It is sometimes considered a colour of mourning. It's commonly used in corporate designs, where formality and professionalism are key. It can be a very sophisticated colour. Pure grays are shades of black, though other grays may have blue or brown hues mixed in.

Brown is associated with the earth, wood, and stone. It's a completely natural colour and a warm neutral. Brown can be associated with dependability and reliability, with steadfastness, and with earthiness. It can also be considered dull. In design, brown is commonly used as a background colour. It's also seen in wood textures and sometimes in stone textures. It helps to bring a feeling of warmth and wholesomeness to designs. It's sometimes used in its darkest forms as a replacement for black, either in backgrounds or typography.

Beige is somewhat unique in the colour spectrum, as it can take on cool or warm tones depending on the colours surrounding it. It has the warmth of brown and the coolness of white, and, like brown, is sometimes seen as dull. It's a conservative colour in most instances, and is usually reserved for backgrounds. It can also symbolize devoutness. Beige in design is generally used in backgrounds, and is commonly seen in backgrounds with a paper texture.

Ivory and cream are sophisticated colours, with some of the warmth of brown and a lot of the coolness of white. They're generally quiet, and can often evoke a sense of history. Ivory is a calm colour, with some of the pureness associated with white, though it's a bit warmer. Ivory can lend a sense of elegance and calm to a site. When combined with earthy colours like peach or brown, it can take on an earthy quality. It can also be used to lighten darker colours, without the stark contrast of using white.

3.5 Colour Expression / Colour Definition

Colour theory is as much about the feeling a particular shade evokes as anything else. But here's a quick reference guide for the common meanings of the colours discussed above:

Red Colour: Power, energy, passion, desire, speed, strength, power, heat, love, aggression, danger, fire, blood, war, violence, intensity, celebration, luck, stop or danger, Christmas and Valentine's Day.

Blue Colour: Peace, harmony, unity, trust, truth, security, confidence, conservatism, order, sky, water, cold, technology, cleanliness, depression, loyalty, immortality, stability, masculinity and protection.

Yellow Colour: Joy, optimism, happiness, danger, sunshine, idealism, imagination, hope, summer, gold, deceit, philosophy, dishonesty, cowardice, betrayal, jealousy, disease and warning.

Purple Colour: Royalty, nobility, spirituality, ceremony, mystery, transformation, wisdom and enlightenment.

Green Colour: Nature, environment, health, good luck, renewal, youth, vigor, spring, generosity, fertility, jealousy, inexperience, envy, misfortune, start signal, St. Patrick's Day and Christmas.

Orange Colour: Energy, balance, warmth, enthusiasm, vitality, expansion, flamboyant, autumn and Halloween.

Gray Colour: Safety, reliability, intelligence, melancholy, modesty, dignity, maturity, soundness, functionality, old age and grief. [Read more](#)

Brown Colour: Earth, hearth, home, outdoors, reliability, comfort, endurance, stability, simplicity, comfort, trees, nature and autumn.

White Colour: Reverence, virginity, nothingness, cleanliness, peace, humility, precision, innocence, youth, birth, winter, snow, goodness, marriage, cold, clinical and sterility.

Black Colour: Power, sophistication, formality, elegance, wealth, mystery, fear, evil, anonymity, unhappiness, depth, style, sad, remorse, anger, underground, technical, grief and death.

3.6 Use of Colour in Designing

Colour is the first thing other people notice about us, and its impact is immediate and long-lasting. The colour choices say a lot about the image that is being portrayed. Knowledge of colours and their use is important in achieving a well dressed appearance. Within seconds of meeting of a person, others will respond to the 'colour messages' flashed by his/her clothes. Different colours can make people feel a certain way. It has been determined by medical science that colour can influence the viewer's hormones, blood pressure and body temperature. Colour selection for clothing is based upon colours that are grouped according to some easily remembered system, such as nature's seasons. Winter and spring colours are described as clear, vivid, and bright, while summer and fall are less intense. Winter and summer colours are cool; spring and fall colours are warm. Personal colour analysis systems range from offering small pre-packaged colour palettes, to specifically selected colours for each individual. Clothing outfits should always be teamed up with light and dark colours. Colours of contrasting values are often exciting.

Given below are some of the hues and their suggested usage in designing for various occasions.

Red, Green and Blue: The wide range of tints and shades of these hues make the dresses suitable for most of the occasions.

Orange: Orange colour and its tints and shades are more for happier occasions which involve meeting groups of people.

Yellow: Yellow colour clothing suits best for casual and fun clothing. .

Black: Black is good clothing for formal wear which tends to be sophisticated.

White: White Clothing colors are ideal especially for an interview, for both men and women.

Brown: Brown colour clothing best suits in all occasions whether it is casual, formal or informal.

Beige and Gray: These coloured clothing show off tailored effect and sophistication.

Bright colours are most acceptable as active wear for sports, biking, trekking and other outdoor activities.

Using any hue with neutral colours make the colour appear brighter.

3.7 Visual Effects of Colour in Dress

Colours react with each other and are related to each other. The effects they give depend on how light, dark or strong the colours are. They also depend on how the colours are combined with other colours in a total outfit. Colours can appear to change the size and shape of the person wearing them. Dark, cool and dull colours make objects appear smaller than the same objects in warm, light or bright colours. The receding colours which make the wearer smaller

are black, navy blue, dark blue-violet, chocolate brown, dull dark green etc. on the other hand light warm and bright colours make a form seem larger due the colours advancing characteristics. Such colours are white, yellow, orange and red.

This effect can best be used for a very tall person, dividing the top the bottom of the dress. This effect is usually reduced by changing the tone of one or both the colours. White unites and draws colours together while black separates colours. In most cases one should not use more than three major colours in an outfit. It is best to use one colour for a large area and another colour or two for smaller areas.

Colour also has an impact on:

1. **Apparent shape:** A single colour for an entire outfit makes a person look thinner and taller. Dark coloured garment recedes and give slimness to the wearer.
2. **Apparent weight:** When two hues of identical tone are used together, they cause visual 'clashing' - colours appear to jump around glow and pulsate because they both compete equally for attention. Light colours and bright colours add weight to the wearer so are appropriate for skinny persons. Sharply contrasting colours appear to increase the apparent weight of the person.
3. **Apparent personality:** Proper, comfortable and feel good clothing gives a confidence boosting which helps in enhancing his or her personality. Monochromatic colour schemes add apparent height to the person.
4. **Emotions:** The colors worn can enhance or dampen moods of the wearer. The colours chosen depend a lot on how he/she is feeling mentally or emotionally at a particular time and can be a reflection of what phase they are currently going through.

SUMMARY

The color is the first thing that is noticed by the people. The type of color combinations that we select depicts the image that we want to display. The bright color reflects happiness and adds positive vibes to one while the dull colors reflect the sadness in a person's life and some colors add peace to one's life. Colour not only depicts the inner image of the wearer, but also reveals the cultural and traditional aspects of the society at the given period of time.

Short Answer Questions

1. What are the properties of colour?
2. What are the primary colours in Munsell Colour System?
3. List out the primary, secondary and tertiary colours in Prang Colour System.
4. What are warm colours?
5. What are cool colours?
6. What are neutral colours?
7. List out the popular colour schemes used in dress designing.
8. What is Monochromatic colour scheme?
9. Write about Triad colour scheme.
10. What is Analogous colour scheme?
11. Write about Split complimentary colour scheme.
12. How are Primary colours expressed in designing?
13. How are Secondary colours expressed in designing?
14. How are Neutral colours expressed in designing?

Long Answer Questions

1. Describe Prang Colour System with proper illustration.
2. Explain Munsell Colour System with diagram.
3. Elaborate on colour schemes used in designing.
4. Explain various visual effects created by colour.
5. Give detailed account of different colours used in apparel designing.
6. Discuss about various colours and their expression in designing.



BASIC PRINCIPLES OF FASHION DESIGN

Structure

4.0 Introduction

4.1 Factors to be considered in drawing dress designs for women and children

4.2 Structural lines

4.3 Choosing a right fabric for different types of figures.

4.4 Selecting style lines for different types of figures

Learning Objectives

After studying this unit, the student will be able to:

Identify the factors to be considered while designing dresses for women and children.

Study the importance of structural lines in dress designing.

Understand importance of choosing right fabric for different figure types.

Apply different style lines for different types of figures.

4.0 Introduction

Fashion moves with clothing and time integrating the simple day to day wearing in a broad context such as political and social, among others. It comprises several styles which may be influenced by the most diversified aspects. It is a temporary manner easily changeable of behavior and especially through wearing. Fashion is a socio-cultural phenomenon that, at a given moment, expresses values of society -uses, habits and practices. Fashion is actually a phenomenon of modern societies also associated to values and socializing ways. They also assist in designing for people with some figure problems and irregularities. Fashion follows certain principles when it comes to public. From season to season and year after year principles do not change. They provide a solid foundation for fashion identification and forecasting.

4.1 Factors to be considered in drawing dress designs for women and children

Clothes are undoubtedly the strongest way of representing fashion concept although, these being present in the most different of areas, such as music and art, amongst many others too. By definition, fashion can mean change and also goes much deeper and behind the actual apparel. It also provides an illusion, contributing to people's well being, feeding our insecurities and increasing the confidence. Fashion is a harmonious whole more or less indissoluble. It fits to social structure, accentuating separation between classes; it soothes the conflict between the individualizing impulse of each one and the socializing one (need of

affirmation as a member of a group); it expresses ideas and feelings, since it is a language that is translated into artistic terms. Not only are the aesthetical elements important to characterize fashion as it must be placed in the moment and time. Fashion reflects society and the time of living. Fashion cycle is becoming very short.

The following factors generally play an important role in designing garments for women and children.

- (a) Current fashion trends
- (b) Label and brands available
- (c) Design of the garments
- (d) Quality of garment collection available in the market
- (e) Fiber, fabric and garment composition.
- (f) Value addition techniques employed
- (g) Price of the garments
- (h) Maintenance and care required for the garments.

4.1.1 Factors to be considered in women's dress design

There are various factors to be considered while designing dresses for women. They include:

1. Age and Occupation of the wearer

Different garment requirements exist at different age group levels. Garments are used for satisfying various purposes like physical protection, decoration, status exhibition at different ages and as per the work done or profession of the person. In this age, more emphasis should be the profession, occasion, and price than on the prevalent fashion. Working people should wear formal clothes. The design should be simple, neat and clean. In absence of any of this consideration the dress would look awkward.

2. Personality type and figure problems, if any

Each individual is unique in their personality and figure. Some are tall or short, fat or lean and thin. Some are of normal height and width. They need to be studied and analyzed in individual context. Whatever is the body shape, clothes can make it look different. During creation of a new design for an individual, designer should judiciously use colours and fabrics so that the figure flaws can be camouflaged or salient features are highlighted. For example, persons who intend to look taller and thinner should wear clothes that are plain and of single colour and with vertical lines and designs. Similarly, those who wish to look shorter and fatter should wear horizontal designs and with two or more colours in their dress, e.g., if the salwar is of light colour, the kurta should be of dark colour with horizontal lines.

3. Life style habits and social rank held

The modern woman has dual life as house wife and working woman. They are occupying various prestigious positions in the society. The dramatic increase in working women has led to a surge in fashion interest, because a woman who works is continuously exposed to fashion. Financial pressures and career satisfaction should keep the number of working women growing. Hence there is need for various dress options for different occasions. Clothes should be suitable to the occasion. If they are not in accordance to the occasion and place, they would look odd. Therefore, dress designs should be taken about the life style and social rank on which they are to be worn. The designs should be of certain kinds of products, services and activities since these are associated to a certain life style. Thus the designer must pay more attention to life style tendencies and social rank held.

4. Personal tastes and preferences

Personality is another personal factor that influences purchasing, since every consumer has a different personality. Factors such as self-confidence, domain of herself, good fellowship and autonomy which define the individual's personality has to be considered during dress designing with respect to fabric, colour, pattern of garment, style-lines used.

5. The cost incurred for the garment designed

The cost of garment differs with

- Brand
- Type of store where the garment is purchased like mall, show room or stores etc.
- Quality of raw material used and
- Value addition done to the garment.

4.1.2 Factors to be considered in children's dress design

Children's growth is rapid and their clothing needs change quickly. It is better to select few garments that will serve most occasions and purposes and all season clothing. Colour, design, texture of the fabrics used should be suitable for the age and size of the child.

An infant sleeps for most of the time, so it is important that his clothes are loose and comfortable. And these should be made of soft and absorbable cloth (preferably cotton) as they do not irritate the tender and soft skin of the child. Silken and synthetic clothes should not be used for infants in any case.

Clothes for small children should stress simplicity and make adequate allowances for growth. Self help features and ease of movement should be of great consideration in children's dress designs. Practicality, safety and climate are to be considered in designing their clothes. Easy care and maintenance is also equally important consideration.

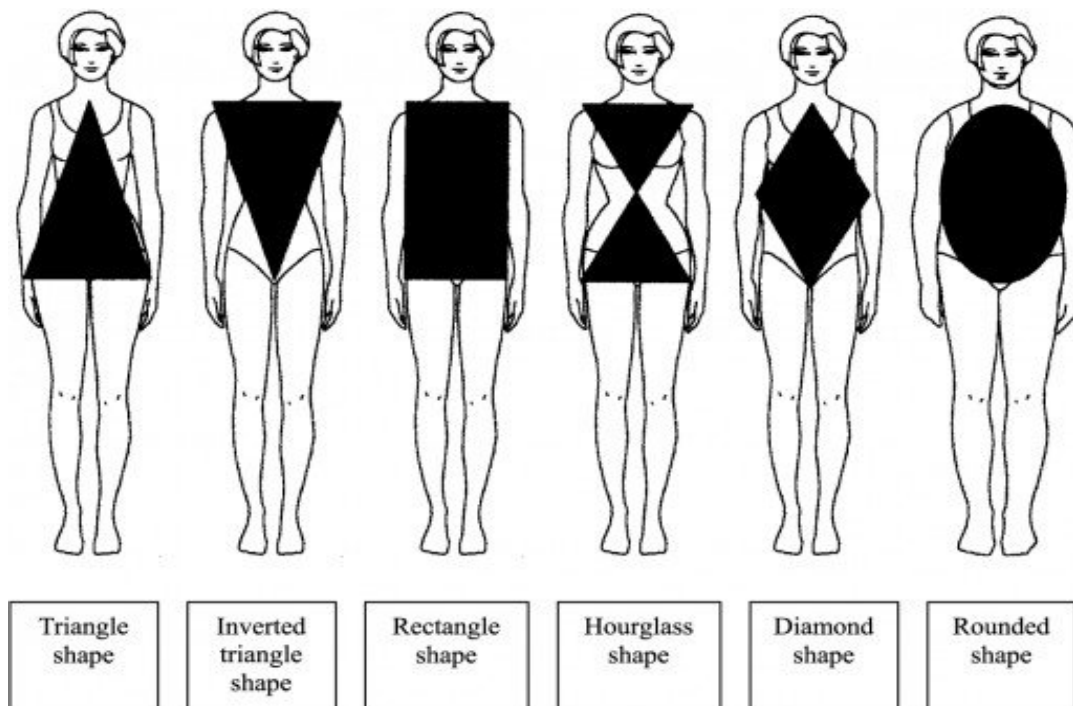
For school going children, if the clothes are shabby, unshaped, not to the liking of their peer group, they may suffer from inferiority complex. They are reluctant to play and with their peers. The colour selection in designing should be more practical than aesthetic. Hazy and dull colours should not be used for children. Rather bright gaudy colours are good for them.

4.2 Structural Lines

Structural lines in a garment are those lines without which the garment cannot be made. Structural components are responsible for original beauty of the garment. It includes seams, darts, layers, pleats, yokes, plackets, pockets frills, tucks, flounces, gathers, bows, fasteners. Structural lines may add a decorative quality if emphasized by colour contrast or row of top stitching to outline the basic garment parts. In apparel, structural design is more important because it is the fundamental component of design.

4.2.1 Elements of Structural Design in Apparel

A design can be defined as an arrangement of elements that create a visual image. Designing means moving elements like lines, silhouette, colors, texture and details from the state of randomness to the higher state of organizing them in a unique way. Structural designing is a science and an art. It is a tool for modern creator and the world of design. It is a way of getting new ideas and inspirations. Structural design includes all elements of design and follows principles of design at the same time.



4.2.2 Elements of basic structural design are derived into four ways. They are as follow-

1. Silhouette (Straight, Bell, Bustle Silhouette)
2. Lines (Straight and Curved Lines)
3. Colors (Warm And Cold Colors)
4. Textures (Smooth, Stiff, Rough and Shiny)

4.2.3 Requirements of good structural design:

- It should be well proportioned
- It should be suited to the purpose
- It should be suited to the material with which it is made.
- It should be simple.
- It is far more important than decorative design because it is essential to every object or garment whereas decorative is the luxury of design.

4.3 Choosing a right fabric for different types of figures

4.3.1 Types of women shapes/figures

1. Triangle /Pear body figure: A female with this shape has a round, heavy bottom with a defined waist but hip size are always wider than the bust and shoulders. Short legs with full thigh are common characteristics.

2. Inverted triangle/Apple body figure: A woman with this shape has broader shoulders, a large bust, narrow hips, slim legs, flat bottom. Fat is mainly distributed in the abdomen, chest, and face.

3. Rectangle/ figure(straight): A female with this figure has a boyish look with small/medium bust, slender arms and legs. Most times, the hip has the same width as the waist and also emphasizing a flat bottom.

4. Hourglass Figure is a curvy female with the hips and bust of the same width which emphasizes a defined waist

5. Diamond figure has an undefined waist with **narrow shoulders and narrow hips, with a wider midriff/ stomach area.**

6. Rounded /Oval figure has an overall appearance of being round especially around the waist region, the stomach are large, the hips are wide, and upper thighs are full. The bottom could be full or flat.

4.3.2 Fashions and Fabrics for various Female figures/shapes

.Triangularbody shaped women, have to balance top half to bottom half by creating the appearance of a wider upper body.

Do's To overcome narrow upper body, accessories and designs should draw attention to upper body. Short-sleeved tops, Shoulder pads broaden shoulder, medium to high necklines, garments to emphasize your waist, skirts and dresses that are straight or slightly flared, Low rise pants to avoid gaping at the waist, boot leg and straight pants

Don'ts: Avoid baggy garments and garments that add bulk to your hips. Hems or design lines at hip-line will only add more size to your hips. Pleats skirts or pants are wrong choice of clothes.

2. Inverted triangle body shaped women have to create the illusion of the perfect hourglass body shape by balancing the lower body to upper body and to draw attention away from the upper body.

DO's: Wear flowing fabrics, V necklines, Three-quarter length sleeves, well-adjusted bra, tops and dresses that flow through the waist, A-line skirts, and flared pants. Wear skirts with satin, denim and tweed fabrics because they create interest to your lower body.

Don'ts: Avoid wearing bulky fabrics and styles that will emphasize your shoulders, high necklines, big collars shirts, tapered skirts and pants.

3. Rectangular body shaped women, have to add curves by defining shoulder, hips and waist.

Do's: Wearing shoulder pads emphasize shoulders and give a feminine body figure. Wearing semi-fitted clothes, short-sleeves and sleeve-less tops and dresses have desired effect of perfect figure. Wear medium to high necklines dresses, dresses that wrap or flow through the waistline. Straight to gently flared flat-fronted pants and A-line shirts.

Don'ts: Avoid wearing clingy fabrics and fitted clothes because they will make the person look very straight. Low necklines will emphasize flat bust so they should be avoided. Baggy tops and Baggy pants are not good choice. Narrow skirts with flat bottom are not flattering so avoid them.

4. Hourglass: Your main style aims are to emphasize your curves, especially your waist, without adding bulk.

Do's: Wear fitted and semi-fitted clothes, Soft, clingy, flowing fabrics. Low to medium-low necklines, dresses with defined waist lines, straight and gently flared pants, straight and gently flared shirts compliment the hour glass figure. Waist with belt flatters this figure.

Don'ts: Avoid bulky fabrics and baggy styles because they will hide figure.

5. Rounded / Oval shaped women have to draw attention upwards towards shoulders and face.

Do's: Wear ear-rings, necklaces and other focal points designed to draw an observer's eyes up towards shoulders and face. Semi-fitted and loose fitting clothing's, very fitted bras and supporting foundation garments minimize stomach. Tops and bottoms in the same colours are best suited for this body shape. Low necklines, un-tucked tops that do not emphasize the rounded stomach should be given preference. Tops and dresses that flow through the waistline, straight pants in soft, flowing fabric are good choice

Don't wear clingy fabrics, tight fitted clothes, fabric with large patterns, High necklines, and tucked-in tops, pleated skirts because they add more volume to figure.

6. Diamond shaped women should *minimize the midriff and emphasize on the shoulder and legs. A diamond-shaped body usually has more at the waist rather than the shoulders and hips and breasts.*

Do's: *Wear straight cut and flared trousers. This will fill out your narrow legs. Wear longer jackets. This will help in creating narrow waist line and cover the wide midriff. Wear flared skirts and dresses will fill out your lower body and make your midriff look smaller or in line with lower body. Wear shirts with vertical lines and big collars. The lines will make your midriff look slimmer and the big collar will make your shoulders wide.*

Don't wear *trousers that have vertical lines. This will make the legs look leaner. Avoid wearing horizontal line shirts and peplum dresses/tops. They will make your midriff wider. Avoid wearing "Wrapped Jackets" these jackets come with belts and therefore add volume to your midriff. Do not wear short jackets. They will not cover the midriff to the fullest.*

SUMMARY

The consideration of correct dress is really a study in itself. We all want to know exactly what to wear and when it should be worn. This lends ease of manner and a sense of poise that is never manifested by the person who is uncertain as to the right kind of costume to be worn. Many of us have certain figure issues such as narrow shoulder, flat chest or round shoulder, a large bust or our face may be very square, so that we must use various concepts related to our figure and posture before deciding on our dress. Very few people are lucky enough to possess a perfect figure. The rest of them have to be satisfied with not so perfect figures and find ways to look their best. In order to look good, it is important to understand our body type and problem areas so as to select clothes and accessories appropriate to one's figures.

Short Answer Questions

1. Name any four factors considered while designing for Women and Children.
2. Write about structural lines.
3. List out requirements for good structural design.
4. List out various body shapes found in Women.
5. What are do's and don'ts for a Rectangular body shaped woman?
6. What are do's and don'ts for an Apple body shaped woman?

Long Answer Questions

1. Describe the factors to be considered while designing garments for Women.
2. Discuss the factors to be considered while designing garments for Children.
3. Suggest the fashion fabrics suitable for any four body shapes



ACCESSORIES USED IN FASHION DESIGNING

Structure

5.0 Introduction

5.1 Hats

5.2 Bags

5.3 Shoes

5.4 Scarves

5.6 Belts

5.7 Jewelry

Learning Objectives

After studying this unit, the student will be able to:

Understand the importance and types of accessories used in dress design.

Identify the current fashions and trends in accessories.

Gain knowledge on coordination of accessories to garments.

Discuss the unique design considerations of various accessories.

5.0 Introduction

Fashion moves with clothing and time integrating the simple day to day wearing in a broad context such as political and social, among others. It comprises several styles which may be influenced by the most diversified aspects. It is a temporary manner easily changeable of behavior and especially through wearing. Fashion is a socio-cultural phenomenon that, at a given moment, expresses values of society -uses, habits and practices. Fashion is actually a phenomenon of modern societies also associated to values and socializing ways. They also assist in designing for people with some figure problems and irregularities. Fashion follows certain principles when it comes to public. From season to season and year after year principles do not change. They provide a solid foundation for fashion identification and forecasting.

5.1 Hats

It is unknown how far back in humanity's history the first hat was created, but experts speculate it was developed alongside other articles of clothing used to protect one from the elements. Throughout history, hats have served functional purposes and fulfilled practical needs i.e. sun, wind, and rain protection. Of equal historical importance, however, is the use of hats as status symbols within the social rankings of societies. Hats were even used as a revolutionary device to diminish the class systems they helped build.

5.1.1 Fashion and Function of Hats throughout History

Women's Hat History

Especially when worn by women, hats were used to imply wealth. At times, fashionable hats were so large they stretched beyond the shoulders. In such cases, it was not uncommon for a woman to lose her balance because of the size of her hat. Alternatively, the bonnet was loved for its function in the 19th century and used by women of all classes. Bonnets shaded and framed a woman's face while keeping her profile protected from unwanted male attention.

Men's Hat History

For men, the top hat has long been regarded as a status symbol. Many people are immediately reminded of the sixteenth president of the United States, Abraham Lincoln, as he was commonly photographed wearing one. The height of the top hat evolved over time. It was shortened to appear more conservative until eventually becoming what is known as the bowler or derby. This served as a more functional choice for gentlemen in the working class.

In fashion terms, hats are a very noticeable accessory because the onlooker's attention is first drawn to the face. A hat is the most noticeable fashion item anyone can wear. The old saying goes 'if you want to get ahead and get noticed, then get a hat'. Indeed the word 'ahead' means just that one head further forward. In France hats were made by hat makers called *Chapeliers*. Today the term *Modiste* is used in France. Today technically a hat maker makes hats for men whilst a *Milliner* makes hats for women.

Running parallel to these hat making arts were feather workshops or more correctly workshops called *Plumassiers* where feathers were dyed and made into arrangements from boas to aigrettes to tufts and sprays for both the worlds of fashion and interiors.

In the Edwardian age it did not matter if you were poor or rich, old or a child, whatever the status a person wore a hat, only beggars went bareheaded. Even militant suffragettes did not campaign without a hat. The hat would be fairly functional in style and form, but a hat was still worn.

As the years have passed hats have slowly lost favor, even for weddings and worship with only a proportion of the congregations donning them. They have never been worn universally since the 1920s. They were popular again in the 1980s for weddings and special occasions after the Princess of Wales, Diana.

Hats when worn today are either worn for a special dressy occasion such as a wedding or conversely as casual statement attire in the way that caps might be worn the wrong way around. Functional hats are still used by uniformed workers for corporate identity or protection as well as by many individuals in inclement weather. Individuals wear fur hats or simple fleece beanie hats in very cold weather and use sunhats in very sunny weather. Those who cannot bear a hat unwittingly adopt a hat form built into a garment, as in a hoodie casual zip top.

5.1.2 Types of Hats

1. Baseball Cap Also known as snapbacks, a baseball cap is a round top hat with a stiff panel protruding in front. Fig 5.1

2. Beanie A knitted cap worn to cover the ears during winters to keep warm is known as a beanie hat. Fig 5.2

3. Beret A round flat-topped hat, generally made from wool, with volume at the sides is known as a beret hat. (Different from hair barrettes) Fig 5.3

4. Boater Also called can-can hat, a boater hat is a type of straw hat with a flat top. Fig 5.4



Fig. 5.1 Baseball



5.2 Beanie



Fig. 5.3 Beret



5.4 Boater

5. Bonnet A bonnet hat is a 19th century hat that covers the entire head, usually made with cotton or silk with a wide, stiff, face-framing brim and ribbons to tie under the chin. Fig 5.5

6. Bucket Hat Also called as fisherman hat, bucket hats are usually made from light fabrics with a rounded crown and a floppy brim. Lately, flat-topped, sturdy and structured bucket hats are popular. Fig 5.6

7. Cloche A fitted 20th century hat typically made from felt with a small rounded brim, covering the whole head and coming down till just above the eyebrows is called cloche hat. Fig 5.7



Fig 5.5 Bonnet



Fig 5.6 Bucket Hat



Fig 5.7 Cloche

8. Cowboy Typically made out of leather, cowboy hats are wide brimmed with a crease at the crown. Fig 5.8

9. Deerstalker Traditionally worn while hunting, deerstalker hats are plaid, rounded at the crown and have stiff panels on either side of the head. Fig 5.9

10. Derby Derby hats are also called as bowler hats and are rounded at the crown and curved at the brim. Fig 5.10

11. Fedora A fedora hat is a type of hat with a curled brim, vertical crease at the crown and two dents on either side. Fig 5.11



Fig 5.8 Cowboy



Fig 5.9 Deerstalker



Fig 5.10 Derby



Fig 5.11 Fedora

12. Gatsby Also known as newsboy cap, a gatsby hat is similar to a beret but with a stiff front panel like a baseball cap. Fig 5.12

13. Panama Hat Panama hat is a cream colored brimmed straw hat made from the leaves of the toquilla palm plant. Fig 5.13

14. Pillbox Made famous by Jackie O, a pillbox hat has no brim and a flat top. Fig 5.14

15. Pom-pom beanie A type of beanie that has a decorative ball, usually made of wool on top of it, is called a pom-pom beanie. Also **pompom beanie**. Fig 5.15

16. Skully A skully cap is a variation of a beanie with a very tight fit and in a light fabric. Popular in the hip hop and rap scene. Fig 5.16



Fig 5.12 Gatsby



Fig 5.13 Panama Hat



Fig 5.14 Pill Box



Fig 5.15 Pom-Pom

17. Sombrero Sombrero hat is a type of hat, popular in Mexico, with a broad brim, tall crown and a chin tie. Fig 5.17

18. Straw hat A brimmed hat made from material obtained from plants such as rye, wheat, sea grass, toquilla, sisal, etc. is known as straw hat. They're typically worn outdoors. Fig 5.18

19. Top hat Also known as topper or cylinder hat, a top hat is brimmed with a high crown and is typically black. Fig 5.19

20. Trapper Popular in Russia, a trapper hat is made from fur with flaps that can be fastened under the chin to stay warm in winters. Fig 5.20

21. Visor A cap with a stiff front panel and no crown, worn to keep the sun out of the face is called as visor cap. Fig 5.21



Fig 5.16 Skully



Fig 5.17 Sombrero



Fig 5.18 Straw Hat



Fig 5.19 Top Hat



Fig 5.20 Trapper



Fig 5.21 Visor

5.1.3 Familiar types of materials used in making hats:

Cotton- Cotton is a highly desirable natural fiber that is durable, soft, breathable and suitable for all climates.

Bamboo Hats- Bamboo viscose is an eco-friendly option that has natural antibacterial properties. This luxurious, silky-soft fabric is also pill resistant, absorbent and durable.

Fleece Hats - For cold weather, there aren't many fabrics that can beat the comfort of fleece. Like your favorite sweatshirt, your fleece hats provide comfort and warmth.

Terry Cloth Hats - This absorbent fabric feels like a traditional towel. It's a great option for the pool, spa or beach.

Wool Hats - Ideal for winter headwear, wool is a natural fiber that is warm, provides insulation and is water resistant. For those who are sensitive to wool, a hat liner can be worn underneath for an additional layer of protection.

Berber, Tweeds & Corduroy - These warm fibers provide texture and interest to winter hats.

Lycra Hats - Lycra is a stretchy, durable fabric. It allows your hat to stretch, conforming to your head and retaining its shape.

Polyester Hats - Great for wicking moisture away; often used in exercise clothing.

Silk- This luxurious fiber drapes beautifully and is often used in head wraps and scarves.

Straw & Raffia Hats - Used for summer headwear, hats made of straw or raffia are lightweight and breathable. Cotton or bamboo liners can be worn underneath for those with especially sensitive scalps.

Crushable Hats - Many of our more "rigid" looking hats are "crushable". If they are bent or "crushed", they will return back to their original shape. Great for travel.

5.2 Bags

Bags have been around for hundreds of years and have been used by both men and women. Bags have been prevalent as far back as ancient Egypt. Many hieroglyphs depict males with bags tied around their waist. The Bible mentions pouches, especially with regard to Judas Iscariot carrying one around, holding his personal items. In the 14th century, wary of pickpockets and thieves, many people used drawstring bags, in which to carry their money. These bags were attached to "girdles" via a long cord fastened to the waist. Bags are one of the most common accessories for both men and women and have been for as long as society can remember. Aside from practicality, which they were first created for, bags are now fashion statements and designed to the highest quality standards.

5.2.1 History of Bags

Early Use: Bags and handbags have been noted throughout history as far back as ancient Egypt – hieroglyphics depict men carrying bags tied around their waist (similar to a modern day bum bag). Peasants and farmers in early civilizations were known to carry seeds and grains in small bags and African priests have been known to carry beaded bags as a sign of luxury and power.

14th – 16th Century: The 14th century saw the introduction of drawstring bags that were used to carry money and valuables on one's person. The bags were fitted with a string around the waist and were used by both men and women – the women's were decorated with small ornaments.

The 15th century introduced purses that were common wedding gifts from grooms to their brides; the small pouch like bags were embroidered with love stories. Bags were also used to carry bird seed and game for hunts.

The 16th century saw the introduction of large skirts and petticoats; women hid pouches or bags in the many layers whilst men hid theirs inside their breeches.

17th – 19th Century: In the 17th century girls were encouraged to sew in order for them to be considered for marriage. This created a trend for small embroidered hand bags that were used to give gifts inside.

In the **18th Century** full skirts moved away from the fashion scene and welcomed the introduction of slim fitting clothing – this meant no room for pockets or hidden pouches and the hand bag became widely popular once again.

The 19th Century saw the creation of the train and this increased the need for hand held luggage – where the term handbag was born. Interestingly, many modern handbags still use the same basic design. Advancements in technology during the Victorian era meant a larger array of styles and fabrics were available for handbag design and production. Women used to wear Chatelaines, a decorative belt hooks or clasps at waist with a series of chains with a bag-like receptacle suspended from it. They used to spend a lot of time and embroidering purses and bags marking the date and their initials to show off to their potential husbands.

Early 1900's: The modern –iteration of the handbag comes into use, referring to leather shopping bags and briefcases which could be worn around the shoulder. Development of "Pochette" a type of clutch was often associated with freedom of youth. Women wore Dorothy bags, small drawstring pouches which matched robes and muffs.

1920's: After World War I, women carried “Pochettes”, a clutch featuring geometric motifs, which they carried casually under their arms.

1930's: The shoulder bag, the satchel, the clasp bag and the clutch came into main stream fashion. Bags reflected the Art Deco movement, which emphasized abstraction and new industrial materials such as plastic and zippers.

1940's: With World War II, a new handbag aesthetic emerged. Smooth fluidity of the Art Deco style changed to a military, austere style. Bags became bigger, more angular and more practical, reflecting a sense of self-sufficiency. Metal frames, zippers and leather were in short supply. Manufacturers improvised using plastic and wood for frames and synthetic fabric, such as rayon. The drawstring bag of decades previous reappeared and this time was homemade.

1950's: Post-war economic prosperity propelled handbags to icon status. Accessorizing with a coordinating handbag became a norm, unaffected by socioeconomic status. Design houses like Chanel, Louis Vuitton, and Hermès emerged. Small bags became symbols of femininity.

1960's: With the rise of youth-centric culture, a breakdown of “appropriate” dressing occurred. Dressing rules were abandoned. Youthful bag styles became popular. Long, narrow clutch and the dainty shoulder bag with long chains and then straps appeared. These complimented the childlike miniskirts which were trendy at that time.

1970's: Large satchels and fabric shoulder bags came in style as a result of young people's travels. People shunned mass-made items. Afghan bags, patchwork and embroidery were the norm. Wildly colourful and “flower power” motifs brought a romantic and ethnic look. Individual expression became essential women represented support for the feminist movement by wearing bags with lots of buckles and zipper, suggesting the readiness and strength.

1980's: Growing concern for health and fitness was a catalyst to the popularity and mass production of sports bags.

21st Century: Handbags are made in an extensive array of styles, sizes, materials and for purposes. Technological advances lend endless handbag material and construction opportunities. Handbags began to be popular with men too.

5.2.2 Types of Bags

1. **The Hobo Bag:** It has originated from the bindle sack seen on cartoon Hobos. It is drooping, crescent shaped bag with a short shoulder strap. Fig 5.22

2. **The Messenger Bag:** It is a thin and wide structure with cross body strap. Large flap front is plain or features belt clasps like a satchel. It was originally used by mail carriers and bike messengers. Fig 5.23

3. **The Satchel:** It has a flat bottom that allows it to stand upright. Top handle is/or cross body strap. Flap top with buckle or clasp closure are seen in this bag. Fig 5.24



Fig 5.22 Hobo Bag

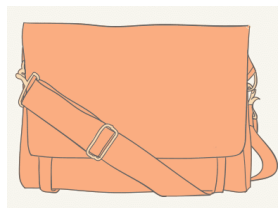


Fig 5.23 Messenger Bag



Fig 5.24 Satchel

4. **The Saddle Bag:** It is inspired by the shape of saddle bags on pack horse. It has rounded bottom with a flap closure and cross body strap. It is typically made of leather. It commonly features metal hardware or embossed leather details. Fig 5.25

5. **The Bucket Bag:** Its shape was originally introduced by Louis Vuittons for champagne vintners to transport bottles. Drawstring top closure with buttons or magnetic clasp on inside is seen. It has structures bottom with a sloucher top. It has either long cross body straps or two backpack straps. Fig 5.26

6. **The Backpack Purse:** It is the ultimate hands-free bag. It has tow straps, one for each shoulder. A variety of closures like zipper, clasp, buckles, and drawstrings could be used in this model. Fig 5.27



Fig 5.25 The Saddle Bag



Fig 5.26 The Bucket Bag



Fig 5.27 The Backpack Purse

7. **The Foldover Purse:** The defining feature of this purse is folded over top section. It could be worn in two ways as a long tote with top handles or as a messenger-like bag with long cross body straps. Fig 5.28

8. **The Tote Bag:** It is also known as “Shopper’s bag” or “Shopper”. It has a simple structure with an overall squarish or rectangular silhouette. It is designed with open top with two short shoulder straps or handles. Fig 5.29

9. **The Barrel Bag:** It is similar to the duffel bag. It has small, horizontal, cylindrical shape resembling a barrel. It has two top handles, with a top zipper closure. Fig 5.30



Fig 5.28 The Foldover Purse



Fig 5.29 The Tote Bag



Fig 5.30 The Barrel Bag

10. **The Duffel or Mini Duffel Bag:** It is a bag with rounded shape and flat sides with roomy interior. It is designed with two top handles and with a top zipper closure. It is also called as “Weekender”. Fig 5.31

11. **The Baguette Bag:** This bag is characterized by long and narrow bread called Baguette Loaf. It has one short shoulder strap, is small which is good for holding the essentials. Fig 5.32

12. **The Frame Bag:** This bag comes in rectangle or trapezoid shape. It is built on a metal hinge frame and sports a clasp or kissing lock. It has one or two short handles. Fig 5.33



Fig 5.31 The Duffel Bag



Fig 5.32 The Baguette Bag



Fig 5.33 The Frame Bag

13. **The Doctor Bag:** It was originally used by the Doctors for house calls. It is a frame bag with hinge at the top and has elongated, large shape with flat bottom and roomy interior. It has one or two short handles with a magnetic flap, clasp or zipper closure. Fig 5.34

14. **The Envelope Clutch:** It is usually available in small to medium size. It has no straps, and meant to be “clutched” in the hand. It is also called as “Wristlet” if it has a short wrist strap. Clutches also come in variety of shapes. Fig 5.35

15. **The Minaudiere:** This is a small clutch purse with hard side and a hinged frame. It has a clasp or a kissing lock closure at the top. It is also available in variety of materials and embellishments. Fig 5.36



Fig 5.34 The Envelope Clutch

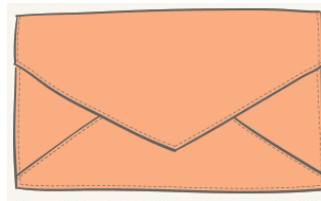


Fig 5.35 The Doctor Bag

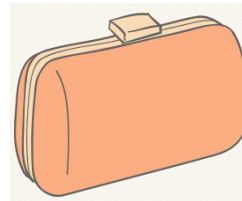


Fig 5.36 The Minaudiere

5.3 Shoes

5.3.1 The History of Shoes

The history of shoes, that is to say, archaeological and paleo-anthropological evidence for the earliest use of protective coverings for the human foot appears to start approximately 40,000 years ago. The oldest shoes recovered to date are sandals found at several sites in the southwest America. Dozens of sandals were recovered by Luther Cressman at the Fort Rock site in Oregon, and at many other places. Others include the Chevelon Canyon sandal and some cordage fragments at the Daisy Cave site in California.



Fig 5.37 The First

In Europe, preservation has not been as accidental. Within the layers of the cave site of Grotte de Fontanet in France, a footprint actually shows that the foot had a moccasin-like covering on it. Skeletal remains from the Sunghir sites in Russia appear to have had foot protection. That's based on the recovery of ivory beads found near the ankle and foot of a burial.

A complete shoe was discovered at the Areni-1 Cave in Armenia and was reported in 2010. It was a moccasin-type shoe, lacking a vamp or sole. (Moccasin-a low-heeled leather shoe whose side panels are joined to the upper panel using prominent stitching to form a raised puckered seam).

Although these centuries seem dark and sinister with the gift of hindsight, the Middle Ages were nevertheless a time in which footwear truly flourished. New types of shoes were introduced, heels were invented during this period. Leather shoes were made using the turnshoe production method in Northern and Central Europe. This has been confirmed by archaeological finds dating back to this period as well as by contemporary artistic depictions.

Making turn shoes involves turning the shaft and sole inside out and stitching them together. The shoes are then worn with the other side facing outwards. This production method has a great advantage in that the seams lie protected on the inside of the shoe. However, it has a disadvantage in that it can only be used on certain types of leather; only light and flexible types of leather can be used to make shoes this way. Reinforcements, such as additional partial soles, are stitched on after the shaft and sole have been combined. Shoes served as indicators of the wearer's respective social status. In Egypt sandals could only be worn by priests and the pharaoh himself. The free citizens of Ancient Greece wore shoes to distinguish themselves from barefoot slaves, while in the Roman Empire only the emperor was allowed to wear red sandals. Moreover, the number of straps on a given sandal served to indicate the military rank of the legionnaire wearing it. The greater the number of straps and the thinner the sole, the higher the rank of the wearer.

During the Middle Ages shoes with various kinds of closures or openings were already in existence. There were shoes with lacing, buttons, slip-on shoes, and straps. In terms of shoe design, the 11th and 12th centuries were dominated by conically tapering shoe tips and pointy heels. In the 14th and 15th centuries these features were integrated into the notorious Crakow shoe (Fig 5.38). The toes of these shoes bent upwards and ended in a fine point known as a "poulaine". The length of the toe served as a striking indicator of the wearer's social status. Toe length was strictly regulated. For example, princes and earls wore poulaines with a length of 2.5 feet, while knights had to make do with a length of 1.5 feet. Regular citizens and farmers wore shoes with a poulaine length of a mere half a foot. In order to protect these delicate shoes from dampness and cool temperatures, they were sometimes mounted onto wooden platforms known as pattens. (Fig 5.39)



Fig 5.38 Crakow Shoe



Fig 5. 39 Patten



Fig 5.40 Chopines

Remarkably, it appears that the Traditional hand welting shoe production method had already been developed by the late Middle Ages. It is still used to produce quality shoes today. There are clear indications that hand welting was already being used in the 15th century. This production method was used to create new types of shoes that differed drastically from the models detailed above, among other purposes. Broad shoes with short toes, such as duck's bill shoes, cow-mouth shoes, and bear claw shoes, first became fashionable in the 16th century and were all hand welted. Kid leather was already being used to make shoe shafts in the 11th and 12th centuries, and remains a highly prized shoe material to this day. Heels were developed in the 16th century. They were first created in Spain, women's shoes with platform-like soles spread to England, France, and Italy. The most extreme platforms were the chopines, which were worn in Venice. They featured heels measuring up to 40cm, those wearing them needed to be accompanied by a server or use poles to avoid falling over. Chopines were definitely not conducive to healthy feet. Although all shoes were heelless up until this time, in the 17th century both men and women wore heels. For men, heels offered an increase in height, the 16th-century Ludwig XIV, for one, was known for enhancing his stature with platform shoes.

At the beginning of the 19th century men primarily wore low-rise shoes. New low-rise models received a boost in popularity with the advent of the first fashion magazines. Machine-welted men's shoes, developed through a sort of competition among European master shoemakers between the years 1880 and 1889, are still considered classics today. They remain as hotly in demand as they were at the time of their creation. Men's shoe production also made massive strides during the 19th century. Industrialization began around 1830 and enabled the mass production of footwear. The shoe industry was built on the back of the sewing machine; this and other technological advances of the Industrial Revolution allowed for a higher and more cost-effective rate of shoe production than ever before. The changing social fabric of the time entailed changes in footwear fashion. The old, simple hierarchy of the nobility and the common people no longer existed, and a clear gender divide also began to solidify. Men began to go to work, for which they required practical footwear. Women, on the other hand, stayed at home, where they wore impractical, fanciful types of shoes.

Although it is taken for granted today, the existence of different shoes for right and left feet is a relatively new invention: this important development in shoe fit was not introduced until the end of the 19th century. At this time shoemakers began working with combinations of sole and vamp cuts specifically tailored to fit either the right or the left foot.

Synthetic materials have been conquering the world of footwear. Inexpensive discount shoes, produced en masse, are made of such materials and are glued—not stitched—together. The 20th century also saw the rise of changing consumer demands, which led to the creation of the health shoe. New technological breakthroughs shaped shoe history in the 20th century. While leather was previously always vegetable-tanned, meaning its qualities could only be manipulated to a limited extent, new tanning methods involving chrome salts were developed during this century and opened up a whole new world of men's shoe production. At the same time, leather was made more durable than ever before with the use of newly-invented shoe polishes. Stored in tin cans, these remain popular to this day, and are used to nourish shoe leather. This special component of shoe care not only created job opportunities for shoe shine boys but also kept shoes looking radiant. The invention of new thermoplastic rubbers as well as other synthetic materials in the 20th century led to significant cost reductions in men's shoe production. Gluing replaced stitching, which in turn allowed more people to afford more shoes more frequently. The corresponding decrease in shoe quality actually makes frequent shoe purchases a necessity. Sports shoes, first developed at the start of the century, first achieved mass appeal in the 1960s. Known for their extreme wearing comfort and available in a wide range of designs, trainers number among the most popular leisure shoes worldwide.

While men's shoes of the preceding centuries were often richly decorated, thereby indicating the social status of their wearer, sleek and minimal men's footwear was all the rage in the 20th century. The last few decades of the century, though, saw a rising interest in shoe functionality over aesthetic considerations. So-called health shoes came onto the scene, promising to support consumers' foot health. Birkenstock sandals stood at the forefront of this movement.

5.3.2 Parts of the Shoe

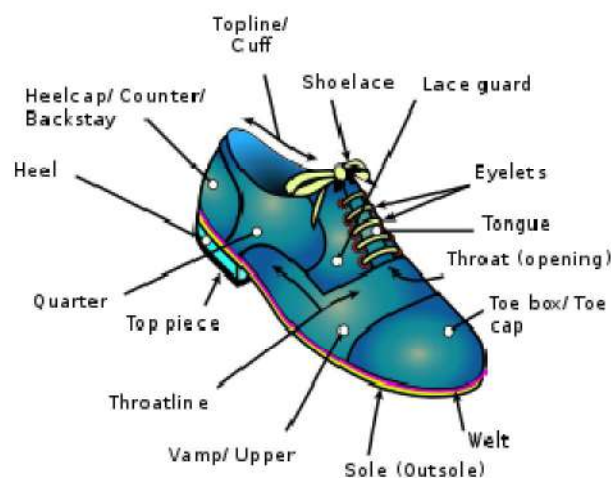


Fig 5.41 Parts of the Shoe

5.3.3 The Types of Shoes

5.3.3.1 Men's Shoe Styles

Men's shoes are often categorized by their fastening, and the various possibilities are listed below in roughly descending order of formality.

Oxfords: Oxfords (British), or Balmorals (American), lace up and tie to keep them on the wearer's foot, and have a closed lacing, where the pieces of leather joined by the laces are sewn together at the bottom. Many Oxfords have an additional piece of leather sewn over the toe section, known as a toe cap. White Buck shoes are a variant of the oxford that is made of buckskin. Fig 5.42

Monk shoes: A monk shoe (also called a monkstrap) has no lacing, and is closed by a strap with a buckle. Monk shoes are typically regarded as less formal; they are often considered appropriate for business formal, but rarely appropriate with any kind of formal attire. Fig 5.43

Derbies: Derbies, or Blüchers in America, are similar to Oxfords, but have open lacing. They are a little less formal, and are often worn in brown, with some [brogueing](#). Fig 5.44

Loafers: Loafers, or slip-ons, come in both men's and women's styles. It is not unusual for a man's loafer to have a [tassel](#), although this can be seen in women's varieties too. Loafers were originally men's shoes, and are usually thought of as such, although women do now wear them. Fig 5.45

Brogues: Brogues have rows of decorative punching in patterns: full brogues, or wingtips (the standard American name), have a toe cap in a wavy shape, with punched patterns on various sections of the shoe; half brogues have a normal straight edged toe cap and less punching. Fig 5.46



Fig5.42 Oxfords



Fig 5.43 Monk Shoe



Fig 5.44 Derbies



Fig5.45 Loafers Shoe



Fig 5.46 Brogues

5.3.3.2 Women Shoe Styles

Pumps: [Pumps](#) come in a variety of colors and styles. They can have a rounded or pointed toe, and are usually made of [leather](#). They have a heel of at least 5 cm (2 inches). Today, pumps have evolved beyond the classic working woman's shoe. Now, there are peep toe pumps, which have a small opening at the toes. There are also pumps with ankle straps. Not only have the styles evolved, the fabrics have as well. While almost all pumps used to be made of leather, pumps now come in a variety of materials, such as [suede](#) and [wool](#). Fig 5.47

Slingbacks: The [slingback](#) is similar to the pump in that it can have a rounded or pointed toe and usually has a heel, but it doesn't wrap all the way around the heel like pumps usually do. Instead, it has a narrow strap that is pulled up over the heel, leaving the rest of the heel exposed. Fig 5.48

Loafers: [Loafers](#) are usually flat and typically thought of as both more masculine and comfortable than anything with a heel. The typical loafer has a round toe, and comes in darker colors, such as black or brown. A spin on the loafer is the cloak, which, like the loafer, is a slip-on shoe, but it has a heel and is considered a more "feminine" design. Fig 5.49

Mules: [Mules](#) are shoes that slide onto the foot, and do not cover the heel or the back of the foot at all. These aren't considered dress shoes unless they have a heel. Fig 5.50

Ballet flats: The [ballet flat](#) hadn't been a popular fashion trend until sometime after the first few years of the 21st century. Taken from the art of ballet, as their name implies, they are flat shoes with a rounded toe, and come in many different colors and patterns. The classic ballet flat has a small bow on the toe, but this style has evolved to include varieties without bows. Fig 5.51

Sandals: Any sandal that has a heel, many straps, or a shiny finish would probably be acceptable in a more formal atmosphere. While sandals are usually more casual, there are some sandals that can be worn with dress clothes. For example, any sandal that has a heel, many straps, or a shiny finish would probably be acceptable in a more formal atmosphere. Fig 5.52



Fig 5.47 Pumps



Fig 5.48 Slingbacks



Fig 5.49 Loafers



Fig 5.50 Mules



Fig 5.51 Ballet Flats



Fig 5.52 Sandals

5.4. Scarves

Scarves are types of clothes that are worn round the head or neck region. With the advancement of many types of scarves, women can now scroll through the range to choose their favorite ones. Scarves are one of those accessories that are evergreen to a woman's style and can be used in any weather. Fig 5.53

5.4.1 History of Scarves

As a symbol of femininity, the scarf is the ultimate chic fashion accessory oozing sophistication and elegance. As a garment worn for practical purposes, a scarf can provide the wearer warmth or keep them cool. The scarf comes in a many a shape and form demonstrating its ubiquity and ability to blend into the wardrobes of undoubtedly every woman over the past few decades. The origins of the scarf trickle back to Ancient Egypt, precisely to Queen Nefertiti, who was believed to have worn a woven wrapped scarf under an extravagant jeweled headpiece. While scarves are more often than not associated with the female wardrobe nowadays, they have been worn by men and women for many centuries. In Ancient Rome, men wore them as ‘sweat cloths’ used to keep cool and dry sweat. In the Far East, scarves were worn by military personnel to show rank. Scarves with numerous designs, worn in various ways can be viewed on the terracotta army soldiers, which were buried away more than 200 years BC.



Fig 5.53

Cashmere shawls became the epitome of high fashion in the 19th century. The famously Paisley pattern was established during this time as it was the first town to manufacture cashmere ‘Paisley’ shawls similar to those brought back by Bonaparte. Cashmere scarves and pashminas rose in popularity, as they were undeniably soft, warm and luxurious. They were considered exotic and rare as cashmere was woven from Cashmere goats that inhabit the mountainous regions of Kashmir. The name ‘Pashmina’ translates to ‘Soft Gold’ in the Kashmiri language.

During the First World War, knitting became more than just a hobby for women, children and even men all over the world. It was considered patriotic war duty. Tons of socks, sweaters and scarves were produced to send to servicemen to keep them warm and dry in wartime conditions. While knitting nowadays is often considered an old-fashioned hobby, knitting saved the lives of many servicemen during the war. Knitted goods were produced by the ton and shipped out to troops who were battling harsh, wet and cold conditions not only in the trenches but also in the air too. In addition to knitted scarves, pilots would also wear white silk scarves whilst flying as the soft, supple fabric provided protection from neck chafing. During the First World War, silk played a very important role in military operations.

5.4.2 The Emergence of Scarves as Accessories

With the emergence of silk in the west, manufacturing methods were improving and many clothing brands started producing silk accessories. Liberty of London started producing light silk scarves that became extremely popular during the post-war years. Their energetic prints provided a much-needed tonic to the gloom that was life on the home front in the early years after the war. Similarly, in 1937 French fashion house Hermès started importing Chinese silk to be woven into luxurious square scarves. Raw silk imported from China was especially strong and more durable. Designs reflected the Equestrian background that was deeply rooted in the history of Hermès and these designs still prove to be the most popular nowadays. The classic Hermès touches which have become synonymous with the brand such hand-rolled edges, hand-painted details and its 90cm x 90cm were all established at this early stage.

As a form of self-expression, the silk scarf quickly came back into fashion; the material allowed for bright patterns and vivid, sharp details to be printed. Silk scarves gained notoriety and soon became a symbol of glamour, power and independence.

Designs of the 80's were bold and confident. With the 90's approaching and the rise of manufacturing and cheap labour, many silk alternatives grew in popularity. Bright vivid designs could just as easily be printed onto these materials and with less expensive dyes in the process too. As silk is a particularly labour intensive practice, farmers became disillusioned with the product when demand fell. Silk scarves fell out of favour during the 90s and people flocked to buy accessories that were innovative and striking. This elegant, stylish accessory was no longer the must-have item in the woman's wardrobe and soon disappeared from the spotlight.

However, technology and transportation boomed in this decade, making travel easier and far more accessible to the majority of the population. As the world opened up so did the fashion industry. Designers took inspiration from all over the world and rediscovered treasures of the past. Pashmina shawls which were only worn by wealthiest and most well-connected ladies were re-envisioned and transformed into daily lifestyle necessities of the modern-era woman. Rediscovering the sensuous qualities of cashmere wool meant that these scarves were admired for their comfort and practicality over design.

'Twill' scarf, a long ribbon-like scarf which is named after the 'twill' weave pattern used to create its fantastic drape. They look fashionable when wrapped around the handles of a handbag, giving a touch of personality as well as protecting the bag. These scarves can also be wrapped around wrists to make sleek, stand out bracelets. As the Twilly is small, it can be used as a headband or used as a ribbon tied around a hat. It can also be used as a hair tie or braided into plaits to add hints of colour and pattern to hair. More recently, these scarves used as belts either on their own or wrapped around a belt then fastened around the waist. The Twilly scarf is a truly modern update to the otherwise classic silk scarf.

5.4.3 Shapes & Styles of Scarves

1. Blanket Blanket scarves are a giant version of a scarf that is so big they could even be used as, a blanket.

2.Neck Neckstyles of scarves are perfect for a men's neck scarf as well as neck scarves for women. Patterns like dots or floral or go abstract with stripes and shapes.

3.Ponchos ponchos are lined with fur, adorned with embellishments, or in sophisticated blacks, tans, and greys'. Ponchos add the perfect amount of interest to a classic girl's wardrobe.

4.Head Hair and head accessories have been a staple for fashion since the first bobby pin was invented. Scarf can be worn as a head band, bandana, or a wrap. A skinny scarf or square scarf works great for this trend that wears well in any season.

5.Infinity A wool infinity scarf will keep warm while bringing bold colors to winter outfits, but there are infinity scarves that are perfect for any season. A circular scarf doesn't let its physical shape limit its stylish possibilities; whether one prefer a sleek, simple loop scarf or one bursting with bright, glittering detail.

6.Pashmina The pashmina is timeless, and with its infinity of uses. It is known as Cashmere shawl. From bold prints to demure silvers, pashmina to add to your wardrobe.

7.Square There's nothing square about square scarves; the moment it's tied, looped or knotted around dainty neck, it makes a bold style-statement. They come in different designs like chevron, hearts, abstract shapes, leopard print, or festive holiday neckerchief.

8.ShemaghScarves Shemagh scarves, otherwise known as keffiyeh scarves, are a square cotton type traditionally worn by Arabs. These are worn around the neck or the head to protect from the sun and dust. This scarf is known for its white checkered weave that is combined with a dark colour.

9.Bandana A bandana scarf is a piece of cloth in the shape of a triangle or a square that is folded into a triangle. These are often made of cotton and are popularly donned by cowboys and associated with western wear. Bandana scarves can be worn on the head, neck, and as a ponytail wrap. They may also come in silk as well.

Stole A stole is a woman's shawl, especially a formal shawl of expensive fabric, used around the shoulders over a party dress or ball gown. A stole is narrower than a typical shawl and of simpler construction than a cape; it is a length of a quality material, wrapped and carried about the shoulders or arms. Lighter materials such as silk and chiffon are simply finished, that is, cropped, hemmed, and bound; heavier materials such as fur and brocade are often lined as well.

5.6 Belts

A belt is a flexible band or strap, typically made of leather or heavy cloth, and worn around the waist. Sometimes referred to as a girdle or sash, the belt was worn in the Bronze Age and in ancient Crete, Greece, and Rome and is mentioned in the Bible. Belts are used to secure or hold up clothing, like trousers or other articles of clothing, in a manner similar to suspenders and garters. A belt being of any length of material that encircles and is secured around the

waist is made of popular materials including leather, fabric, and metal. Belts are worn by males and females to define the fashionable waist and for a variety of other functions in many world cultures. Fig 5.54 and Fig 5.55



Fig 5.54 Leather Belt



Fig 5.55 Cloth Belt

History of Belts

Belts have been documented as male clothing since the Bronze Age. Both sexes have used them off and on, depending on the current fashion. In the western world, belts have been more common for men, with the exception of the early Middle Ages, late 17th century Mantua, and skirt/blouse combinations between 1900 and 1910.

In the latter half of the 19th century and until the First World War, the belt was a decorative as well as utilitarian part of military uniform, particularly among officers. In the armed forces of Prussia, Tsarist Russia, and other Eastern European nations, it was common for officers to wear extremely tight pressing into their stomachs and gutting them up, wide belts around the waist, on the outside of the uniform, both to support a saber and for aesthetic reasons.

In modern times, men started wearing belts in the 1920s, as trouser waists fell to a lower line. Before the 1920s, belts served mostly a decorative purpose, and were associated with the military. Moreover, prior to that trouser did not even have belt loops. As sportswear, trousers with belt loops were already present in the 19th century. Today it is common for men to wear belts to secure their trousers. Twentieth-century men almost exclusively wore leather belts. Belts of webbing borrowed from military uniforms were another, more casual, option for males.

Symbolic meanings of belts

The belt, or a band of more or less flexible material (rope, fabric, metal, leather) designed to gather or support clothes to the waist, was nothing but a mere string at the beginning but almost immediately it carried an additional ornamental and distinctive meaning. Belts carried tools, weapons and daily use objects.

At the same time, in virtually every religious tradition there are traces of belts (often cords) used during sacred ceremonies and integrated in the priest's vestment. The term **girdle** still refers to the liturgical attire that normally closes the Catholic priest's Robe.

Many primitive populations still use belts as amulets that are believed to fight a wide array of ailments from whooping cough to pleuritis. In other words, the history of belts is as old as the history of man and, while resulting from a modesty drive, it immediately became part of fashion and style in any time and for any people.

From ancient Egypt to the civilizations of the Fertile Crescent, from Greek to Asia and the ancient Hebrew civilization, historical and archaeological finds reflect a variety of shapes and ornaments that invariably confirm the belt's relevance as a symbol of status and wealth, of power and elegance. Roman soldiers used to wear belts for defensive reasons as well as to show their rank (100 BC). Only slaves wore beltless tunics. Fig 5.56 and Fig 5.57



Fig 5.56 Belts in Roman



Fig5.57 Belts in Medieval

Within about half century, the belt, or the sword-belt, remains, for Teutonic knights, what distinguishes free men from serfs. Sword-belts are quite eye-catching and decorated with accessories designed to hang weapons and daily use objects. Having illustrated the symbolic meaning of belts, let's detail the history of this accessory with its main developments.

Rules for Belts

There are several unspoken rules for belts when it comes to belt shape and color, especially for men wearing suits. A thinner belt is generally viewed as more formal, and a wider belt more informal. Belts for formal dress pants are usually 30 mm wide (a little under 1¼ inch), but not less. Less formal belts for suits can be up to 35 mm wide. Belts for jeans are usually between 35 mm and 38 mm wide (a little under 1½ inch). When wearing a suit it is also common to match the color of the belt and shoes.

Uses of Belts

- Functionally, belts relieve the wearer's shoulders of part of the weight of the garment.
- Another function of belts is for attaching items; during the Middle Ages and Renaissance, women hung chatelaines, cosmetics, mirrors, pomanders, and purses from their belts.
- Police officers in America continue to use belts to hold items such as their guns, clubs, and pepper spray, and carpenters and other tradesmen carry their tools in utility belts.
- Belts are also used to provide protection. Weight-lifting belts provide stability to the spine and lower back thus reducing risk of injury to the lifter.
- Delivery people and others who do lifting in their occupations wear similar belts. Seat belts are often complained about for being uncomfortable or for crushing the wearer's clothing.
- Several decades after automobiles became common, a movement started to promote motor vehicle seat belts. In the 1960s seat belts became standard in new vehicles, and in the 1980s, many countries began passing laws that mandated seat belt use for drivers and passengers.

Women's Fashion Wear-Belts- Time Period***1920s***

- First half of the decade belts were usually worn with day wear or sports dresses, with sashes replacing these for evening wear
- Belts were slim, made from fabrics, ribbons and cloths.
- Buckle styles were small – early plastics, glass, paste. Shapes include ovals, half ovals, circles, diamonds, small rectangles

1930s

- Belts gradually begin to increase in width
- Buckles become more elaborate and decorative
- Geometric shapes – squares, rectangles, diamonds, circles, ovals
- Buckles could be made from glass, early plastics, brass, wood, paste stones, mother of pearl

1940s

- Belts become more utilitarian, less decorative
- Tough, durable materials are utilized – leather, suede, canvas, petersham.
- Afternoon and evening wear often included a belt of matching material

1950s

- Belts were worn wide to further enhance the waist and hips
- Materials included leather, suede, elastic, canvas, fabrics
- Buckles could be covered in coordinating fabric to match the belt material

1960s

- Belts were still worn wide
- The position of the waistline lowered to the hips
- Belts became decorative, with gilt metal being employed to create jewelry-like design

Recent Popular Belts Designs for Women

1. **Skinny Belts** Skinny belts were seen in many of our favorite designer collections like Gucci, Versace, Dior, Michael Kors, etc. Skinny belts matching the outfit and contrasting ones, both types are perfect for both formal and casual wear. Fig 5.58

2. **Extra Broad Belts** Many designers came up with extra broad belts – double in width of regular. Corset belts were also included in some collections, which project perfect hour glass figure. Extra broad leather, metallic and velvet belts were seen on the runways. Fig 5.59

3. **Velvet Belts** Velvet belts were seen on the runways in the collections of Balmain, Fendi, etc. Velvet belts – both with and without buckles made their way in the fashion shows. Fig 5.60

4. **Logo Belts** The logo trend is going strong. Logo dresses, shoes, jewelry and now belts added to the list. Extra broad, fringed, velvet and leather logo belts are seen in the runways. Logo all over the belt or just at the buckle, both are trendy! Fig 5.61

5. **Embellished Belts** Adding a chic factor to a regular leather belts is by adding embellishments. The designers like Gucci and Dolce & Gabbana are up with minimalism, keeping just the buckle embellished. studded belts are also in trend. Fig 5.62

6. **Patterned Belts** Instead of going for the plain belts, patterned belts best make place in one's wardrobe. Printed fabric belts, patterns in leather and fur belts, Snakeskin, art and color blocking are some of the patterns. Fig 5.63

7. **Statement Belts** Statement belts give a complete the party look to the outfit. Extra broad with double buckles, fringe belt with logo and contrast colored buckle are some of the statement belt styles. Fig 5.64

8. **Knotted Belts** Knotted belts or extra long are another type of belts. Fig 5.65

9. **Fabric Belts** Fabric belts not only make your waist look tiny, the exaggerated detail on the hips hides figure flaws.



Fig 5.58 Skinny Belt



Fig 5.59 Extra Broad Belt



Fig5.60 Velvet Belt



Fig 5.61 Logo



Fig 5.62 Embellished Belt



Fig 5.63 Patterned Belt



Fig 5.64 Statement Belt



Fig 5.65 Knotted Belt

5.7 Jewellery

Women's are passionate about jewelry as it represents a symbol of femininity and even social status. Jewelry has always made women feel beautiful and confident. Everywhere in the world, women are wearing an ample variety of jewelry. Whether it is about necklaces, bracelets or earrings, jewelry is extremely popular. Jewelry has the ability to highlight women's personality and bring out the best features when wearing the right pieces for the right occasion.

Jewelry has always played a great role in increasing beauty and enhancing the looks. Stylish women swear by their necklaces, earrings, and bangles. However, the fashion around jewelry has changed with time. People love to experiment with materials, colors, size, and volume. From gold to silver to diamond to semi-precious stones, from chunky pieces to delicate ones, we have seen how jewelry has been designed to keep up with the changing tastes. For women jewelry is surely the most superlative item. The importance of jewelry in women's life can be explained by the fact that they love to wear it since ages. The popularity of the jewelry is increasing with the passage of time as many new designs and styles are on its way into the market. It is an important ornament for all special and auspicious occasion. All the special occasions like wedding, anniversary and birthday party look dull when women is not wearing jewelry on such occasions.

5.7.1 Various Jewelry Found Commonly Around the World

Earrings – Oh, women love them. Seldom would you find any woman stepping out of the house without wearing them. Be they long and dramatic or small and chic. They are perfect accessories as can be worn anytime and anywhere.

Necklaces – long, with pendants, they are the in thing now. People prefer to wear them as they look cool. Necklaces can complement any look. You can achieve new looks by doubling them or pairing them with short pendants.

Rings – for many of us the casual outfits are an everyday thing so it is important to be able to style your look in a way that will stand out from the crowd. What a better way than adding some minimalist designed rings that will instantly refresh your basics and give a modern touch to your outfit.

Bangles – they are popular all over the world. Today, women wear them in different styles. For serious arm candy on date night forgo the fitbit and pull out the Ammil cuff.

Diadems – it is a type of crown, specifically an ornamental headband worn by monarchs and others as a badge of royalty. A diadem is also a jeweled ornament in the shape of a half crown, worn by women and placed over the forehead

5.7.2 Wide Variety of Indian Jewelry Adorned by Women

Jewelry has been a significant adornment for Indian women since ages. Its significance in an Indian woman's life can be judged from the number of jewelry gifts she receives on a variety of auspicious occasions in her life and how even the poorest of women possess some kinds of jewelry they can afford. Indian women's decorating themselves with jewelry is not only a customary tradition, but also has a lot of values attached to each and every jewelry piece worn by the women. Apart from increasing the beauty of Indian women, Indian jewelry is also considered to be a matter of great security in time of financial crisis due to its good value. To accentuate the feminism factor, women wear jewelry created with precious metals like gold, silver and diamonds. Traditionally, having a good collection of jewelry symbolizes power, good status and immense wealth of the owner. Jewelry and Indian women share a deep connection as its value lies not only in traditions, but also has a great significance in scientific terms. We must understand the reason behind each jewelry piece adorned by Indian women as it lies deep rooted in science. It would certainly increase our love and respect for Indian women's jewelry.

Jewelry designs are available in a wide variety in India as each state has its own culture and jewelry is made accordingly to highlight the values of those traditions. Some of the most commonly used jewelry by Indian women includes maangtika, nose rings, necklace, earrings, mangalsutra and bangles.

Tika Tika consists of a chain with a pendant in the front and a hook at the other end. The hook is used for holding the tika at the hair end, while the pendant embellishes the center of the woman's forehead.

Nose ring Nose ring called as nath by Indian women is definitely the most seductive jewel piece without which a married woman's make up is considered incomplete. It forms an integral part of traditional bridal jewelry keeping in view its conventional and scientific value. Aristocratic families get special nose rings created for the bride as it's considered the most auspicious jewel to be worn on the occasion.

Ear ring It is one of the most fascinating jewelry pieces worn by both married and unmarried women. Available in a wide variety of shapes, colors and sizes, it attracts every woman towards it and makes an important part of the woman's fashion accessories. Matching earrings with garments enhance the attraction quotient manifold.

Necklace Necklaces worn near the heart are believed to control emotions and strengthen one's love. Wearing a necklace of stones is believed to bind ourselves with their eternal powers. Since ancient times, necklaces, pendants, strings of beads and elaborate ornamental collars were worn by women to bring good luck and ward off the evil eye.

Bangles the word itself seems to fill one with the sweet tinkling sound produced by it! Wearing bangles can be easily afforded by any woman whether rich or poor as it is available in almost all metals from highly precious ones to wooden bangles. The attractive designs in which bangles are available make it even more stunning and a woman's beauty is considered incomplete without ornamenting with it.

Toe rings The most eminent scientific theory behind wearing toe rings is its help in making menstrual cycle regularized which is a common problem faced by women. The nerves in toes are connected to the uterus and passes through the heart. While a married woman does her chores while wearing these rings, the friction created help in revitalizing her reproductive organs. As toe rings are generally made of silver, it absorbs energy from the earth and refreshes the entire body of the woman by passing the energy to it.

Ring Wearing a ring on the fourth finger from the thumb is directly connected to the nerve passing through this finger to the brain neuron cells. With metallic friction, women attain good health and get confidence to handle life with ease. Nowadays, rings of various stones are worn by women for various health benefits attached to a variety of gem stones.

Hip/Belly Belt Hip or popularly known as belly belts are not regularly used by women, but only during wedding or some festive occasions. Nowadays, it is also used by many women in modern designs to add to their glam quotient. Scientifically, these belts are believed to prevent saturation of fat in the waist and help in maintaining a woman's figure.

5.7.3 Different Types of Making the Jewelry

1. **Antique Jewelry**, the jewelry which is not in mainstream production and of which the mode of production is no longer popular is known by the name of 'Antique Jewelry.' This kind of jewelry has dull and rough look, combined with an old world-world charm.

2. **Bead art** in India is five thousand year old and dates back to the time of Indus Valley Civilization. People of that civilization used to make beads out of gold, silver, copper, clay, ivory and even wood. The excavated carried out there came out with finished and unfinished beads from the site Fig 5.66

3. **Custom jewelry** is personalized jewelry, which a customer gets her made on her interest and fancy. Custom jewelry gives total freedom to customer about the specifics.

4. **Fashion jewelry** is also called costume jewelry, mainly for the reason that it is not made of precious metals and stones, rather lighter and cheaper material are used. Fashion jewelry is trend-conscious and keeps on changing as per changing needs. Fig 5.67

5. **Filigree work** is done on silver and involves lots of precision and technicality, added with great amount of patience and an eye for minute details. Historically, filigree work was quite popular in countries like Egypt, Italy, and Spain. India's history of filigree work goes back to early centuries. Fig 5.68

6. **Ivory jewelry** is made from the tusk of an elephant. Importance of ivory jewelry can be guessed from the fact that in Gujarat, the bride receives an ivory bangle from her family and during marriage ceremony wearing of ivory bangles is must for bride. Fig 5.69

7. **Jadau Jewelry** forms one of the major examples of high skilled craftsmanship that was brought into India by Mughals. Historically speaking, the tradition of Jadau work has been in practice in the states of Rajasthan and Gujarat since the Mughal era. Jadau jewelry is also called engraved jewelry. Fig 5.70

8. The art of **kundan work** reached Rajasthan from Delhi. Later on, craftsmen from the different part of the country migrated to the place and made Rajasthan a hub of Kundankari. Fig 5.71

9. In **Meenakari jewelry**, precious stones are set and then enameled with gold. Historically speaking, the art was introduced to Rajasthan artisans by Raja Mansingh of Amer. He invited Lahore-based skilled artisans to his kingdom, and their intermingling with the locals craftsmen resulted in an amalgam. Fig 5.72

10. In **Navratna jewelry**, nine auspicious stones are used in a single ornament. The belief behind this is that the nine stones together ensure well being of the person who wears it. In India, Navratna jewellery has been given major importance, because of its astrological significance as well as its innate charm. Fig 5.73

11. **Pachchikam jewelry** making craft is one of the examples of jewelry that has come back once again. In the world of fashion and design, old trends tend to come over again and again, though with slight changes. Originated in Gujarat and Kutch, centuries ago, Pachchikam jewelry has again become popular. Fig 5.74

12. **Silver Jewelry**, along with gold jewelry, is quite popular amongst Indian women. Ornaments made of silver, such as rings, bracelets, chains, necklaces, nose rings, earrings, toe rings, heavy kadas, and armlets, form integral part of Indian jewelry. Fig 5.75

14. **Tribal jewelry** in India is quite rich. Each tribe has kept its unique style of jewelry intact even now. The original format of jewelry design has been preserved by ethnic tribal. Jewelry that is made of bone, wood, clay, shells and crude metal, by tribal, is not only attractive, but also holds a distinct rustic charm. **Fig 5.76**



Fig 5.66 Bead Jewelry



Fig 5.67 Fashion Jewelry



Fig 5.68 Filigree Jewelry



Fig5.69 Ivory Jewelry



Fig 5.70 Jadu Jewelry



Fig 5.71 Kundan Jewelry



Fig5.72 Meenakari Jewelry



Fig 5.73 Navaratan Jewelry



Fig 5.74 Pachchikam Jewelry



Fig5.75 Silver Jewelry



Fig 5.76 Tribal Jewelry

Differences between Kundan, Polki, Meenakari and Jadau

Kundan – As mentioned earlier, a lot of people tend to confuse this with other forms of jewelry. This type of jewelry however, uses glass, not diamonds, set in the gold.

Polki – Polki is very similar to Kundan in terms of technique. However, the real difference here is that instead of glass, uncut diamonds are used to create the jewelry. This makes Polki sets much more expensive but also that much more lustrous.

Meenakari–A very famous style brought to India from Persia and perfected by the Sonar or Sohail caste of Kshatriyas, this process involves the creation of intricate and colourful designs on the front or back of an ornament using enamels of different colours. An elaborate process by itself, meenakari can be worked on Kundan jewelry or stand alone.

Jadau–This is actually not a type of jewelry like Kundan and Polki. However, it is often confused with those two. Jadau is a type of technique used to create jewelry. In this technique, the jewelry is made by softening gold and then setting precious stones on to it. When the gold hardens, the stones adhere to it without the help of any adhesive.

SUMMARY

Accessory is a secondary supplementary to a user's clothing which is usually used to complete a garment and completes the look of the user. Proper selection of accessories helps to enhance the value of the dress worn by the customer. It also reflects the personality and dress sense of the wearer. Right choice of accessories can change a dull looking outfit into beautiful attire and an executive wear into formal wear. Fashion accessories are becoming more and more important in the wardrobe, which means that the designer has to take them into account and exploit their potential for complementing a garment. Like the fashion itself, the shapes, silhouettes and colors of the accessories also change over time. Accessories give more importance to your personal style, taste and preferences. Accessories are as important as clothing, offering a whole new opportunity to express you. With accessories one can create a fluent style waves up from head to toe. Eye-catching accessories can also create a strong style statement.

Short Answer Questions

7. Write about Base ball cap.
8. What is a Bucket hat?
9. Write about Trapper.
10. What are characteristics of line?
11. What is a Hobo Bag?
12. Explain Tote Bag.
13. What are Chopines?
14. List out Men's shoe styles.
15. What is a Stole?
16. List out different types of Scarves.
17. What is a Skinny Belt?
18. What is a Statement Belt?
19. List out common Jewelry found around the World.

Long Answer Questions

4. Write about the following.
 - a) Bucket Hat b) Skully c) Trapper
5. Explain about any six types of material used in making Hats.
6. Explain the following.
 - a) Tote Bag b) Bagutte c) Hobo Bag
7. Describe about any four Women's shoe styles.
8. Detail any four Men's shoe styles.
9. What are the uses of Belts?
10. Write about the following.
 - a) Logo Belt b) Skinny Belt c) Statement Belt
11. Describe about any four types of Jewelrymaking.



APPAREL INDUSTRY TERMINOLOGY

Structure

6.0 Introduction

6.1 General Terminology used in Designing and their explanation

Learning Objectives

After studying this unit, the student will be able to understand various terms and how they are used

2.0 Introduction

Fashion on its most basic level is about the making and selling of clothes. Fashion is a classically social phenomenon being born in the fifteenth century. It can be viewed as an art because it requires a lot of creativity to make the products. Fashion involves the clothes we wear, the way the hair is cut, the accessories that are worn and so on. It has an impact on every stage of life from birth to the end of life. Students aiming to be in the field of fashion should have a clear idea about the various terms that are prevailing in the industry. Besides familiarity they should be able to distinguish the subtle difference within the terms. Though there is an exhaustive list of terms used, the following are the most important terms that are greatly used in the fashion industry

6.1 General Terminology used in Designing and their explanation

6.1.1 Accessories: Accessories are the articles needed to complete or enhance an outfit or apparel. All articles ranging from hosiery to shoes, bags, gloves, belts, scarves, jewelry and hats come under this group. They have utility value, aesthetic value as well as fashion statement.

6.1.2 Bespoke: This refers to a made-to-order garment made as per the customer's characteristic measurements and specifications. Usually said about men's formal clothes or wedding clothes

6.1.3 Brand: A brand is a name given to a product and/or service such that it takes on an identity by itself. A brand differentiates a product from similar products and enables it to have a clear identity. A brand is a promise to its customer of what they can expect from the product and may include emotional as well as functional benefits.

6.1.4 Braid: A braid is complex structure or pattern formed by interlacing three or more strands of flexible material such as textile yarns, wire or hair. It is a mass of threads of silk, cotton or other material woven into a decorative band for edging or trimming garments. Braid is also referred as a narrow piece of decorated cloth or twisted thread, which is used to decorate clothes or curtains.

6.1.5 Boutique: A boutique is "a small store that sells stylish clothing, jewelry, or other usually luxury goods". It is also described as retail store devoted to specialized merchandise for special interested customers, with a few of new or extreme styling with an imaginative presentation of goods. It is a French word for "shop". The term "boutique" and also designer" refer (with some differences) to both goods and services which are containing some element that is claimed to justify an extremely high price, it is called boutique pricing.

6.1.6 Camouflage: A decoration on objects to make them blend in with background. Camouflage is the use of any combination of material, coloration or illumination for concealment either by making animals or objects hard to see or by disguising them as something else. A different approach for camouflage is motion dazzling or confusing the observer with a conspicuous pattern by making the object visible in an all together different perspective

6.1.7 Classic: Something that does not go out of style. Classics were originally fashion items but their general appeal and simple stylish lines have kept them popular. This style continues to be accepted as general fashion by many different social groups. Change in classics is very superficial. Material, texture, details and even silhouette may vary but style continues to be in fashion. Shalwar-kameez, blazers, jeans etc. are all examples of classic items of apparel which had changes in collars, lapels, pockets, length and cut of garment over a period of time but the original classic item has not disappeared from the market.

6.1.8 Contour: Contour literally means an outline representing or bounding the shape or form of something.

6.1.9 Costume: Costume describes garments of many types, particularly when worn as an ensemble. "Costume" often refers to designing an ensemble for an individual to wear. Costume also refers to the clothing items, accessories, and makeup for actors, dancers, and people dressing up for special events. A useful distinction between clothing and costume results when clothing refers to specific garments and costume refers to the ensemble that allows individuals to perform in dance, theater, or a masquerade, hiding or temporarily canceling an individual's everyday identity.

6.1.10 Custom made: Apparel is made to the customers' special order, cut and fitted to individual measurements as opposite to the apparel made in Ready-to-wear.

6.1.11 Couture/ Haute couture: Literally means "finest dressmaking" in French. Refers to the high fashion industry or "fashion houses" with a designer who creates original, individually designed fashions. The designer who often owns the firm is the couturier. It originated in Paris and other fashion centers and is now used to mean the top end of the fashion spectrum in very expensive clothing.

6.1.12 Darts: Short V-shaped tapered stitch that is sewn into a garment that removes excess fabric so that garments fit the rounded parts of the body. In particular darts are most often found at the bust line, the back shoulder, the waistline, and the hipline.

6.1.13 Designer: A person or firm who performs the specialized process of drawing or sketching a detailed plan for manufacturing. It is also an arrangement of parts, form, colour, and line to create a version of a style.

6.1.14 Fad: Temporary, passing fashion. Becomes popular relatively quickly only for a short period of time and loses popularity dramatically. It is compared to the speed of falling meteors which hit the earth with enormous speed. Fads begin in low priced garments and flood the market within a short time.

6.1.15 Frill: Frill is a strip of gathered or pleated or bias cut material sewn on to a garment or larger piece of material as a decorative edging or ornament. These are extra things that are added to something to make it more pleasant or more attractive, but that are not necessary.

6.1.16 Fringe: A decorative border or edging of hanging threads, cords, or strips, often attached to a separate band.

6.1.17 Illusion: An occurrence of a deceptive appearance or misinterpreted perception of an object or sensory experience.

6.1.18 Mannequin: A dummy human form used to display cloths in a shop window.

6.1.19 Sheath: A women's close fitting dress with a straight cut often nipped at waist with no particular waist seam.

6.1.20 Silhouette: The shape of a clothing style formed by the width and length of the neckline, sleeves, waistline and pants or skirt. Silhouettes always change in fashion. Throughout history three basic forms of silhouettes with many variations were observed. Based on the outer shape they are termed as bell, back fullness, hourglass, tubular etc. They generally do not change abruptly but evolve gradually from one to another through changes in details.

6.1.21 Texture: the surface appearance of a fabric is texture. It expresses about feel, appearance, or consistency of a surface or substance.

SUMMARY

The Fashion Industry is most happening industry. And each one has to get acquainted with the terminology used in the industry. Besides familiarity they should be able to distinguish the subtle difference within the terms. Though there is an exhaustive list of terms used, and above are the most important terms that are generally and frequently used in the fashion industry

Short Answer Questions

1. Write about the Accessories.
2. Detail about Brands.
3. What is a Boutique?
4. Write about Camouflage.
5. What is a Classic?
6. Write about Costume.

Long Answer Questions

1. Write about the following.
 - a) Accessories
 - b) Classic
 - c) Darts
2. Explain the importance of fashion videos.
 - a) Boutique
 - b) Costume
 - c) Fad
3. Describe different shapes with illustrations.
 - a) Brand
 - b) Camouflage
 - c) Silhouette



FASHION MEDIA

Structure

7.0 Introduction

7.1 Fashion magazine-its role and importance

7.2 Fashion videos-its role and importance

7.3 Fashion forecasting services

Learning Objectives

After studying this unit, the student will be able to:

Understand the importance and types of art elements used in dress designing

Identify the elements that influence clothing design development

Apply the relevant elements in various dress designing aspects.

7.0 Introduction

While consumers of the past are able to patiently wait for magazines' coverage of collections months after runway shows, consumers of today expect to view, and increasingly, purchase them immediately. Fashion brands wanting to capture demand quickly are responding with shorter fashion cycles and almost-instant delivery times. Rapid innovations in technology have altered consumers' expectations. With information readily available on demand, no longer are they willing to wait; what they see they want immediately. The definition of fashion and [anti-fashion](#) is as follows: Anti-fashion is fixed and changes little over time. Anti-fashion is different depending on the cultural or social group one is associated with or where one lives, but within that group or locality the style changes little. Fashion is the exact opposite of anti-fashion. Fashion changes very quickly and is not affiliated with one group or area of the world but is spread out throughout the world wherever people can communicate easily with each other. For example, Queen Elizabeth II's 1953 coronation gown is an example of anti-fashion because it is traditional and does not change over any period whereas a gown from fashion designer Dior's collection of 1953 is fashion because the style will change every season as Dior comes up with a new gown to replace the old one. In the Dior gown the length, cut, fabric, and embroidery of the gown change from season to season. Anti-fashion is concerned with maintaining the status quo while fashion is concerned with social mobility. Time is expressed in terms of continuity in anti-fashion and as change in fashion. Fashion has changing modes of adornment while anti-fashion has fixed modes of adornment. Indigenous and peasant modes of adornment are an example of anti-fashion. Change in fashion is part of the larger system and is structured to be a deliberate change in style.

7.1 Fashion magazine-its role and importance

Early Periodicals

Fashion magazines are an essential component of the fashion industry. They are the medium that conveys and promotes the design's vision to the eventual purchaser. Balancing the

priorities has led to the diversity of the modern periodical market. Different brands have to focus their growth efforts through strengthening their value with consumers by engaging more deeply with them. This is where magazines can play a key role. Research studies on magazine readers found that magazine reading is an intimate, me-time in which people relax and unwind by indulging in content that is high in personal relevance and interest. On top of being highly engaged, magazine audience is also generally more well off than other media consumers.

Fashion, except in its lifestyle sense or as a byword for vanity, played no part in early periodical literature. In 1678, however, Donneau de Visé first included an illustrated description of French fashions with suppliers' names in his ladies magazine, *Le Mercure galant*, which is considered the direct ancestor of modern fashion reports. Thereafter, fashion news rarely reappeared in periodical literature until the mid-eighteenth century when it was included in the popular ladies handbooks and diaries. Apparently in response to readers' requests, such coverage to the popular *Lady's Magazine* (1770–1832) was added to the genteel poems, music, and fiction that other journals were already offering to their middle-class readers.

By the end of the eighteenth century, *Lady's Magazine* had been joined by many periodicals catering to a wealthy aspirational society. Interest in fashion was widespread and it was included in quality general readership journals such as the *Frankfurt Journal der Luxus und der Moden* (1786–1827) and *Ackermann's Repository of the Arts, Literature, Commerce, Fashion and Politics* (1809–1828) as well as those specifically for ladies. Despite the continental wars, French style was paramount and found their way into most English journals. Very popular with dressmakers was *Townsend's Quarterly* (later *Monthly*) *Selection of Parisian Costumes* (1825–1888), beautifully produced unattributed illustrations with minimal comment. The journals were generally elite productions, well illustrated and highly priced, though cheaper if uncolored.

By the middle of the nineteenth century, many new titles were produced and fashion for all types and ages were generally included in those for the women's market. The famous magazines were; *Godey's Lady's Book* (1830-1897) issued and Samuel Beeton's *The Englishwoman's Domestic Magazine* (1852-1897). Advertisement increased but the revenue rarely inhibited editorial independence. The key to circulation was innovation, and Godey and Beeton both added a shopping service and additional paper patterns to those already available within the magazine. Up-to-date fashion news was an essential and fashion plates as well as embroidery designs came direct from Paris sources, though in America they were often modified for home consumption.

Through *Chambre Syndicale*, the couture was organizing its own fashion journal, *Les modes* (1901–1937). Its innovative and informative photographic illustrations made it an anthology of high status Paris design by the end of the century. In 1911 Lucien Vogel offered the couture an even more modern shop window in the elitist *Gazette du bon ton* (1911–1923), the precursor of the small pochoir (stencil) illustrated fashionable journals. It is a tribute to their vision that a men's style publication was included. *Monsieur* (1920–1922) was a complete break with the stereotyped format and trade jargon of the tailoring journals. It was not followed until *Esquire* (1933), described as the male counterpart to *Vogue* and *Harper's Bazaar*, updated the male fashion image, stressing a harmony between clothes and lifestyle.

Vogue archives provide insight into the management of quality fashion publication in a twentieth-century world.

As fashion pace increased, the fashion publication scene was stimulated by developments at Women's Wear Daily (WWD), after the Fairchild family purchased it in 1909 as a conventional trade paper for the garment trade. Assessment of style change was more problematic and it was the role of the fashion editor to balance designer's contribution and public acceptance. It was a tribute to both when magazines and public supported Dior's New Look in 1947, despite trade and government opposition. Increasingly dependent on advertising, the conventional magazine is challenged if fashion deviates from established trends. The U.K. magazine *i-D*, with its apparently spontaneous fanzine look has an original message, "It isn't what you wear but how you wear it," had little appeal for the clothing trade but it has found its niche market in the early 2000s and is the prototype "young fashion" magazine.

The media plays a significant role when it comes to fashion. For instance, an important part of fashion is fashion journalism. Editorial critique, guidelines, and commentary can be found on television and in magazines, newspapers, fashion websites, social networks, and fashion blogs. At the beginning of the 20th century, fashion magazines began to include photographs of various fashion designs and became even more influential than in the past. In cities throughout the world these magazines were greatly sought after and had a profound effect on public taste in clothing. Talented illustrators drew exquisite fashion plates for the publications which covered the most recent developments in fashion and beauty.

7.1.1 List of Latest Fashion Magazines- International and India

International

1. **Cosmopolitan** is an international fashion magazine for women. As The Cosmopolitan it was first published in 1886 in the United States as a family magazine, it was later transformed into a literary magazine and eventually became a women's magazine in the late 1960s. Also known as Cosmo, its content as of 2011 included articles on women's issues, relationships, sex, health, careers, self-improvement, celebrities, fashion, and beauty. Published by Hearst Magazines, Cosmopolitan has 64 international editions, is printed in 35 languages and is distributed in more than 110 countries
2. **Elle** is a worldwide lifestyle magazine of French origin that focuses on fashion, beauty, health, and entertainment. Elle is also the world's best-selling fashion magazine. It was founded by Pierre Lazareff and his wife Hélène Gordon in 1945. The title, in French, means "she" or "her".
3. **Vogue is a international magazine founded in 1892. It has been publishing on monthly basis ever since and now its reach stretches to 23 countries. It has been proclaimed as "world's most powerful fashion magazine".** Currently, Vogue has a monthly readership of 1.296,765.

4. **Marie Claire** is an international monthly magazine for women. First published in France in 1937, various editions are published in many countries and languages. The United States edition focuses on women around the world and several global issues. Marie Claire magazine also covers health, beauty, and fashion topics.
5. **Esquire is a monthly magazine from its inception since 1932. It is one of the most famous magazine in the world with its supreme popularity among male population. New**
6. **Grazia** (Italian for Grace) is an Italian weekly women's magazine with international editions printed in Albania, Bahrain, Bulgaria,[1] China, Croatia, France, Germany.[2] Greece, Indonesia, India, Japan, Macedonia,[3] Mexico, the Netherlands,[4] Poland, Portugal, Serbia, Slovenia, South Korea, Spain, Thailand, and United Kingdom.
7. **Harper's Bazaar** is an American women's fashion magazine, first published in 1867. Harper's Bazaar is published by Hearst and, as a magazine, considers itself to be the style resource for "women who are the first to buy the best, from casual to couture.
8. **GQ was first published in 1931 as Apparel Arts. In 1957 it became Gentlemen's Quarterly and later being called as GQ. It has worldwide readership with its focus on male fashion, style, movies, sports, fitness and lifestyle. It is based in New York and is a monthly magazine**
9. **InStyle** is a monthly women's fashion magazine published in the United States by Time Inc. Along with advertising, the magazine offers articles about beauty, fashion, home, entertaining, charitable endeavors and celebrity lifestyles. Its editor is Ariel Foxman, and its publisher is Connie Anne Phillips.[3] After originating in the United States, InStyle has expanded its brand and as of 2012 is distributed as international editions in 17 other countries.
10. **Seventeen** is an American magazine for teenagers. The magazine's reader base is 10-to-19-year-old females.[2] It began as a publication geared towards inspiring teen girls to become model workers and citizens.[3] Soon after its debut, Seventeen took a more fashion and romance-oriented approach in presenting its material while promoting self-confidence in young women. It was first published in September 1944 by Walter Annenberg's Triangle Publications.

National

1. **Woman** With Hema Malini as its editor, New Woman is about women health and issues, entertainment and fashion.
2. **Women's Era** This fashion magazine is known for covering the life time of a woman and in doing so, covers all aspects of a woman's life including fashion, cookery, entertainment, poetry and more. The magazine was first published in 1973.

3. **Femina** Published for the first time in 1959, Femina is mostly run by women and it covers fashion, fitness, health, beauty, cuisine and relationships.
4. **Glamour** This was first published in 1939 in United States. Later local editions were published in different countries. It is one of the most influencing magazines of India.

Vogue, Cosmopolitan, Grazia, Maxim, GQ and Harper's Bazaar with their Indian Editions are forerunners in the Fashion Magazine World.

7.2 Fashion Videos-Its Role and Importance

Television coverage began in the 1950s with small fashion features. In the 1960s and 1970s, fashion segments on various entertainment shows became more frequent, and by the 1980s, dedicated fashion shows such as Fashion Television started to appear. [Fashion TV](#) was the pioneer in this undertaking and has since grown to become the leader in both Fashion Television and new media channels. The Fashion Industry is beginning to promote their styles through Bloggers on social media's. Vogue specified Chiara Ferragni as "blogger of the moment" due to the rises of followers through her Fashion Blog, that became popular.

A cleverly thought out advertisement campaign centered on story-telling will undoubtedly strike a chord with a brand's target consumer group whilst helping them connect emotionally with the label. For most fashion brands and retailers no campaign is complete without a creative visual marketing advertisement, but over the years more and more labels have been tapping into the cinematic medium in search of a more artistic way to share their story. Rather than just working with an agency, a number of brands have joined forces with cinematic directors to create short films which weave a story around a certain collection, rather than just presenting it in a direct way to the consumer. The fashion industry produces hundreds of short films each year featuring the latest collections and although the majority these shorts are little more than glorified advertisements, there are a number of labels who are using the medium to take their story-telling to the next level.

In the past, even the top fashion brands Youtube channels had difficulty getting more than 100,000 view on an uploaded film. But the shift towards mobile and social platforms has changed this - as is evident in the number of views. For example, French luxury fashion house Chanel released its short film 'Train de Nuit' for its iconic perfume No.5 in 2011, Chanel releases 'Reincarnation,' a 7 minute short created to accompany its Paris-Salzburg 2014/15 Métiers d'art collection presentation was created around the moment Coco Chanel was said to have found the inspiration for the iconic tweed jacket and has racked up 2,754,390 views since its release.

In recent years, fashion blogging and YouTube videos have become a major outlet for spreading trends and fashion tips, creating an online culture of sharing one's style on a website or Instagram account. Through these media outlets readers and viewers all over the world can learn about fashion, making it very accessible.

The fashion industry has been the subject of numerous films and television shows, including the reality show [ProjectRunway](#) and the drama series [Ugly Betty](#). Specific fashion brands have been featured in film, not only as [product placement](#) opportunities, but as bespoke items that have subsequently led to trends in fashion.

7.3 Fashion Forecasting Services

Fashion forecasting is foreseeing fashion trends and predicting those trends early enough to allow time for production to meet the consumer demand.

To cope with the ever-changing world, the marketing segmentation and targeting techniques are rapidly evolving from traditional, static, demographic-based criteria towards dynamic, mood, lifestyle and psycho graphic influences. Fashion forecasting is the prediction of mood, behavior and buying habits of the consumer. It is no longer a question of identifying your customers by age, geography or income, but looking into how and why they buy, based on their mood, beliefs and the occasion. Fashion is a style that is popular in the present or a set of trends that have been accepted by a wide audience. But fashion itself is far from simple. Fashion is a complex phenomenon from psychological, sociological, cultural or commercial point of view. Fashion trends are the styling ideas that major collections have in common. They indicate the direction in which the fashion is moving. Fashion forecasters look for styles they think are prophetic, ideas that capture the mood of the times and signal a new fashion trend.

7.3.1 The Importance of forecasting

Accurate forecasting makes it possible for the fashion industry segments to prepare for and meet consumer demand with products that will be accepted and purchased.

Keen worldwide competition increases the importance of accurate trend identification.

Forecasting the future demand for particular styles, fabrics and colors is an important aspect of the fashion industry. Forecasting can bridge the gap between ambiguous, conflicting signs and the action taken by the design team. Textile specialists work two years ahead to determine the general guidelines for each fashion season. Fashion forecasting is an important activity to ensure that the process of observation related to short and long term planning can be based on sound and rational decision making and not hype. "Fashion forecasting combines theories of fashion changes with the process of organizing and analyzing the information and synthesizing the data into actionable forecasts." (Brannon 2000) Forecasting is a creative process that can be understood, practiced and applied. Forecasting provides a way for executives to expand their thinking about changes, through anticipating the future, and projecting the likely outcomes. (Lavenback and Cleary 1981)

Long term forecasting over 2 years is used by executives for corporate planning purposes. It is also used for marketing managers to position products in the marketplace in relationship to competition.

Short term forecasting is used by product developers, merchandisers and production managers to give style direction and shape collections. For short term forecasting most

apparel companies subscribe to one or more services, whose job is to scan the market and report on the developments in color, textiles and style directions.

7.3.2 People involved in forecasting

1. Fashion Services

Examples

- * Doneger Creative Services
- * Promostyl
- * ESP Trend Lab
- * Carlin International
- * Here and There
- * Trend Union
- * WGSN Making and reporting predictions

2. Fashion designers

3. Colour services: Fashion and textile industry professionals who meet twice a year to pool their knowledge of colour cycles and preferences and to project colour trends for the future. Yarn colours or swatches are sent to designers and merchandisers to plan their colour stories and purchase fabrics

Examples of colour services

- * Standard Color of Textile Dictionnaire
- * Pantone, Inc.
- * International Color Authority
- * The Color Box
- * The Color Marketing Group
- * Concepts in Color
- * Huepoint
- * Color Portfolio, Inc.

4. Fashion merchandisers

5. Retail store owners/managers

7.3.3 Activities in Fashion Forecasting

1. Making and reporting predictions
 2. Coordinating information from fiber, yarn, and apparel companies, and textile shows worldwide
 3. Analyzing the fashion press, visiting the world's fashion centers, and observing fashion leaders
 4. Conducting marketing research
 - a. Consumer research
 - Surveys by telephone or mail to determine income levels, lifestyles, fashion preferences, and shopping habits
 - Consumer focus groups to discuss the pros and cons of currently offered merchandise
 - In-store informal interviewing to assess what customers like and dislike
 - b. Market research
 - Study of market conditions
 - Study consumer lifestyles
 - Study of current events, the arts, and the mood of the public
 - c. Sales research
 - Evaluation of previous sales trends
 - Rising sales
 - Declining sales
 - Weak sales
 - d. Comparison shopping
 - Current popular designer collections
 - Review of fashion publications, catalogs, websites
 - Observation of "street" fashions and celebrity wardrobes
- Coordinating information from fiber, yarn, and apparel companies and textile shows worldwide.

7.3.4 The Fashion Forecasting Process

a) Trend forecasting businesses French companies based in Paris have traditionally dominated fashion forecasting. Although a number of larger ones are still based in Paris, many with satellite offices around the world, a number of new niche forecasters have emerged offering their own specialties of product and services. Some trend forecasters include:

SachaPacha, Peclers Trend Union, Line Creative Partners, and Promostyl.

Forecasting is a process that spans shifts in color and styles, changes in lifestyles and buying patterns and different ways of doing business. What appears to be near random activity is in fact a process of negotiation between the fashion industry and the consumer, and between the various segments in the supply side chain.

b) Consumer research Manufacturers and retailers may ask consumers directly about their buying preferences. Consumer reactions are compiled and tabulated to find preferences for certain garments or accessories, colors or sizes and so on ,or products to fit specific consumer tastes. Surveys, by telephone or mail are conducted by publication and market research companies for manufacturers and retailers. These surveys include questions about income, life-style, fashion preference and shopping habits. Customers are usually selected by the market research firm to meet with manufacturers or retailers. In-store informal interview can help researchers obtain information by simply asking customers what they would like to buy, what styles they like that are currently available and what merchandise they want, but cannot find. Because of their close contact with their customers, owners of small stores can often do this most effectively. The apparel supply chain has one purpose, i.e. to provide an appealing and desirable product to satisfy customer needs, wants or aspirations.

c) Colour Forecasting Stimulating sales is the driving force behind color forecasting. Color grabs the customers' attention, makes an emotional connection and leads them to the product. Even when the basic product stays the same, changing the color gives a sense of something new. Color consultants help companies decide on the right color story to sell the product. Some consultants specialize in advising on color. Others develop color forecasts as part of their overall product development function. Some large companies have departments dedicated to setting color directions for multiple lines. Professional color organizations bring together experts to collaborate on forecasts for industries like women's wear, men's wear, children's wear and residential and non-residential interiors.

d) Textile Development Frequently, the development of a completely new product is the result of a particular functional need, but often it is driven by the benefits offered by a new fabric. Specialist forecasters make the point that the technology is changing the range of product, as through the ranges of benefits that designers can build into garment product through the textiles used in construction. Fabrics range from slick surfaces like leather and futuristic plastic to softer surfaces like cashmere, from flat weaves to heavy textures like boucle and from the solid structure of flannel to the web-like open structure of crochet. Clothing has been called "the second skin" in recognition of its intimate connection with a person's physical and psychological comfort (Horn, 1975). So it is not surprising that news about which fabrics are "in" or "out" plays such a prominent role in forecasting fashion. Newness in fabrics comes from the introduction of new fibers, the manipulation of yarn and fabric structures, variation in pattern and prints and innovative finishing processes. These innovations are introduced in trade shows and exhibitions held in the fashion capitals of the world.

e) The Range of shows of the fashion shows: The word here is its widest possible interpretation to refer to the range of organized textile and fashion garment trade shows, operating over the 16 months preceding season. Trade shows, whether yarn, fabric or product have a basic function, which is to sell products. Visitors vary according to the nature of the show. A yarn show will attract a range of people including fabric manufacturers, some retail buyers and designers. The fabric show performs a more balanced role with great emphasis on then sales of the fabric, but with more retail designers and buyers attending, as the product on the show has a greater relevance to garment design. Garment design shows are much more diverse, ranging from the products trade shows through to the high profile Ready -to-wear Designer shows like London Fashion week and then the exclusive Couture shows.

f) Sales ForecastingForecasting is relatively easy, straightforward and accurate for products with long lifetime and steady sales. However, the fashion apparel business is one of the most volatile, because it creates products that are new, highly seasonal or have short lifetimes. In such situations forecasts become increasingly inaccurate. Errors in sales forecasting result in two kinds of losses:

Markdowns, when retailers have unwanted goods remaining at the end of a selling period, such goods then must be sold, even at a loss. Lost sales on more popular items because of

Stock outs (merchandise not available in stock at the time when consumers request it).

g) Cultural IndicatorsIn the apparel field, companies need an early warning system so that specific product categories can be fine-tuned to trends within a market segment. While timing is important, an agile and responsive company will be able to capitalize on trends whenever they are spotted; sometimes just as a glimmer far in the future and sometimes as a phenomenon in the building stage. Waning trends are another signal. When some avocation, interest or lifestyle loses cultural power, it is a good time to survey the information landscape for the next big thing.

h) Final Stage of fore castingThe 'Fashion look' for the season is therefore the result of a process of development that combines the evolved views of textiles and product trade show, forecasters, designers buyers and ready to wear shows. Like collage, the final picture emerges after various layers have come together. Even though these shows have an impact on some last minute high street fashion buys, their major impact is mainly on reflecting the final views on trends close to the season. Crucially, the media coverage of the shows is another important dimension in the trend development process, as it highlights fashion trends that fashion editors believe will be strong for the forth coming season. Such 'authoritative' coverage of the media, focusing attention on aspects of fashion, including the 'must-have' looks, colors and products influences the consumers' acceptance of hot trends for a season.

7.3.4 The Fashion Forecasting in Indian Scenario

The phenomenon of fashion moving from the ramp to the road seems to have started happening in India. Over the last one year, fashion has been highly visible, at least on the streets of metros. Western winds of fashion are reaching metros like Mumbai and New Delhi virtually overnight. New categories are added to customer wardrobes like club wear,

travel gear and loungewear. This indicates a segmentation of the customers' wardrobe. This also means that there are new brands and labels, although not heavily advertised, easing into the market riding on the trend of new segments. We expect this trend to rise further, mainly because fashion as a market allows brands to be created mainly on the product look. The

biggest achievements are not from increasing efficiency, but by risk management. This would mean that by riding on fashion trend one would fetch maximum benefits. However, there is no agency today, which brands or retailers can follow for fashion forecast of domestic market. We still have to follow international forecasts and thereby miss out on lot of opportunities.

SUMMARY

Media in fashion has an important role to play because of the fact that fashion journalism has emerged as a significant part of the fashion business. With fashion emerging as a big industry in its own respect, there have been so many factors that have strong influence on this industry and fashion media is among them. Moreover, like any other field there is much more awareness in people regarding the editorial critique and commentary which appear in fashion magazines, newspapers on television, internet through fashion websites, social networks and in fashion blogs. People get to read honest reviews about fashion trends and much more. It is one of the reasons which have made fashion industry understanding the role of media in fashion. The magazines dedicated to fashion and fashion runways began to feature images of different fashion creations and became even more influential on people than in the past. The role of media in fashion was clearly visible from the fact that in big cities across the globe these magazines were selling like hot cake and left a profound effect on public clothing taste.

Short Answer Questions

7. List any four International fashion magazines.
8. List any four Indian fashion magazines.
9. What is long term forecasting?
10. What is short term forecasting?
11. What is colour forecasting?
12. Write about sales forecasting.

Long Answer Questions

12. Write about the importance of fashion magazines.
13. Explain the importance of fashion videos.
14. Describe different shapes with illustrations.
15. Detail the activities in fashion forecasting.
16. Discuss the fashion forecasting scenario in India.



COMMERCIAL GARMENT TECHNOLOGY
II YEAR
PART-B, VOCATIONAL COURSE
PAPER-I THEORY
APPAREL MANUFACTURE

Periods/Week :05

Periods/Year:110

Time Schedule Weightage And Blue Print

S.No	Name of Unit	No.Of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1	Adaptation of Basic Sleeve : Adaptation of basic sleeve into different sleeve types - Puff Sleeve variation, Bell Sleeve, Bishop Sleeve, Leg-O Mutton, Kimono Sleeve Raglan Sleeve,	20	8	1	1
2	Creating design variety Methods of creating variety in designing collar, yokes, pockets	10	8	1	1
3	Grading : Introduction to grading, Grading principles, Methods of grading, grading machine	10	8	1	1
4	Commercial sewing machines: Types of machines, features and usage	10	8	1	1
5	Production Process in Industry: Collecting materials for production – laying – marking – cutting – stitching – checking – laundering – pressing – packing	20	10	2	1
6	Establishment of garment costing & garment retailing, Fabric, labour, trims packing Maintenance,	15	10	2	1
7	Quality control Important of quality control in garment industry	10	8	1	1
8	Family clothing, Budget and wardrobe planning: Budget, benefits of budget, family expenses, clothing budget and expenditure of a family, division of clothing budget.	15	8	1	1

COMMERCIAL GARMENT TECHNOLOGY
II YEAR
PART-B, VOCATIONAL COURSE
PAPER-II THEORY
FABRIC EMBELLISHMENT

Periods/Week :05

Periods/Year:110

Time Schedule Weightage And Blue Print

S.No	Name of Unit	No.Of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1	Embroidery Stitches- Stem Chain- Feather- Satin- Buttonhole, fishbone-couching- herringbone- Rumanian- French knot- double knot- Bullion knot- seed stitch- Peckinese- Fly ,	30	10	2	1
2	Study of Handling Different Types of Fabrics Crepe-Felt-Lace-Metallic Fabrics-Jersey Pile Fabrics- Plastic Fabrics-Sheer Fabrics, Synthetic, Finished Fabrics	20	8	1	1
3	Fabric Painting Tools used- types of paints, brushes; techniques used- strokes, filling, shading, dry and wet techniques	15	10	2	1
4	Patch Work, Appliqué Work positive & negative and Quilting Patchwork- plain, printed; Quilting- material used for filling; Stitches used for all the above.	15	16	2	2
5	Study of traditional embroidered textiles of India : Kantha, Phulkari kashida chikankari, mirror Lucknow work, kasuti work	15	16	2	2
6	Printing Methods: Direct, Discharge, Resist and Block printing ,	15	8	1	1
	Total	135	68	10	08

COMMERCIAL GARMENT TECHNOLOGY
II YEAR
PART-B, VOCATIONAL COURSE
PAPER-III THEORY
APPAREL & FASHION DESIGNING

Periods/Week :05

Periods/Year:110

Time Schedule Weightage And Blue Print

S.No	Name of Unit	No.Of Periods	Weightage In Marks	Short Answer Questions	Problem Questions
1	Introduction to design elements Line-Form-Colour-Texture	20	10	2	1
2	Principles of Design Harmony-Balance-Rhythm- Emphasis Proportion	20	16	2	2
3	Colour Hue-Value-Intensity-Prang-Colour Chart-Colour Harmonies, Colour Expression Warm and Cool Colours- Effect Of Colours.	10	8	1	1
4	Basic principles of fashion designing- Factors to be considered in drawing dress designs for women and children; Structural line, choosing a right fabric for different types of figures, Selecting style lines for different types of figures.	20	10	2	1
5	Accessories used in fashion designing: Hats, Bags, Shoes, Scarfs, Belts, Jewellery	20	8	1	1
6	Apparel Industry terminology Braid, boutique , design, dart, ,camouflage, contour, fringe, illusion, frills, bespoke, sheath, silhouette , mannequin, texture, accessories, couture, costume, classic, fad, custom made, brand	10	8	1	1
7	Fashion Media: Fashion magazine, fashion videos, its role and importance, fashion forecasting services	10	8	1	1
	Total	135	68	10	08

COMMERCIAL GARMENT TECHNOLOGY

II YEAR

PAPER I APPAREL MANUFACTURE

TIME: 3 Hours

Max. Marks: 50

SECTION-A

NOTE: (i) ANSWER ALL THE QUESTIONS

(ii) EACH QUESTION CARRIES TWO MARKS

10 x 2 = 20

1. Write different types of collars used in children's garments.
2. What is grading?
3. Write about Raglan-sleeve.
4. Name different types of sewing machines.
5. What is quality control?
6. Write about marker making.
7. What is retailing?
8. What are methods of spreading?
9. List the accessories used on garment.
10. What is budget?

SECTION-B

NOTE: (i) ANSWER ANY FIVE QUESTIONS

(ii) EACH QUESTION CARRIES SIX MARKS

5 x 6=30

11. Write about the grading of basic front and back bodice.
12. Write about the production process of apparel industry.
13. Write how you create variations in a collar in garments.
14. Explain kimono sleeve.
15. Write in detail about wardrobe planning.
16. Write about the importance of quality control in apparel industry?
17. What is a fixed and variable cost? Explain with examples.
18. Explain overlock machine.

COMMERCIAL GARMENT TECHNOLOGY

II YEAR

PAPER II FABRIC EMBELLISHMENT

TIME: 3 Hours

Max. Marks:50

SECTION-A

NOTE: (i) ANSWER ALL THE QUESTIONS

(ii) EACH QUESTION CARRIES TWO MARKS

10 x 2 = 20

1. List out the stitches used in phulkari?
2. How do you handle pile fabric?
3. Mention tools used in fabric painting
4. What is couching?
5. What are the stitches used for filling?
6. Explain mirror work.
7. What is a applique work?
8. What type of colour is mostly suitable for fabric painting?
9. List out the materials used for quilting?
10. What is printing?

SECTION-B

NOTE: (i) ANSWER ANY FIVE QUESTIONS

(ii) EACH QUESTION CARRIES SIX MARKS

5 x 6=30

11. With help of diagram explain satin stitch.
12. How do you handle synthetic & metallic fabrics?
13. Explain the procedure for fabric painting.
14. Explain the method of doing printed patch work
15. How do you do quilting?
16. Explain about any two methods of printing.
17. Write about kashida of Kashmir.
18. Explain the types of stitches used in chikankari

COMMERCIAL GARMENT TECHNOLOGY

II YEAR

PAPER III APPAREL & FASHION DESIGNING

TIME:3 Hours

Max. Marks:50

SECTION-A

NOTE: (i) ANSWER ALL THE QUESTIONS

(ii) EACH QUESTION CARRIES TWO MARKS

10 x 2 = 20

1. Name different types of line?
2. What is proportion?
3. Draw a dress design suitable for college girl (rhythm).
4. Illustrate fashion of hats.
5. What is form?
6. What is hue?
7. Write about the importance of structural line?
8. Write about apple body shape
9. Name any two fashion magazines?
10. What is brand?

SECTION-B

NOTE: (i) ANSWER ANY FIVE QUESTIONS

(ii) EACH QUESTION CARRIES SIX MARKS

5 x 6=30

11. What are the elements of design? Explain.
12. Explain the importance of emphasis in dress designing?
13. Draw prang color charts and explain.
14. How do you choose right fabric for thin figures?
15. Write about belts and scarfs used as accessories in fashion designing?
16. Explain applications of line in garments?
17. How can harmony be introduced into garments?
18. Describe various types of fashion media.