



**CERTIFICATE IN
FASHION DESIGNING
PATTERN MAKING & DESIGNING
CFD-02**

Block-1

Message for the Students

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On the occasion of the birth anniversary of Babasaheb Ambedkar, the Gujarat government secured a quiet place with the latest convenience for University, and created a building with all the modern amenities named 'Jyotirmay' Parisar. The Board of Management of the University has greatly contributed to the making of the University and will continue to this by all the means.

Education is the perceived capital investment. Education can contribute more to improving the quality of the people. Here I remember the educational philosophy laid down by Shri Swami Vivekananda:

“We want the education by which the character is formed, strength of mind is increased, the intellect is expand and by which one can stand on one’s own feet”.

In order to provide students with qualitative, skill and life oriented education at their threshold. Dr. Babaasaheb Ambedkar Open University is dedicated to this very manifestation of education. The university is incessantly working to provide higher education to the wider mass across the state of Gujarat and prepare them to face day to day challenges and lead their lives with all the capacity for the upliftment of the society in general and the nation in particular.

The university following the core motto ‘स्वाध्यायः परमम् तपः’ does believe in offering enriched curriculum to the student. The university has come up with lucid material for the better understanding of the students in their concerned subject. With this, the university has widened scope for those students who are not able to continue with their education in regular/conventional mode. In every subject a dedicated term for Self Learning Material comprising of Programme advisory committee members, content writers and content and language reviewers has been formed to cater the needs of the students.

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With all these efforts, Dr. Babasaheb Ambedkar Open University is in the process of being core centre of Knowledge and Education and we invite you to join hands to this pious *Yajna* and bring the dreams of Dr. Babasaheb Ambedkar of Harmonious Society come true.



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ISBN-978-93-89456-71-4

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Dr. Babsaheb Ambedkar Open University

(Established by Government of Gujarat)

**CERTIFICATE IN FASHION
DESIGNING PATTERN MAKING & DESIGNING
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Block

1

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Unit 2

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Unit 3

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Unit 4

Basic Block

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UNIT 1 Basic Terminology about Fabric

STRUCTURE

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1.0 Objectives

- To introduce different terms related to fabrics and its characteristics;
- To make students aware about the preparatory process of clothing construction.

1.1 Introduction

Fabrics are an integral part of the clothing. The clothes are made out of fabric. Thus we can say fabrics are base of clothing construction. Before starting with clothing construction it is essential to know about the various fabrics, their properties, use and various fabric construction methods as well as different terms used and preparatory process of construction. Such as fabric with different weight, fabric grain, selvedge, straightening of fabric, etc. This unit also includes the knowledge of application of suitable fabric for particular clothing as it is a basic skill required for construction as well as fashion designing. By the end of the unit one shall be acquainted with the knowledge of choosing right fabric, its use and characteristics and preparatory process of clothing construction.

1.2 Different Types of Fabrics and its Application in Clothing

Before starting with fabrics, it is important to know the different stages of fabric preparation. Fabric is manufactured from yarn and yarn is made from fibre.

Fibre: Fibre is smallest visible component of fabrics. The textile fibres are classified under two groups i.e. natural and man-made.

- Natural fibres are procured from the natural sources like plant, animal. Fibres obtained from different parts of plants as leaf, seed, bast, fruit etc are known as cellulosic fibres. Some examples of cellulosic fibres are cotton, linen, jute etc. The fibres obtained from animal hair are known as protein fibres. For example: silk and wool.
- Man-made fibres are manufactured artificially using different chemical. They are also known as Synthetic fibres such as nylon, polyester, acrylic etc.

Yarn: Yarn is a thread created by twisting of fibres together; this method is known as spinning.

1.2.1 Different Types of Fabric Construction Method

Fabric structure is the result of the process by which fibre or yarn becomes cloth. The terms such as cloth, material and textiles are changeable with fabric. There different fabric structures are woven, knitted, non-woven and braided or knotted materials. Any combination of finishes or treatments applied to the fabrics at one or more stages of production to make it more functional, decorative or for permanent purpose. Finishes and treatments affect the hand, weight and texture of finished. Fabric selection for a garment depends on:

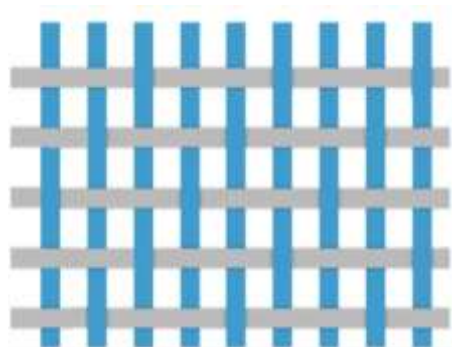
- Design and style of the garment
- Type of the garment
- Purpose, function and use of the garment
- Care of the garment
- Addition of fasteners and trimmings
- Method of construction

Several construction methods are used to create fabrics from yarns, fibres and filaments. The most common methods of constructing fabrics are weaving, knitting and non-woven

Woven Fabrics:

All woven fabrics having a particular weave structure. Weaving is a method in which warp and weft (filling) yarns are interlaced at 90-degree angles to form a fabric. The method used to interlace the yarns determines the weave structure. Basic weave structures include:

- Plain weave
- Twill weave
- Satin weave
- **Warp (Ends)** yarns that run parallel to the selvedge of the fabric, also known as lengthwise grain (See Figure 1, blue)
- **Weft (Filling)** Yarns that run at a 90 degree angle to the selvedge of the fabric, also known as crosswise grain (see Figure 1, grey)



the fabric, also known as crosswise grain (see Figure 1, grey)

Fig.1: Determination of warp and weft Yarn

Source: <https://www.researchgate.net/figure/>

- **Plain weave:** A basic weave structure in which filling yarns are passed over and under each warp yarn. Examples of plain weave fabrics are: Canvas, Georgette, Muslin, Organza, Voile
- **Twill weave:** A basic weave structure in which the filling yarn is carried over two or more yarns to the left or right in subsequent rows.
 - Right Hand Twill: Creates a diagonal line from lower left to upper right.
 - Left Hand Twill: Creates a diagonal line from lower right to upper left. Examples of twill weave fabrics are: Denim, Gabardine, Houndstooth

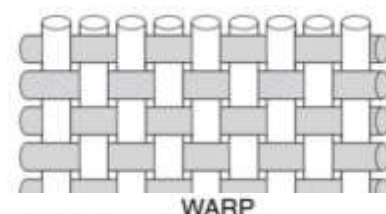


Fig. 2: Plain weave structure

Source: <https://www.heddels.com/>

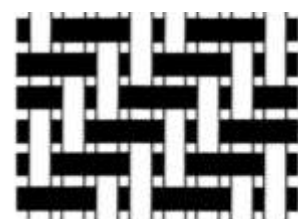
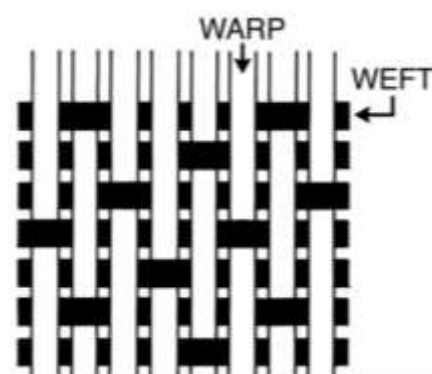


Fig.3: Twill weaves structure

Source: <https://www.heddels.com/>

- **Satin Weave:** A variation of an extremely unbalanced twill weave having four or more yarns float on the surface before passing under yarn. Example of satin weave fabrics is: Satin fabric



a. Knitted Fabrics:

Knitted fabrics are constructed through the process of interlocking loops of yarn. Knit fabrics consist of a series of stitches that are formed by needles. The direction in which the loops are formed determines the knit structure. The two general classifications of knitted structures are **weft knits** and **warp knits**.

In knit fabrics, wales and courses are comparable to the warp and weft in woven fabrics. **Wales** are the vertical columns of stitches of loops in the lengthwise direction of the fabric. **Courses** are the horizontal rows of the stitches or loops of the crosswise direction of the fabric.

The basic nature of the structure of knits offers to stretchability which is not found in woven materials.

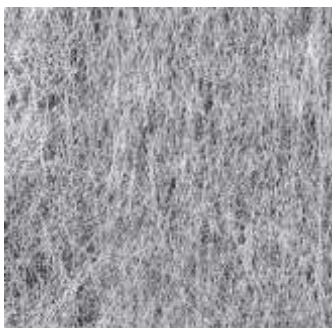
Weft knit is identified by one continuous yarn forming courses across the fabric. A single yarn passes horizontally to all needles to construct loops in a row.

Warp knit identified by a series of yarns forming wales in the lengthwise direction of the fabric. Each course stitch is formed by a different yarn.



Fig. 5: Arrangement of Course and Wales in knitted fabrics
Source: <http://www.tikp.co.uk/knowledge/technology/knitting/principles/>

b. Non woven



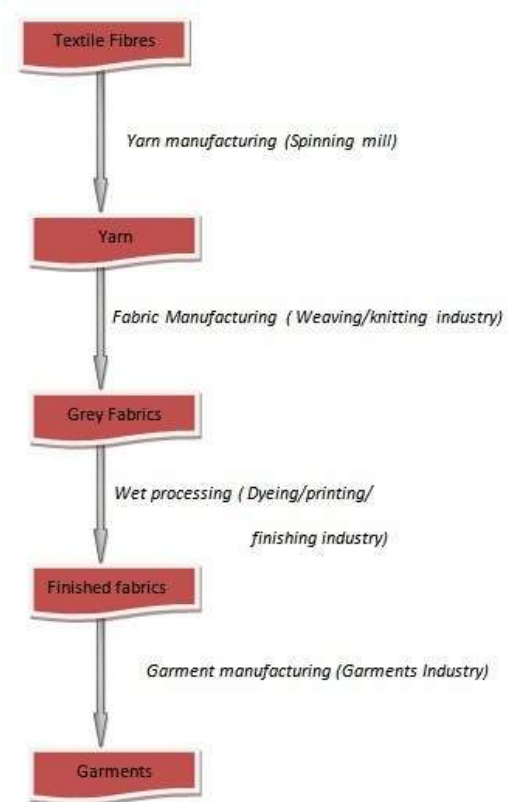
A non-woven fabric is made from a fibre web structure rather than from yarns. A fibre web structure can be produced chemically with bonding agents, mechanically through fibre

entanglement, or thermally by fusing the fibres together. Sanitary napkins, diapers, scrubbers are example of non woven fabric.

Fig.6: Non woven fabric structure
Source:
<https://www.atextechnologies.com/>

1.2.2 Different Types of Fabric and its Application

We understood about the different fabric construction method. To learn about different types of fabrics it is important to know about the fabric manufacturing process. Following is a chart of manufacturing process of a Fabric. (Figure: 7)



The Fig. 7: Flow chart of Fabric manufacturing process
fabr Source:<http://ordnur.com/textile-fashion/flow-chart-of-textile-processing/>
und

includes a number of processes which are not discussed here.

After understanding the basic manufacturing process the next phase is to understand the classification of different types of fibers. All the fibres are classified based on the sources of raw material and their chemical characteristics. The fibres are classified under two main categories; Natural and Manmade. (Mishra S.P.) (See Figure: 8)

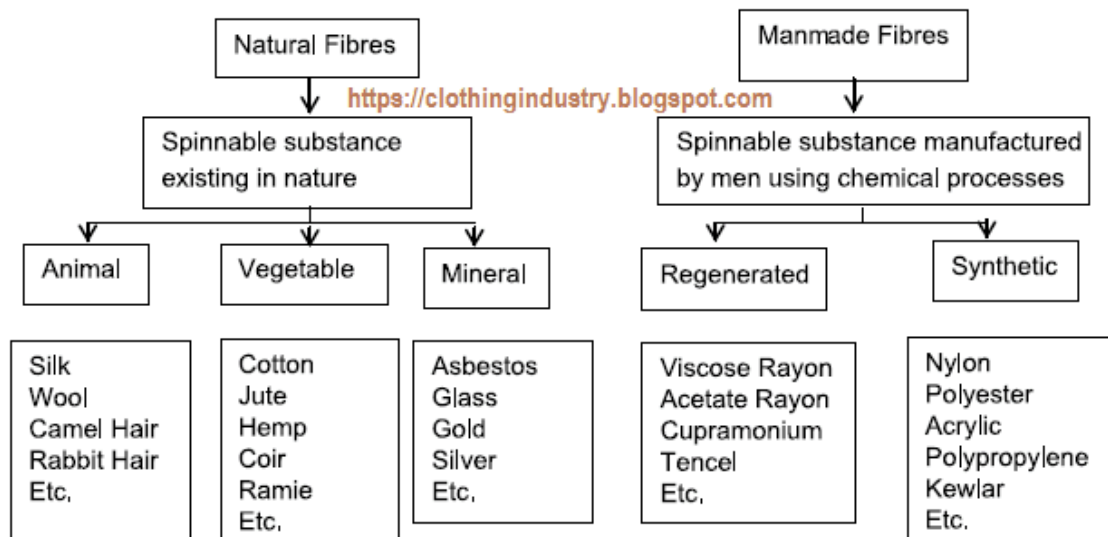


Fig.8: Classification of Textiles Fibres

Source: <https://clothingindustry.blogspot.com/2017/12/classification-textile-fibers.html>

This is a basic knowledge required for students of fashion or textile industry. It will help in understanding various types of fabrics.

1.2.2 Different Types of Fabrics:

Fabrics are manufactured from various raw-materials which are available from nature or artificially generated or a mix of both. (See Figure: 8). Fabrics can be classified based on the origin of fibres and its process or its end use. Natural fabrics are those which are created from the fibres of animal coats, the cocoons of silk worm, and plants' seeds, leaves and stems. These are soft, durable and never cause rashes. Synthetic or man-made fabric are made from fibres which are either completely made from inorganic materials or organic materials combined with chemicals. Synthetic fibres have numerous properties with the purpose for which it is produced and finished. Some are lightweight with ultra sheer while others are moisture wicking and fast drying and some are very strong.

- **Fabrics from Natural Fibres:**

- **Cotton Fabric:**

- Smooth and safe
- Adjusts easily with climatic condition
- In summer it has cooling effect and in winter it has warm effect on the body.

End use: Used in infant clothing, Bedding, Medical textiles. Cotton is widely used fabric in India in almost every type of clothing.

- **Silk Fabric:**

- Strongest and longest natural fabric
- Good amount of luster and softness

End use: Used for making luxurious dresses, sarees and home furnishings.

- **Linen Fabric:**

- King of natural fibres
- Skin friendly
- Strong and durable

End use: All kinds of clothing, home furnishing like table clothes, bed spreads, curtains etc.

Wool Fabric:

- Soft, strong and durable
- Gives warmth and attractive appearance
- Wrinkle and Fire resistant and wear and tear
- Moisture absorbent
- Absorbs noise

End Use: Stereo speaker, blankets, carpets and all winter wear like sweaters, shawls.

Jute Fabric:

- Strong and durable
- India is second largest producer of jute

End use: Used as bags or sacks for packing, also used for making carpets, tapestry, twines, webbing and cover inner springs of the auto seats. Now-a-day's jute fashion garments and jewellery is also being produced.

Muslin:

Plain-woven cotton made from bleached or unbleached corded yarns in a variety of weights:

- Coarse-weave: Used for draping and testing basic pattern
- Light-weight: Used for softly draped garments
- Heavy-weight: Firmly woven, used for testing tailored garments, jackets, coats

Fabrics for Man-Made Fibres:

- **Acetate Fabric:**

- Made from cellulose and obtained by reconstructing cotton or wood pulp
- Resistant shrinkage, moth and mildew
- Appears like a silk fabrics

- **Acrylic Fabric:**

It is a synthetic fibre and it is manufactured artificially. It is also referred as an imitation of wool. Acrylic fabric used in making shirts and women's wear as well as in making sofa, seats of chairs. It is known for its stiffness and durability.

- **Rayon Fabric:**

Rayon fabric is made from synthetic textile fibre which is produced by forcing a solution of cellulose through fine spinnerets. It can be woven or knitted. The efficiency of rayon fabric is much higher than the cotton fabric, but it has less moisture absorption property. It is widely used in making apparels and home furnishings.

- **Georgette Fabric:**

Georgette is a sheer, lightweight and strong silk like clothing fabric that often comes with a dull, creped surface. It is made out of silk or polyester. It is quite expensive. Due to its uniqueness and exquisiteness, a georgette fabric is a demanding item in fashion industry.

- **Viscose Fabric:**

Since its invention, Viscose is widely used as coating fabric. The development of textile industry viscose has been used for making embroidery threads and trimming as well as in present times it is being widely used in women's stocking and underwear.

These are the widely used fabrics in textile industry. There are many other fabrics for special uses like flame retardant fabrics, wrinkle resistant, etc. Such fabrics are manufactured by applying different chemical finishes.

1.2.3 Selection of Fabric

Selection of fabric is very important and one the basic knowledge about the various fabrics is also an important part. There are huge varieties of fabrics available in the market. From that one needs to choose the right fabric for a particular pattern, design or garment. We studied about the various fabric construction methods, classification of textile fibre, various fabrics and their application/uses. Following factors should be kept in mind for choosing the right fabric.

Hand: This is examined while consumer handles a fabric. The hand characteristic includes elongation, elasticity, flexibility, etc.

Tactile: Everything we can touch has a tactile property; like soft, hard, rough, smooth, furry, etc.

Drape/Fall of the fabric: The term drape means the way a fabric hangs under its own weight. It gives fabric a graceful look. It is an important characteristic of the fabric.

Weight of the fabric: There are three different kinds of fabrics heavy weight, medium weight and light weight. According to the end use and type of garment the suitable weight of fabric can be chosen for better results.

1.3 Different Types of Grains/ Grainline Terms

- Grainline: The direction in which the yarn is woven or knitted (lengthwise grain, or warp; crosswise grain or weft)

- Lengthwise grain (warp): Yarns parallel with selvedge and at right angles to the crosswise grain or weft (See Figure 9)
- Crosswise grain (weft): Yarns woven across the fabric from selvedge to selvedge.

It is filling yarn of woven fabric. Crosswise grain gives stretchability to fabric.

(See Figure 9)

- Bias: A slanting or diagonal line cut or sewn across the weave of the cloth.

(See Figure 9)

- True Bias: The angle line that intersects with the lengthwise and crosswise grains at a 45 degree angle.

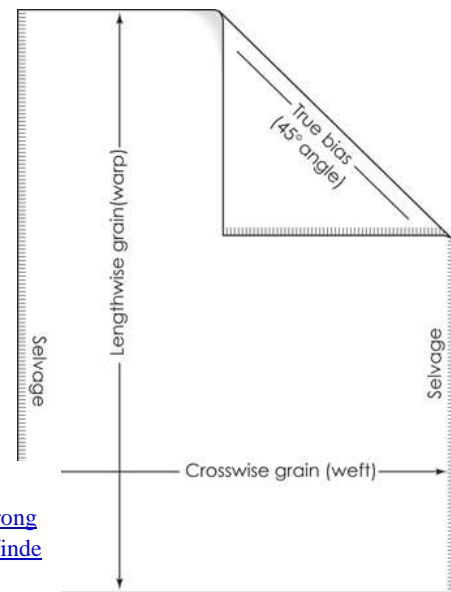


Plate: 9 Grainlines

Source: http://wps.prenhall.com/chet_armstrong_pattern_5/134/34385/8802675.cw/content/index.html

- True bias has maximum give

and stretch,

easily conforming to the figures contours. Flares, cowls and drapes work best when cut on true bias.(See Figure 9)

- Bowing and Skewing: Fabric grains that are not at true right angles cause bowing, skewing or a combination of both. This is the result of stresses and strain imposed during weaving and finishing. (see Figure 10)

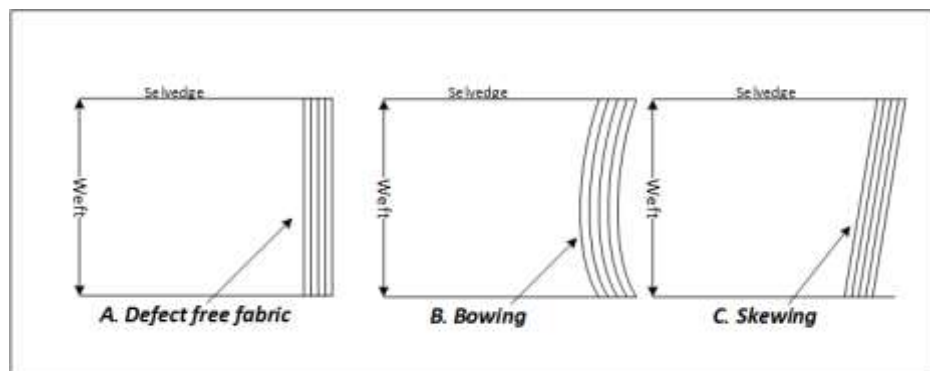


Fig. 10: Bowing and skewing of Fabric

Source: <http://leanstitch.com/fabric-parameters-that-affect-garment-production/>

1.4 Preparation of Fabric for Clothing Construction

1.4.1 Methods of Straightening the Woven Fabric

- Aligning grainline:

To correct bowing or skewing of the fabric, pull diagonally at opposite ends of the fabric. Repeat at the other end. This process will help to re-align the straight and cross grains.

- Pull The Thread From Selvedge To Selvedge/ Finding the grain line:
This process can be accomplished by pulling a thread, then cutting along pulled space or by tearing the fabric along the grainline.
- Steam press method:
If the above mentioned method does not work, clip the selvedge at intervals, sprinkle water on the fabric and press it with a hot iron in the appropriate direction till the fabric grain becomes perfect.

1.4.2 Preshrinking:

It is a process that is carried out prior to cutting a fabric in order to ensure that garment does not shrink in its dimensions. The textile materials usually undergo significant lengthwise stress during the weaving and finishing process. This results in considerable shrinkage during subsequent use because of the corresponding relaxation forces. Shrinkage occurs in almost all natural fibres and also blends. Before laying out the paper pattern pieces, one needs to preshrink the fabric and straighten the grain.

1.5 Let Us Sum Up

In this unit we learned about the fibre, process of making fabric, different types of fabrics such as natural and man-made, different fabric construction methods i.e. weaving, knitting, non woven; basic weaves etc. This knowledge is a foundation for learning about fashion and textile.

Key Words

Warp: Yarns that run parallel to the selvedge of the fabric, also known as lengthwise grain

Weft: Yarns that run at a 90 degree angle to the selvedge of the fabric.

Woven fabric: Weaving is a method in which warp and weft (filling) yarns are interlaced at 90-degree angles to form a fabric. The method used to interlace the yarns determines the weave structure.

Knitted fabric: Knitted fabrics are constructed through the process of interlocking loops of yarn. Knit fabrics consist of a series of stitches that are formed by needles.

Nonwoven: A non-woven fabric is made from a fibre web structure rather than from yarns. A fibre web structure can be produced chemically

with bonding agents, mechanically through fibre entanglement, or thermally by fusing the fibres together.

Muslin: Plain-woven cotton made from bleached or unbleached corded yarns in a variety of weights.

Natural Fibre: Fibres which are procured from natural sources such as plant, seed, hairs, trunk, animal skin etc are the natural fibres.

Manmade fibre: Fibres which are manufactured chemically are known as manmade fibres.

Grain line: The direction in which the yarn is woven or knitted (lengthwise grain, or warp; crosswise grain or weft)

Bowing/Skewing: Fabric grains that are not at true right angles cause bowing, skewing or a combination of both. This is the result of stresses and strain imposed during weaving and finishing.

1.7 Check Your Progress

Q:1 State the different types of fabric construction methods and explain any two.

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Q:2 Name the basic weaves and explain each one.

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Q:3 Describe the fabric manufacturing process.

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Q:4 Explain the classification of fibres

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Q:5 Name the fabrics made from man-made fibres.

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Q:6 Discuss about the different factors kept in mind while selecting the fabric.

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.....
.....

Q:7 What is grain line? Explain the types of grain.

.....
.....
.....

Q:8 Discuss about the different methods of straightening the fabric.

.....
.....
.....

Multiple Choice Questions

1. Which of the following is not a type of fabric construction method?

- a) Weaving
- b) Draping
- c) Knitting
- d) Non woven

2. yarn travels parallel to the selvedge.

- a) Warp
- b) Weft
- c) Warp and weft
- d) none of above

3. The filling yarn is carried over two or more yarns to the left or right in subsequent rows inweave structure.

- a) Satin
- b) Plain
- c) Twill
- d) Basket

4. fabrics are constructed through the process of interlocking loops of yarn.

- a) Woven
- b) Knitted
- c) Non-woven
- d) None of above

5. A non woven fabric is made from a structure.

- a) Knit
- b) floated yarn
- c) fibre web
- d) loop

6. Which of the following is a natural fibre?

- a) Silk
- b) Cotton
- c) Wool
- d) All of above

7. Which of the following is a manmade fibre?

- a) Cotton
- b) Acrylic
- c) Wool
- d) all of above

8..... fibre keeps body cool in summer and warm in winter.

- a) Wool
- b) Silk
- c) Viscose Rayon
- d) Cotton

9..... is the strongest natural fabric.

- a) Silk
- b) Cotton
- c) Wool
- d) Jute

10. India is the second largest producer of.....

- a) Cotton
- b) Jute
- c) Silk
- d) Wool

11. grain gives stretch-ability to fabric.

- a) Crosswise
- b) Lengthwise
- c) Widthwise
- d) none of the above

1.8 Suggested Books

1. Armstrong H. J., *Pattern making for Fashion Design*, 4th Edition, Pearson Education, Los Angeles
2. Sinha P. & Chopra B., *Clothing*, Crescent Publishing Corporation, New Delhi, 2014
3. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=27198>

Answers

1. b
2. a
3. c
4. b
5. c
6. d
7. b
8. d
9. a
10. b
11. a

Unit – 2 TYPES OF BLOCKS

STRUCTURE

2.0 Objectives

2.1 Introduction

2.2.1 Different Types of Blocks

2.2.2 Standard Block

2.2.3 Simplified Block

2.2.4 Tailoring Block

2.2.5 Trade Block

2.2.6 Primary Block and Secondary Block.

2.3 Importance of Blocks

2.4 Let Us Sum Up

2.5 Key words

2.6 Check Your Progress

Multiple Choice Questions

2.7 Suggested Books

Answers

2.0 Objectives

2.0.1 To impart knowledge of different types of block and its importance

2.0.2 To enable with the uses of different types of blocks

2.1 Introduction

The basic block is an essential requirement for pattern making. As the name suggests basic block is: a block with basic details. That means one needs to modify the basic block according to the requirement and use. One block/pattern may not be used for every patterns, so according to the pattern, different types of blocks are used. Thus the different blocks developed are varied in details, in presentations and also in the method of construction.

A block which is suitable for trade work or for mass production may not be suitable for tailoring or home stitching. A pattern which is made for a model or higher class customer may not be suitable for industry. Thus it is important to know about different types of blocks, their uses and the different features of particular type of block. Blocks are made to simplify the pattern making process.

Basic blocks should have characteristics such as:

It should be flexible in use and easy for working.

There are six types of blocks and they are explained below.

2.2 Different Types of Blocks

The six types of block used are Standard, Simplified, Trade, Tailoring, Primary and Secondary.

2.2.1 Standard Block:

The standard block is used widely. It follows the natural lines of the figure. The main objective of standard block is to provide correct proportions and fit. We can develop other blocks with the help of standard block and can also check the other developed pattern with the standard block.

It is the most useful and suitable block for teaching advanced pattern making because it is a basic block from which other blocks can be developed. The Standard block is drafted without seam allowance.

The meaning of the word standard is typical. So the standard block is having only the basic lines and not any of the modified line.

2.2.2 Simplified Block

The simplified block is developed by simple method of drafting. It is very easy in construction. Thus it is useful in class room teaching where the drafting of basic pattern is required for practical of dress making.

It is made from individual measurements and modified /developed as per the requirement. It can be tested for fitting and adjusted to suit individual requirements.

The simplified blocks are less suitable for advanced teaching which includes theory and principles of fitting and pattern designing. It is also not useful for developing other blocks. It is only used for teaching of basics of pattern making.

2.2.3 Trade Block:

The Trade block is an adaptation of the Standard block. It is developed to make it useful for different requirements of the mass production. The particular size from the size chart has been followed to develop the trade block. The required changes are done on block to represent the current fashion according to the pattern.

It fulfills the special demands of the industry or mass production, where it is important to maintain accuracy and speed in assembling production line. Trade block includes all seam allowances and notches for high speed production of industry.

Trade block are modified according to change of fashion, developments in production method or the production technique (e.g. the sizing system

in shops). The trade blocks are different from one firm to another, according to the standard size followed, the dress form used, the model used and the type and class of retail trade served. For example the trade block of 'Fabindia' is different from the trade block used by 'Biba'.

2.2.4 Tailoring Block:

The Tailoring block is also an adaptation of the Standard block. As per the name given, it is developed by the tailor. Tailoring block includes some special features and proportions such as in jacket patterns drafted by tailors. These special manipulations are related to the technique of high-class tailoring as well as to give a garment its correct final shape. Other changes are simple differences in proportions which are necessary for an outer garment, which is worn over another.

2.2.5 Primary and Secondary Block

The three Primary blocks are the bodice, the plain sleeve and the standard skirt. The Standard Skirt block follows the natural outline of a 'walking figure' i.e. a figure in motion and it is broader slightly towards the hem.

From these Primary blocks one can develop secondary blocks such as the tight sleeves, the fully shaped or the straight skirt, different collars, the raglan, the kimono block, etc.

To develop different pattern or style one should follow and adapt the primary block. It is very much convenient and time saving method. From this we can create end number of secondary patterns.

2.3 Importance of Blocks

The block is an essential part or we can say a fundamental of pattern making. From which we can create new patterns with perfect measurement by saving time. The blocks are very much useful for the students who are learning pattern making and garment construction. It is a base for them to understand the basic and this knowledge will be applied to create end number of new patterns. The blocks are also very important in industry where mass production is needed to ensure the high speed, maintain quality, and increase the production by saving the time. It saves the time, give precision, and maintain uniformity and quality. Thus the blocks are important to learner as well as to professional tailors and in industry.

2.4 Let Us Sum Up

In this unit we learned about the different types of block and its use in various requirements. It also explained the development of different

blocks by adaptation method. The need of different blocks and its application in various fields such as industry, boutique, for learning purpose, high class or customized tailoring, etc. by making required changes has been also discussed here for better understanding.

2.5 Keywords

Basic block: It is an essential requirement for pattern making. As the name suggests basic block is: a block with basic details.

Standard Block: It follows the natural lines of the figure and provides correct proportions and fit.

Trade block: It is an adaptation of the Standard block. It is developed to make it useful for different requirements of the mass production. The particular size from the size chart has been followed to develop the trade block

Tailoring block: It is developed by the tailor. It includes some special features and proportions such as in jacket patterns drafted by tailors.

Primary and Secondary Block: The three Primary blocks are the bodice, the plain sleeve and the standard skirt.

The secondary blocks are the adaption of primary blocks to create various patterns.

2.6 Check Your Progress

Que:1 How many types of blocks are there? Name them.

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.....
.....

Que:2 Explain the standard block and simplified block.

.....
.....
.....

Que: 3 Explain the trade block and tailoring block.

.....
.....
.....

Que: 4 Explain the primary and secondary block.

.....
.....
.....
Que:5 Why the blocks are important?

.....
.....
.....

Multiple Choice Questions

1. Which of the following is not a type of block?
 - a) Tailoring Block
 - b) Trade Block
 - c) Custom Block
 - d) Standard Block
2. Blocks are important because it.....
 - a) saves time
 - b) gives perfection
 - c) maintain uniformity
 - d) all of above
3. Which block should be used to create secondary block?
 - a) Standard block
 - b) Trade block
 - c) Primary block
 - d) Simplified block
4. Which block follows the natural lines of the figure?
 - a) Trade block
 - b) Standard block
 - c) Secondary block
 - d) Tailoring block
5. blocks are made from individual measurements.
 - a) Primary
 - b) Standard
 - c) Simplified
 - d) Trade
6. Tailoring block and trade block are the adaptation of.....
Block.
 - a) Primary
 - b) Standard
 - c) Secondary
 - d) None of above

2.7 Suggested Books

1. Zarakkar K. R., “Zarakkar System of Cutting”, Navneet Publications (India) Ltd., Dantali, Gujarat,
2. <http://ecoursesonline.iasri.res.in/mod/page/view.php>

Answers

1. c) Custom Block
2. d) all of above
3. c) Primary block
4. b) Standard block
5. c) Simplified
6. b) Standard

UNIT – 3 TECHNIQUES OF PATTERN MAKING

STRUCTURE

- 3.0 Objectives**
- 3.1 Introduction**
- 3.2 Different Methods of Pattern Making**
- 3.3 Pattern Making Terms**
 - Pattern Making Tools**
- 3.4 Pattern Making Principles**
- 3.5 Pattern Information**
- 3.6 Let Us Sum Up**
- 3.7 Check Your Progress**
 - Multiple Choice Questions**
- 3.8 Keywords**
- 3.9 Suggested Books**
 - Answers**

3.0 Objectives

- 3.0.1 To impart knowledge of pattern making methods and principles of flat pattern making
- 3.0.2 To introduce students with pattern making terms and techniques

3.1 Introduction

Sketch can be turned into a garment through pattern which interprets the design. Pattern making is a bridge functioning between design and production. It is an art of manipulating and shaping a flat piece of fabric to a three dimensional form. There are three methods of pattern making: Drafting, Draping and Flat pattern. Flat pattern is the most commonly used technique in industry. The knowledge of different methods of pattern making is required to begin with pattern making. This chapter includes the different methods of pattern making, pattern making principles, pattern making tools and terms used in pattern making. Earlier tailors used to draft the pattern manually, at present the scenario has changed due to technological development. There are new software developed for pattern

making and it is used majorly in industries for mass production. But the basic knowledge should be required for better understanding.

3.2 Different Methods of Pattern Making

There are three basic techniques of pattern making.

3.2.1 Drafting:

Drafting is a method in which the measurements are taken directly from a person or a dress. This is used to create basic blocks foundation or basic pattern. Drafting is done by triangular scale or called tailoring scale made up of card (Fig. 1). The triangular scales are available in three different ratios 1:4, 1:5 and 1:6 both in inches and centimeters.



Fig.1: Triangular card scale/ triangular scale

Source: <https://www.isomars.com/p/triangular-card-scale>

3.2.2 Draping:

Draping is a method in which a piece of fabric is draped on a dress form/mannequin to create pattern (Fig.1 & 2). Dress forms are available in wide range such as various sizes, with arm or without arm, lower body, full body, torso, etc. Muslin is used for draping to prepare a prototype. The best thing in draping is that designer can see the overall effect of design on figure. The draping method is time consuming, expensive. The fabric wastage is also more in this method. The designers choose thus method to check the overall appearance of the garment on figure. This method is not suitable for mass production.

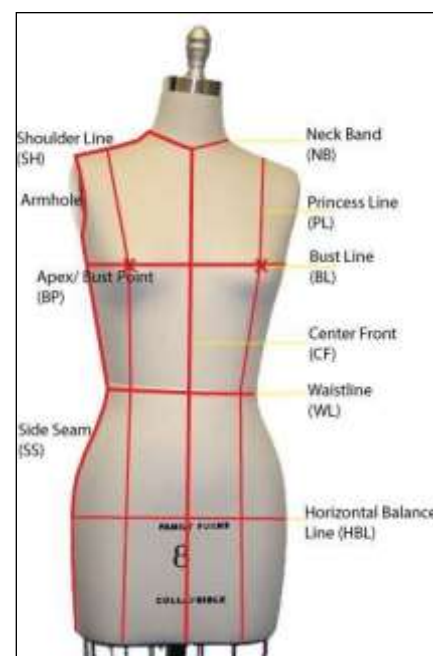


Fig.2: Dress form with arm

Source: <https://www.esmod-editions.com/mannequin->

Fig.3: Dress form with seam lines

Source: <https://in.pinterest.com/>

3.3.3 Flat Pattern Making:

Flat pattern making is used to develop a fitted basic pattern with the provision of comfort to the wearer. A sloper or basic block is a first point to start with a flat pattern method. Flat pattern making is the fastest and most efficient method. It depends on the previously developed patterns. It is very important to take accurate measurements to get better results in pattern making.

3.3 Pattern Making Terms

1. **Pattern Drafting:** A method of pattern making that depends on a series of body or figure measurements to complete the paper pattern.
2. **Pattern Draping:** A two-dimensional piece of fabric draped around a dress form conforming to its shape, creating a three-dimensional fabric pattern. The muslin pattern is then transferred to paper and used for corrections and creating final pattern.
3. **Working Pattern:** Any pattern used as a base for manipulation when generating design patterns.
4. **Basic Pattern Set:** A 5-piece pattern set, consisting of a front/ back bodice and skirt, and a long/ short sleeve, which represents the dimension of a specific form or figure.
5. **Pattern Plot:** The act of placing lines or a traced copy of the working pattern relating directly to the design features. They are used as guidelines for pattern manipulation.
6. **Pattern Manipulation:** The act of slashing and spreading, or pivoting the pattern to alter its original shape. The new pattern shapes represent design features of the garment.
7. **Pivotal Point:** The designated point in the pattern. (Fig: 1)
8. **Dart:** A wedge-shaped cut out in a pattern, used as a means of controlling the fit of a garment.
9. **Dart legs:** The two lines that form an open space at the patterns edge and joined at a predetermined point, a point away from pivot point on the pattern.
10. **Dart point:** The end of a dart
11. **Double-ended dart:** A long vertical dart passing through garments having no waistline seam.
12. **Ease:** The even distribution of fullness without forming gathers
13. **Trace:** To make a pencil outline of a pattern as a duplicate for pattern development or for completing a pattern.



14. Fig 4: Pivotal point

Source: <https://www.slideshare.net/thyrine/dart-manupulation>

Landmarks: Designated points around the body that correspond with those of the form. They are used for measuring the body sections when drafting and draping.

15. Dot marks: A pencil mark indicating a specific point on the pattern or muslin. A series of dot marks are connected to outline a shape or line on the pattern or muslin

Pattern Making Tools

Pencil, sharpener awl, notcher, French curve, tracing wheel, ruler, eraser, glue, paper pins, triangle, and push pin set are the different tools required for pattern making.

3.4 Design Analysis and Pattern-making Principles

Along with the manipulative skills, the pattern maker also needs to develop analytical skills. For this, the pattern maker must be able to analyze the creative detailing of each design by studying the differences between the basic garment and the designs. These analytical skills can be developed by understanding the principles of pattern making.

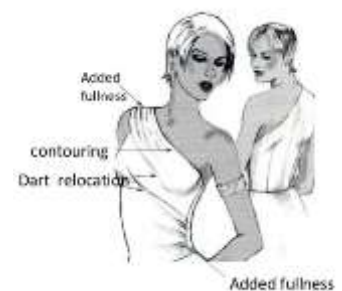
(Fig: 5)

Figure 5 represents the three major pattern making Principles and their effects:

Principle 1: Dart Manipulation

Principle 2: Added fullness

Principle 3: Contouring



Designers generally create designs without knowledge of the basic principles for the creation. It is the responsibility of pattern makers to analyze the design and determine the appropriate principle to apply for the development of the particular pattern.

Fig 5: Three major principles of patternmaking

Source: <https://www.slideshare.net/thyrine/dart-manupulation>

Basics of pattern making:

A pattern is flat, while the body is three dimensional. The body has height, width and depth.

Darts are the basis of all pattern making. They convert the flat piece of cloth into a three dimensional , which fits the bulges of the body.

A pattern maker makes a pattern from a flat sketch with measurements or two dimensional fashion illustration.

3.4.1 Dart manipulation (Principle: 1)

Principle: A dart can be transferred to any location around the pattern's outline from a designated pivotal point without affecting the size or fit of the garment.

Corollary/Effect: The dart excess (space between the dart legs) can be used as gathers, pleats, tucks, style lines, flare or ease in the armhole for casual garments. This creative use of the dart excess is called dart equivalent.

- The dart or its equivalent will always be somewhere within the pattern and garment part.
- Darts or equivalents are directed toward the pivotal point.
- A dart ends before the pivotal point; it neither reaches till the pivot point nor goes beyond it.

Applying dart manipulation (Principle: 1)

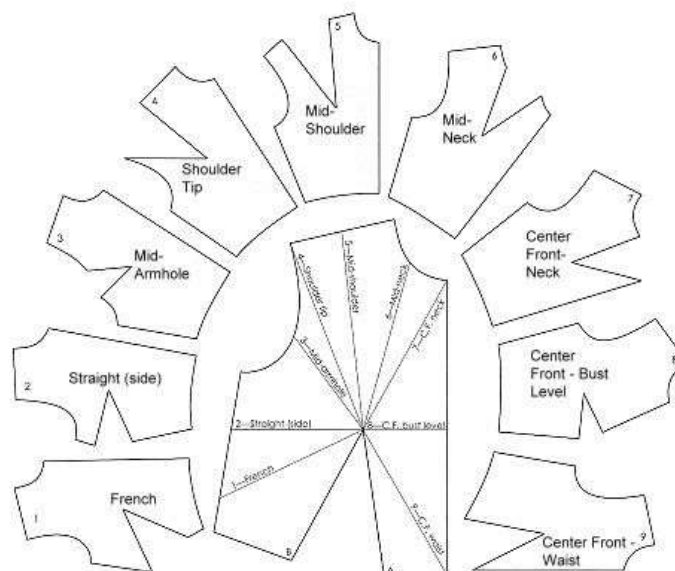
This technique is applied when the dart of a working pattern (bodice, skirt, sleeve, or any working pattern) is relocated in the process of creating a design pattern. The most important thing is one need to analyze the design to identify the dart location before creating it.

Charting Dart Location

To prepare for the dart manipulating process following steps are to be followed:

- First, we need to trace a copy of the basic front bodice on the hard board
- Draw guidelines from bust point and mark each dart location

The guidelines give the common areas for dart relocation and for creating design patterns. However, they are not the only dart locations for dart shifting. The dart can be shifted anywhere around the pattern. The selected dart locations have specific names



and uses. One should know these names for clarity while communicating in the design room. (See Figure: 3)

Fig. 3: Different Dart location

Source:

<https://fashion2apparel.blogspot.com/2017/11/dart-manipulation-techniques.html>

1

1. The French dart can be placed at any angle below the straight dart
2. The centre front (C.F.) bust dart and the straight dart are squared from the centre front.
3. The mid armhole dart is directed to the armhole notch
4. The shoulder dart is placed at the shoulder tip (princess line).

The shapes of the patterns that are showed in around the dart location (Fig: 3) are different from one another and they are the result of transferring the original waist dart to the other dart location.

The bust is rounded not pointed in shape. Thus the dart will end at a distance from bust point (approx. 0.5 to 1 cm) for fullness for the bust.

Completing the Dart

The dart can be finished in two ways:

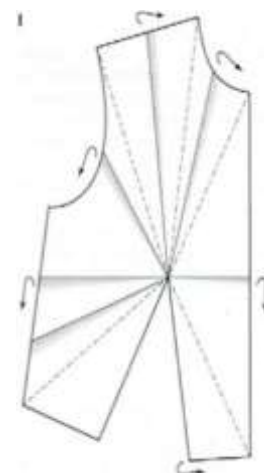
1. Trim the dart excess within ½ inch of the seam line before stitching dart
2. Fold the dart excess under and stitch on the seam line.

Method of excess fold

As shown in the figure 4, follow the arrows for direction of the dart excess when folded. The excess is placed on the wrong/back side of the garment.

The excess folds in downward direction for darts are:

- Armhole
- Side seam
- Centre



Excess folds towards the centre front/ back for darts are located anywhere along the

- Shoulder
- Neckline
- Waistline

Fig. 4: Method of excess fold

Source: <https://www.slideshare.net/thyrine/dart-manipulation>

The folded dart follows the shape of the seam it lays against. If not, the dart will twist when stitched. The detailed explanation of the dart manipulation is discussed in unit 5.

3.4.2 Principle of Added Fullness:

Fullness can be added to any pattern piece for two purposes:

1. Add extra ease (e.g. in A-line skirt; fullness is added in the hem).
2. For design or style purposes (e.g. fullness added to the sleeve cap for making a puff sleeve that doesn't add any wearing ease to the sleeve, it just creates a look)

The following design elements are created by adding fullness:

- Flare
- Gathers
- Pleats
- Tucks

Fullness can be added in three different ways.

- Adding Fullness equally throughout the pattern piece (Fig: 5a)
- Adding Fullness along one side (Fig: 5b)
- Adding Fullness unequally (Fig: 5c)



Fig. 5a: Equally added fullness

Fig 5b: Added fullness one side

Fig 5c: Added fullness unequally

Source: <https://www.dresspatternmaking.com/principles/added-fullnessmanipulation>

3.4.3 Principle of Contouring:

The meaning of contouring is to shape or fit the garment according to the type of figure. For this, pattern is reduced within its outline to fit the figure like above, below and in between the bust and shoulder blades.

Contour designs follow the natural curves of the body rather than hanging loosely over the hollow areas around the bust and shoulder blades. Contour design includes empire style line (contouring under bust) strapless dress, bra top and cutout arm holes and neckline designs. For this excess amount is removed from the style lines, seams and darts to make a close fitted dress. A contour pattern is used as a guide to develop other patterns.

The basic Bodice Block Set is developed for creating garments with sleeves and a high neckline. If we use this block and try to create a garment with a low neckline, and/or a garment with cutaway arms, it will not work so well. Depending on your body (bust-cup size and other considerations), the resulting garment may be uncomfortable for wearing or we can say it will become unfit. For those with a standard figure and a small bust-cup, it may not be too bad, but for other figure/body types it will not work well. The reason is that it does not follow the contours of the body; it falls in a straight line from the neck, over the bust and down to the waist. There is some space between the garment and the chest underneath, and often underneath the bust.

The basic Bodice Block is also created to be used with sleeves; therefore it has more ease at the underarm level which is not required for the sleeveless garment. If we use the same block for making sleeveless garment then it will create gaping in the armhole.

Figure 6 shows the examples of contour marking in the front bodice. Following are the four steps of contouring:

1. Understanding the need for Contouring means where the gaping will occur.
2. Determine where the gaping will occur so that the problem can be fixed during the pattern-making process.
3. Placing this information on the block (in the form of Gape Darts).
4. Solving the problem (fix the gaping, or closing the Gape Darts).

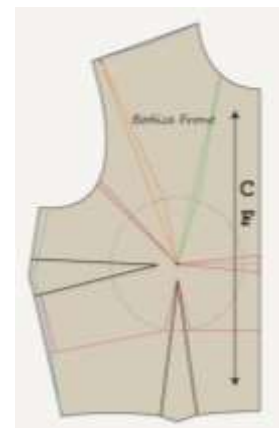


Fig. 6: Examples of contouring in front bodice
Source: <https://www.dresspatternmaking.com/>

3.5 Pattern Information

The amount of information needed to write/ mark on pattern piece is called pattern information. The information is written or marked using a pencil. It

is important to mark each pattern accurately with required information to complete the pattern for a test fit or for production. Pattern information is grouped in the center section of each pattern, or written along the grain line. It should be written clearly and accurately through which the pattern will be communicated at each stage of production.

The following information should be required to write or mark in the pattern:

Grain line: Always draw grain line through length of each pattern piece

Pattern Part: Identify by name for example: front, back, bodice, skirt, sleeve, collar, pocket

Number of pieces: Identify number of pieces cut for each pattern part

Cut symbol: A horizontal line drawn between the size and number of pieces as a symbol of word cut, or for e.g. if there is two pieces require than write “cut x 2”

3.6 Let Us Sum Up

In this unit we have discussed about the different methods of pattern making which are draping, drafting and flat pattern making. Flat pattern is fundamental for learning, through which one can create a number of designs. Here we have discussed flat pattern in detail such as tools and terms used, type of darts and different dart locations. We also learned that end number of designs can be created through dart manipulation technique with the use of three principles of dart manipulation. We can conclude here by stating that, relocating the dart at any location of the garment will give a creative effect to the pattern without affecting the fit or size of the garment. We will learn more about dart manipulation technique and its principles in unit 5.

3.7 Check Your Progress

Q:1 Which are the different methods of pattern making? Explain in brief.

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Q:2 Name three major principles of pattern making.

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Q:3 Explain in brief the principle of dart manipulation.

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.....
Q:4 What is dart location? Discuss the different dart locations.

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Q:5 Explain the principle of added fullness.

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.....
Q:6 Explain the principle of contouring.

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.....
Q:7 Brief note on tools required for pattern making.

.....
.....
.....
Q:8 Which information is required to be mentioned in pattern part?

Multiple Choice Questions

- 1) Which of the following is not a method of pattern making?
 - a) Draping
 - b) Drafting
 - c) Contouring
 - d) Flat pattern
- 2) Which of the following is not a principle of pattern making?
 - a) Added fullness
 - b) Dart manipulation
 - c) Contouring
 - d) Draping
- 3) According to principle of , a dart can be transferred to any location around the pattern's outline from a designated pivotal point without affecting the size or fit of the garment.

- a) Contouring b) Dart manipulation
c) added fullness d) None of above
- 4) In dart, the dart excess folds in downward direction.
a) armhole b) shoulder
c) neckline d) Waist
- 5) In dart, the dart excess folds towards centre front or back.
a) Side seam b) Centre
c) waistline d) Shoulder
- 6) The design elements are created by adding fullness.
a) Flare b) Gathers
c) Pleats d) All of above
- 7) Empire style line (contouring under bust) strapless dress, neckline designs, bra top and cutout arm holes are the examples of design.
a) Added fullness b) Contour
c) Dart manipulation d) none of above
- 8) Which of the following information is required to mention on pattern part?
a) Grain line b) Name of pattern part
c) Cut symbol d) all of above

3.8 Key words

Drafting: Drafting is a method in which the measurements are taken directly from a person or a dress. It is used to create basic blocks foundation or basic pattern.

Draping: Draping is a method in which a piece of fabric is draped on a dress form/mannequin to create pattern.

Flat pattern: Flat pattern making is used to develop a fitted basic pattern with the provision of comfort to the wearer. A sloper or basic block is a first point to start with a flat pattern method.

Dart: A wedge-shaped cut out in a pattern, used as a means of controlling the fit of a garment.

Working pattern: Any pattern used as a base for manipulation when generating design patterns.

Fullness: Fullness is adding extra ease to the garment parts by flare, gathers, and pleats.

Pattern plot: The act of placing lines or a traced copy of the working pattern relating directly to the design features. They are used as guidelines for pattern manipulation.

Pivot point: The designated point near the bust in the pattern.

Basic pattern: A pattern with basic lines with dart.

Pattern manipulation: The act of cutting and spreading, or pivoting the pattern to alter its original shape. The new pattern shapes represent design features of the garment.

Contour: The meaning of contouring is to shape or fit the garment according to the type of figure. For this, pattern is reduced within its outline to fit the figure like above, below and in between the bust and shoulder blades.

3.9 Some useful books/ references:

- Armstrong H.J, 2000, Pattern Making for Fashion Design, Harper & Row Publishers, New York.
- <https://www.hamstechonline.com/blog/3-methods-of-pattern-making/>
- <https://www.dresspatternmaking.com/>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=29246>

Answers

1. c
2. d
3. b
4. a
5. c
6. d
7. b
8. d

UNIT – 4 BASIC BODY BLOCK

STRUCTURE

- 4.0 Objectives
- 4.1 Introduction
- 4.2 What is Block?
- 4.3 Difference between a Block and a Pattern
- 4.4 Drafting of a Basic Bodice Block
- 4.5 Drafting of a Basic Sleeve
- 4.6 Drafting of Basic Skirt
- 4.7 Let us Sum Up
- 4.8 Check your progress
 - Multiple Choice Questions
- 4.9 Keywords
- 4.10 Suggested Books

Answers

4.0 Objectives

- 4.0.1 To learn the importance of basic block
- 4.0.2 To draft the basic block
- 4.0.3 To be acquainted with drafting instructions and terms discussed here

4.1 Introduction

Basic block is a foundation for all other pattern or one can say it is the first step for developing any pattern. Basic pattern is the “starting point” for Flat-Pattern Designing. It is a simple pattern that fits the body with just enough ease for freedom of movement. The basic pattern has five pieces: bodice front, bodice back, skirt front, skirt back and sleeve. The basic pattern is sometimes called a master or foundation pattern. The drafted pattern is referred to as the block.

4.2 What is a Block?

A block is a simple master pattern which is used to make more detailed patterns.

Blocks have no design features only the required fitting details are there. A Block is usually made using a thin cardboard so that the patternmaker can trace around it easily to create patterns and to make it longtime use. One need to trace the block every time while making a new pattern. The term Block is more commonly used in Australia and the UK, while the term Sloper is used in the United States.

Storage of the blocks: One can store the block by punching a large hole into the block and use a Pattern Hook to hang it up and store it. (Fig: 1)



Fig: 1: Storage of blocks
Source: <https://www.dresspatternmaking.com/>

The Basic Bodice Block

Here the basic bodice means the basic structure of upper front and back part of the body. The front of a basic Bodice Block usually has two darts. We can also use a one-dart block, but usually using only one dart in a bodice block (unless you have a very small bust), creates distortion. The bigger the bust cup, the bigger the distortion. The back basic bodice has only one dart. (Fig: 4).

The two dart block has the darts in the waist and the side seam. We can develop pattern using pattern making principles. Such as move these darts to other locations (e.g. move a side seam dart into the shoulder or the armhole), change the dart/s to gathers or tucks, or remove them by making a Princess Line design.

Use of Blocks to Make Patterns and Other Blocks

One can create end number of patterns and blocks from the basic block. If we have created close Fitting Bodice Block, then it can be used to create patterns for blouses, shirts, tops, and the bodice part of dresses, etc. The straight skirt block is used to create patterns for a six-gore skirt, and eight-gore skirt, a yoked skirt, or an A-Line skirt.

A basic block is a template from which you can recreate the basics in designs, changing the same template each time you make a design.

4.3 Difference between a Block and a Pattern

A Block is a Master Pattern, usually made of a thin cardboard, which can be used (by tracing around or marking through with a marking wheel) to make the pattern on thin paper and then it is cut out and pinned to fabric.

A pattern is a finished design ready for cutting out and sewing.

The block only consists of measurements with ease and no seam allowance.
In pattern one has to mark the seam allowance also.

4.4 Drafting of a basic bodice (Front & Back) block

Instructions:

- Get one-half sheet of pattern paper. Construct a back and front bodice pattern.
- Draw perpendicular line T
- 1-2 = 3/4 inch (2cm) down
- 1-3 = 4 inches (10 cm)
- 1-4 = 5 1/2 inches (14 cm)
- 2-5 = bust point height measure
- 1-6 = back figure
- 2-7 = front figure
- 8 is the middle of 2 and 7
- Square out 2, 4, 8, 5 and 7 to the right

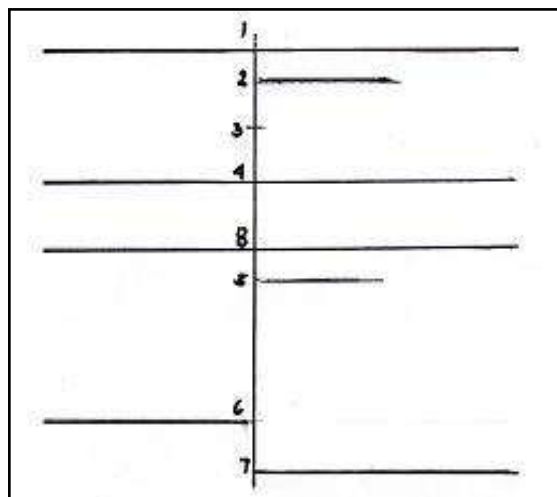


Fig: 2: Basic bodice block

Source: <https://lapparel.wordpress.com/lesson-3/>

Back Bodice:

- 1-8B 1/2 back neck or 2 1/2 inches (6.5 cm) to 2.9 inches (7.5 cm). Connect 8B to 2 with a French curve
- 1-9B = 1/2 shoulder + 5/8 inch (1.5 cm). Square down 9B
- 9B – 10B – 1 3/8 inches (3.5 cm). Connect 8B to 10B
- 4-11B = 1/2 shoulder minus 5/8 inch (1.5 cm)
- 8-12B = 1/4 bust + 5/8 inch (1.5 cm). Connect 10B, 11B and 12B with a French curve
- 8-13B = 1/2 bust point width
- 6-14B = 1/2 bust point width. Connect 13B to 14B
- 6-15B = 1/4 waist + 1 1/8 inches (3 cm). connect 12B to 15B
- 14B – 16B = 5/8 inch (1.5 cm). Connect 16B-18B and 17B-18B.
- 14B – 17B = 5/8 inch (1.5 cm). Connect 16B-18B and 17B-18B.
- 13B – 18B = 5/8 inch (1.5 cm). Connect 16B-18B and 17B-18B.
- 19 = is the middle of 8B and 10B. Square down 19
- 20 = 3 inches (7.5 cm). 21-19, 22-19 = 1/4 inch (0.5 cm).
- Connect 22 to 20 and 21 to 20.
- Fold 16B over 17B
- Connect 6 to 15B
- Fold 22 over 21
- Connect 8B to 10B
- Measure 12B and 15B (side length)

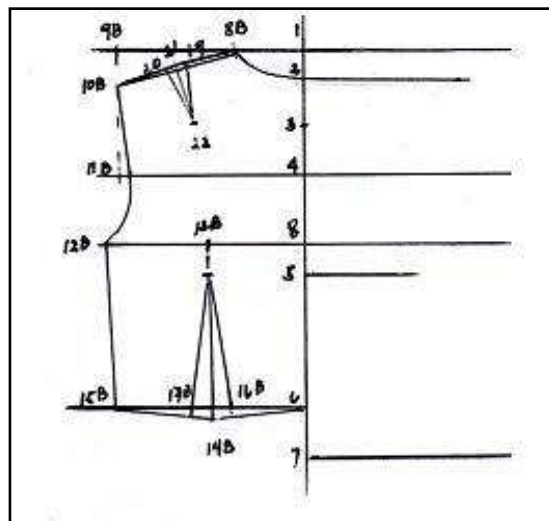


Fig: 3: Back bodice

Source:

<https://lapparel.wordpress.com/lesson-3/>

- Side length of back and front bodice should be equal.

Front Bodice:

- $2-8F = \frac{1}{2}$ back neck or 6.5 to 7.5 cm
- $2-9F = \frac{1}{2}$ shoulder. Square down 9F
- $9F - 10F = 4.5$ cm. connect 8F to 10F
- $4-11F = \frac{1}{2}$ shoulder minus $\frac{3}{4}$ inch (2 cm).
- $8 - 12F = \frac{1}{4}$ bust + 1 inch (2.5 cm). Connect 10F, 11F, and 12F with a French curve
- $5-13F = \frac{1}{2}$ bust point width
- $7-14F = \frac{1}{2}$ bust point width. Connect 13F to 14F
- $7-15F = \frac{1}{4}$ waist + 4cm. Connect 12F to 15F with dotted line.
- $14F - 16F = \frac{3}{4}$ inch (2cm).
- $14F - 17F = \frac{3}{4}$ inch (2cm).
- $13F - 18F = \frac{5}{8}$ inch (1.5 cm). Connect 16F-18F, 17F to 18F
- $12F - 19F = 3 \frac{1}{5}$ inches (8 cm).
- $19F - 20F =$ difference of 6 and 7
- $21 -$ middle of 19F and 20 F. Connect 21F and 13F
- Connect 12F and 15F with a straight line
- Fold 16F over 17F
- Connect 7F to 15F
- $12F - 15F$ with a dart closed = $12B - 15B$ of back bodice (side length)

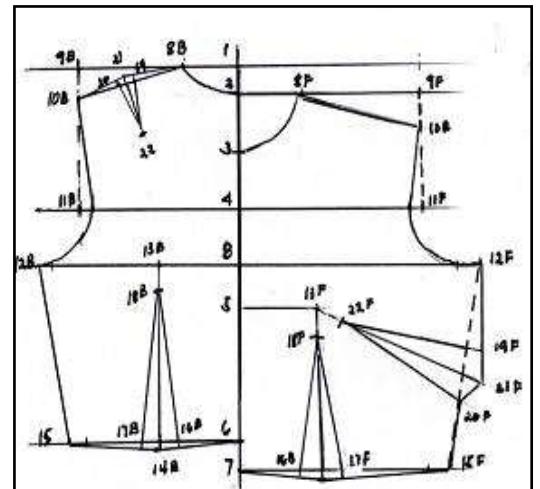


Fig: 4: Back bodice

Source:

<https://lapparel.wordpress.com/lesson-3/>

4.4 Drafting of Basic Sleeve:

Get one-fourth sheet of pattern paper. Construct a sleeve. Place the centerline on a folded pattern paper

- $1-2 =$ sleeve length $7 \frac{1}{2}$ inches (19 cm) to $7 \frac{3}{4}$ inches (20cm)
- $1-3 = 4 \frac{1}{2}$ inches (12 cm)
- Square points 3 and 2 to the right
- $1-4 = \frac{3}{8}$ inch (1 cm)
- $4-5 = \frac{1}{2}$ armhole measure
- $2-6 = \frac{1}{2}$ lower arm girth + $\frac{3}{8}$ inch (1 cm)
- Connect 5 to 6 and 4 to 5
- Divide line 4-5 into 4 equal parts and mark 7, 8, 9
- $7-10$ raise $\frac{5}{8}$ inch (1.5 cm)
- $9-11$ lower $\frac{5}{8}$ inch (1.5 cm)
- Connect 4, 10, 8 with a French curve
- Connect 5, 12, 8 with a French curve (for front sleeve cap)
- $8-12 = \frac{1}{4}$ inch (0.5 cm).
- 13 – center of 11 and 9
- Connect 10, 12, 13, and 5 for back sleeve capline with a dotted line

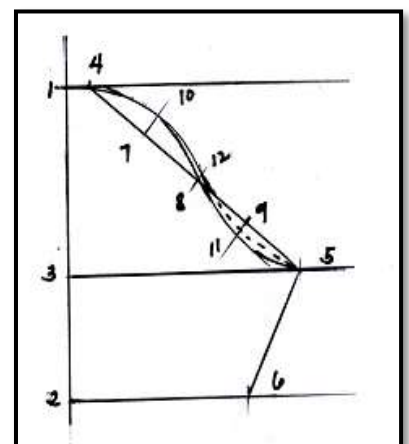


Fig: 5: Basic Sleeve

Source:

<https://lapparel.wordpress.com/lesson-3/>

- Cut off in the dotted line for back sleeve pattern
- Cut off 12 to 5 and 6 to 5
- Open the sleeve and cut 5, 11, 8 to 10 for front sleeve pattern

4.5 Drafting of basic Skirt (Front & Back)

Instructions:

Get one-half sheet of pattern paper. Construct a basic skirt (back) pattern.

Draw a perpendicular line T.

- 1-2 = 3/8 inch (1 cm).
- 1-3 = 5/8 inch (1.5 cm).
- 1-4 = 7 inches (18 cm) to 8 3/4 inches (22 cm).
- 1-5 = skirt length
- 1-6 = middle of 1 and 4
- Square out 3, 6, 4, and 5 to the right
- Square out 2, 6, 4, and 5 to the left

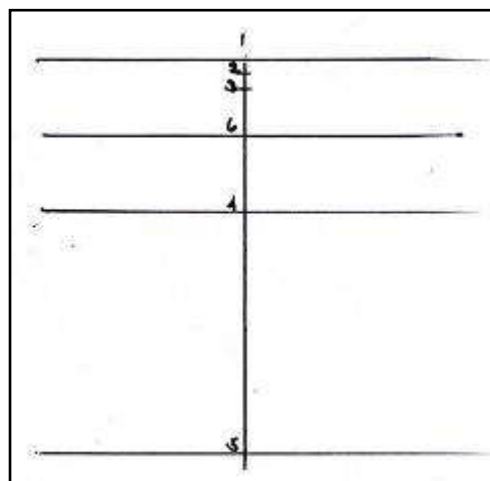


Fig: 6: Basic skirt pattern

Source: <https://lapparel.wordpress.com/lesson-3/>

Back Skirt:

- 1-7B = 1/4 waist + 1.2 inches (3 cm)
- 4-8B = 1/4 second hip + 3/8 inch (1 cm)
- 5-9B = 1/4 second hip + 3/8 inch (1cm)
- 1-10B = 1/2 bust point width. Square down 10B
- 10B-11B = 5 1/2 inches (14 cm) to 6 inches (15 cm)
- 10B-12B = 5/8 inch (1.5 cm).
- 10B-13B = 5/8 inch (1.5 cm). Connect 12B and 13B to 11B

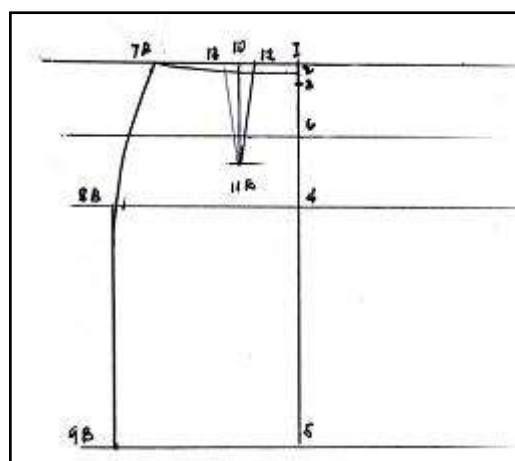


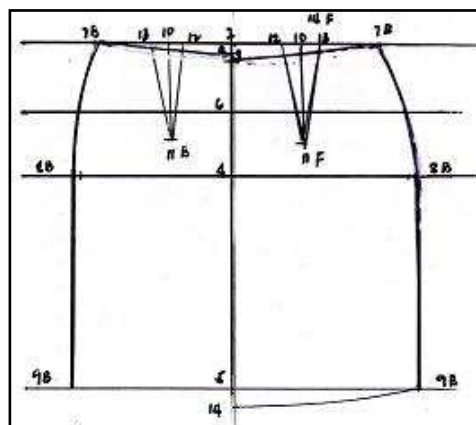
Fig: 7: Back skirt pattern

Source: <https://lapparel.wordpress.com/lesson-3/>

- Fold 12B over 13B and connect 2 to 7B with a hip curve.
- Connect 7B to 8B with a hip curve
- Connect 8B to 9 B with a straight line

Front Skirt:

- Front Skirt Square down 10B
- 1-7F = 1/4 waist + 1 1/2 inches (4 cm).
- 4-8F = 1/4 second hip + 5/8 inch (1.5 cm).
- 5-9F = 1/4 second hip + 5/8 inch (1.5 cm).
- 1-10F = 1/2 bust point width. Square down 10F.
- 10F-11F = 5 1/4 inches (13 cm) to 5 1/2 inches (14cm).



- 10F-12F= ¾ inch (2 cm).
- 11F –13F = ¾ inch (2 cm). Connect 12F and 13F to 11F
- Fold 12F over 13F and connect 3 to 7F with a hip curve Fig: 8: Front skirt pattern
- Connect 7F to 8F with a hip curve Source: <https://lapparel.wordpress.com/lesson-3/>
- Connect 8F to 9 F with a straight line
- 5 to 14 = 5/8 inch (1.5 cm). Connect 14 to 9F with a hip curve

Note:

After drafting the basic block check it correctly and accurately, especially the:

- 1) Measurement
- 2) Parts of pattern pieces

Then cut the basic block following the cutting line smoothly.

4.6 Let Us Sum Up

As the name suggests basic block is a template of a bodice, sleeve or skirt; consisting of basic details such as basic neckline, darts, armpit level and the chest level by using basic body measurements and not the ease included in the basic block. Other patterns or designs can be developed using basic block.

4.7 Check Your Progress

Q:1 Explain the basics of block.

.....

Q:2 What kind of patterns created using basic block? Give examples.

.....

Q:3 What is the difference between a block and a pattern?

.....

Q:4 Draft a basic bodice front & back for the given measurement.

Measurements:

Chest: 60”

Shoulder: 5.5”

Waist: 22”

Full length: 26”

Bodice length: 10”

Q:5 Draft a basic skirt for the measurements given below.

Waist: 24”

Length: 16”

Hip: 32”

Multiple Choice Questions

- 1) Basic pattern is the “” for Flat-Pattern Designing.
 - a) starting point
 - b) first point
 - c) final step
 - d) all of above

- 2) A is a simple master pattern that is used to make more detailed patterns.
 - a) pattern
 - b) draft
 - c) block
 - d) bodice

- 3) A Block is usually made from a thin
 - a) paper
 - b) cardboard
 - c) graph paper
 - d) brown paper

- 4) The Front of a basic Bodice Block usually has.....
 - a) one dart
 - b) three darts
 - c) four darts
 - d) two darts

- 5) Ais a finished design ready for cutting out and sewing.
 - a) pattern
 - b) basic block
 - c) block
 - d) none of above

4.8 Key words

Block: A block is a simple master pattern which is used to make more detailed patterns.

Pattern: A pattern is a finished design ready for cutting out and sewing.

Drafting: Drafting is a method in which the measurements are taken directly from a person or a dress.

Front bodice: Upper front part of the body

Back bodice: Upper back part of the body

4.9 Suggested Books:

- Zarpkar K.R. and Zarpkar A.K., “*Zarpkar System of Cutting*”, Navneet Publications Ltd., Ahmedabad, Gujarat.
- <https://lapparel.wordpress.com/>
- <https://www.dresspatternmaking.com>

Answers

1. a.

- 2. c.
- 3. b.
- 4. d.
- 5. a

UNIT 5 DART MANIPULATION

STRUCTURE

- 5.0 Objectives**
- 5.1 Introduction**
- 5.2 Applying Dart Manipulation**
 - 5.2.1 Single-Dart Shifting**
 - a. Slash & Spread Method**
 - b. Pivotal Transfer Technique**
 - 5.2.2 Two Dart Shifting**
 - a. Slash & Spread Method**
 - b. Pivotal Transfer Technique**
- 5.3 Designing with Darts**
 - 5.3.1 Graduated and Radiating Darts**
 - 5.3.2 Asymmetric Darts**
 - 5.3.3 Intersecting Darts**
 - 5.3.4 Style Lines**
- 5.4 Let Us Sum Up**
- 5.5 Check Your Progress**
 - Multiple Choice Questions**
- 5.6 Key words**
- 5.7 Suggested Books**
- Answers**

5.0 Objectives

- 5.0.1 To enable students to learn about the basic pattern making techniques
- 5.0.2 To apply pattern making techniques for creating different pattern through practical exercise

5.1 Introduction

We learned about three principles of pattern making in the previous chapter. Dart manipulation is one of the principles of flat pattern making. In this chapter principle of dart manipulation has been discussed in detail. Practical exercises are necessary to learn dart manipulation. Patterns can be manipulated and changed into other shapes in two ways-through the slash-spread and Pivotal-transfer techniques. The slash-spread technique is easy to understand as it clearly illustrates the changes taking place. The pivotal transfer technique is equally reliable and less time-consuming, but it is more advanced. All pattern manipulation is done while the pattern lies flat on the table, hence the name “flat-pattern making.”

Designers generally create designs without knowledge that certain principles are the basis for the creation. It is the pattern maker’s responsibility to analyze the design and determine which principle to apply to develop particular pattern.

5.2 Dart Manipulation

We have discussed this in brief in unit 3. Some of its part has been repeated here to start with applying dart manipulation.

Principle: A dart can be shifted to any location around the pattern’s outline from a designated pivotal point without affecting the size or fit of the garment.

Corollary/Effect: The dart excess i.e. the space between the dart legs can be used as gathers, pleats, tucks, style lines, flare or ease in the armhole for creating designs in garments. The creative use of the dart excess is called dart equivalent.

- The dart or its equivalent will always be somewhere within the pattern and garment part.
- Darts or equivalents are directed toward the pivotal point.
- A dart ends before reach to the pivotal point and neither reaches till the pivot point nor goes beyond it.

Applying dart manipulation (Principle: 1)

The technique is applied when the dart of a working pattern (e.g. bodice, skirt, sleeve, or any working pattern) is transferred in the process of creating a design pattern. The important thing is that one needs to first analyze the design and identify the dart location before creating a design.

The following steps are to be followed to begin with the dart manipulating process.

The dart/darts can be shifted by two methods described below:

Slash-spread and overlap: This method comprises of three steps: cut, spread and overlap. First the location where dart has to be transferred is slashed, then the original dart has to be cut and closed so the new dart where the slash has been done will be spread and the marking is done. This way the dart is transferred. Through this dart manipulating process, the pattern maker is able to see how the original working pattern changed into design pattern.

Pivotal Transfer: This method does not require the working pattern to be slashed in order to change the original shape into a design pattern. One has to only shift the working pattern. This method is faster and advanced but it requires practice.

The slash-spread method is generally easy to understand and apply, but more time consuming than pivoting.

5.2.1 Single Dart Shifting:

a. Slash-spread method

Technique:

- Flat pattern making depends on basic patterns for creating design patterns.
- Single dart basic bodice is traced for developing single-dart patterns
- Working pattern is never altered, only traced and used.

Design analysis: Identify the dart location

The bodice of this garment (fig: 1) has one dart (for the half-block) in the side seam; this dart is called a French Dart. This is simple dart manipulation; the dart is just moved to another place around the block.

Instructions/ Steps

Step: 1 The basic block is having two darts; one in the side seam, one in the waist has been shown in figure 1. The green line is the new dart line; the side seam dart will be shifted to the shoulder by cutting, spreading and overlapping and creating a new block with a waist dart and a shoulder dart. (Fig: 1).

Step: 2 Then cut the green line and the red line. Cut till the pivot point. (Fig: 2).

Step: 3 Put the pieces together after cutting, then hold them together at the Dart Point and then overlap or close the side seam dart so that A and B meet. After that you will see the new dart i.e. shoulder dart will open (Fig: 3). Mark the final pattern.

Step: 4 This is the final new block with a shoulder dart instead of a side seam dart. (Fig: 4).

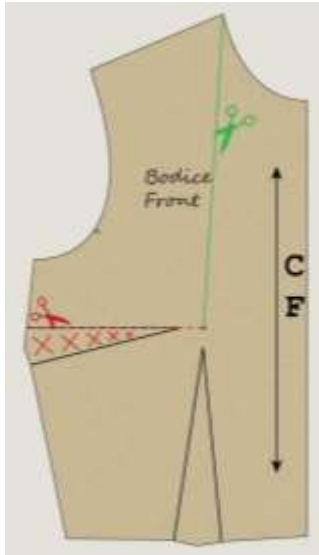


Fig: 1 Draw a new dart line shoulder dart

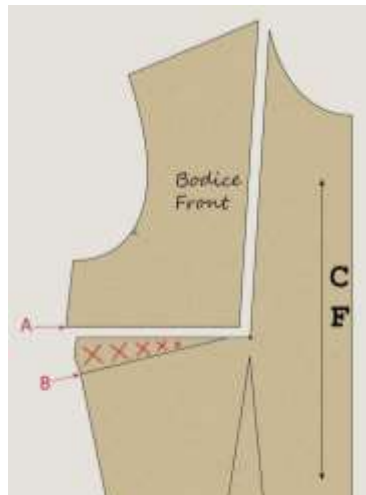


Fig: 2 Cut along the green line and the red line

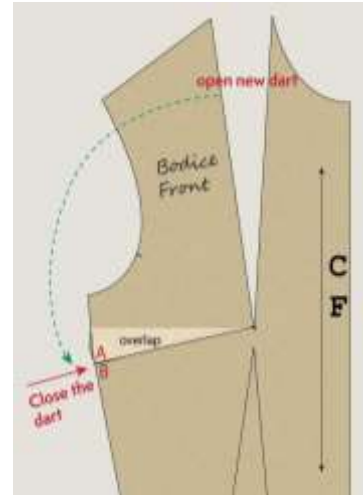


Fig: 3 Close the side seam dart

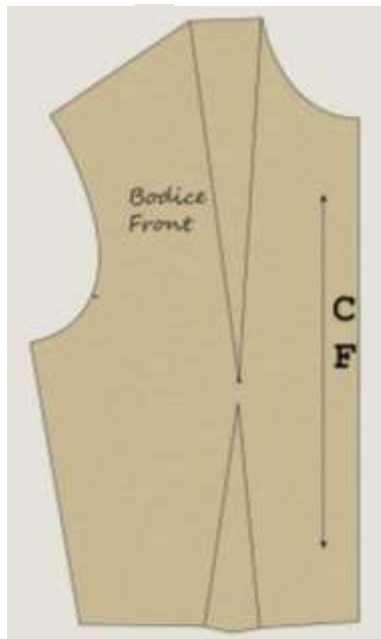


Fig: 2 Cut along the green line and the red line

Fig: 4 Final pattern with shoulder dart

Image source: <https://www.dresspatternmaking.com/other/terminology/cutting-spreading#cutting-and-spreading-to-move-a-dart>

to the bust point (pivotal point). This is to create a hinge, which allows the pattern part to move freely without the piece falling from the pattern through manipulation. (Fig: 2)

b. Pivotal transfer

Technique:

- The pivot technique involves manipulating the original working pattern into new shape by pivoting, shifting and tracing, no cutting needed.

The process:

- The working pattern is placed on top of pattern paper with pin placed through the pivotal point.
- The dart which is to be shifted to new location is marked on the paper and traced to an existing dart on the pattern.
- The pattern is then pivoted/ rotated to close the original dart legs and space for new dart will open.
- The remaining untraced pattern is traced on to the paper underneath.(Fig:5)

Example:

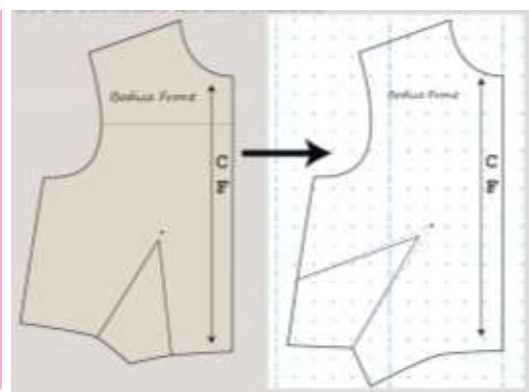


Fig: 5 Pattern with side-seam dart

Fig: 6 Dart to be shifted

Source: <https://www.dresspatternmaking.com/principles/manipulating-darts/bodice-front/md-bf-style-01>

Instructions/ Steps:

Step: 1 Draw the new dart line on the block; from the side seam to the Bust Point (not the Dart Point!) (Fig: 6).

Here the points A, B & C are marked on the block as guides to follow instructions. It is just for understanding, no need to write these on block. Note that A, B & C relate to the points where the dart leg meets the edge of the block, as shown by the arrow tips.

Step: 2 Hold the block in such a way that it stays at its place and doesn't move. Trace around the block in a clockwise direction from point A (the new dart line) to point B (the first waist dart leg you reach) (Fig: 7).

Step: 3 Mark the Bust Point on the paper which has been placed under the block by putting the pencil tip through the Bust Point hole.

Extend the dart leg line (B) past the edge of the block. To make sure the line true, use a ruler to line up the Bust Point and the dart leg on the edge of

the block, and continue that line beyond the block onto the paper (shown by a red arrow in the image) (Fig: 8).

Step: 4 Hold the block down at the Bust Point, pivot the block anti-clockwise until the waist dart is closed. (i.e. Dart leg C reaches the line you just drew, the red arrow in the image) (Fig: 9).

Step: 5 Make sure the block doesn't move, finish tracing the remainder of the block from A to C (Fig: 10).

Step: 6: Now lift up the block and put it aside. Draw the new dart legs from the Bust Point to points A1 and A2. (They should be the same length, but check to make sure) (Fig: 11).

Complete the dart, keeping in mind that the Dart Point ends at some distance from the Bust Point. (Fig: 12).

Step 7: Now the final pattern is ready so there is a need to label the pattern piece, add seam allowance, cutting instructions, grain line, note the pattern piece number and the total number of pattern pieces, etc. (Fig: 13). This is known as pattern information.

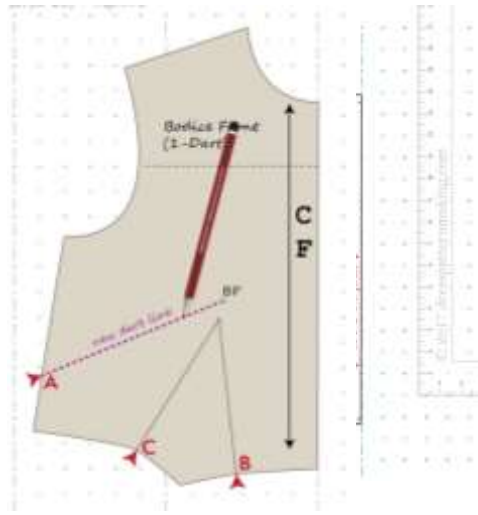


Fig: 7 marking new dart line

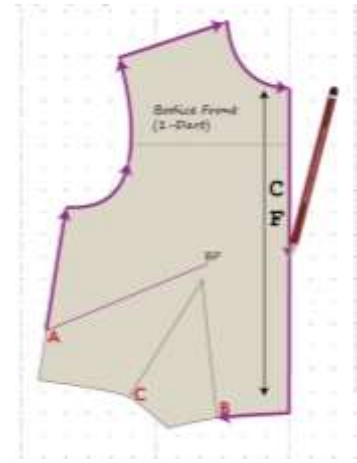


Fig: 8 trace the block from A-B

Fig: 9 extend the dart leg line

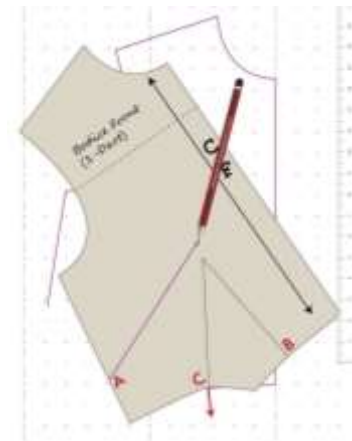
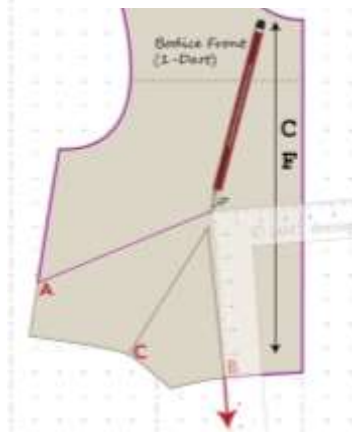


Fig: 10 pivot the block anti-clockwise

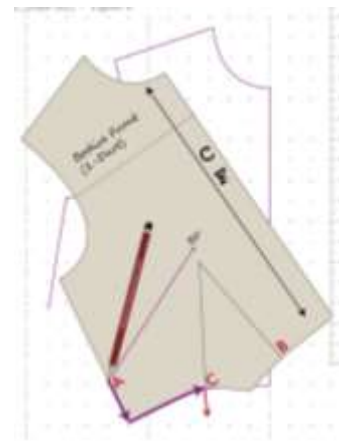


Fig: 11 finish the tracing

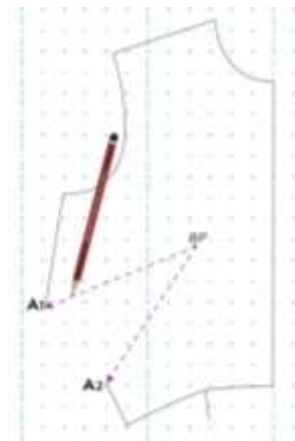


Fig: 12 final pattern



Fig: 13 pattern with all required information and seam allowance

Image Source: <https://www.dresspatternmaking.com/principles/manipulating-darts/bodice-front/md-bf-style-01>

5.2.2 Two Dart Shifting

a. Slash-spread method

Technique:

Here the two dart pattern is used i.e. waist and side dart,

The two-dart pattern is used more widely than single dart pattern.

Process: (Follow the same procedure as single dart transfer and follow the instructions below)

- Trace pattern and mark bust point and mid –shoulder
- Draw slash line to bust point from mid shoulder and from dart point of side dart to bust point
- Cut slash lines to bust point from shoulder and side dart
- Close dart leg A and B
- Trace pattern
- Centre dart point 1 inch from bust point
- Draw dart legs to new dart point

b. Pivotal transfer

Darts to be transferred: Side seam dart and waist dart

Pattern plot and manipulation is same as the single dart pivotal transfer method. (Fig: 16)



Fig: 16 Flat pattern drawing

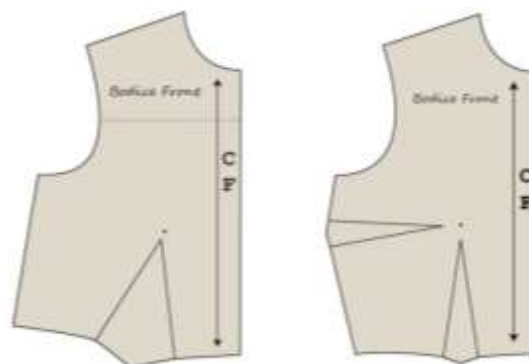


Fig: 17 Darts to be transferred

Image Source: <https://www.dresspatternmaking.com/principles/manipulating-darts/bodice-front/creating-2dart-block-from-1dart-block>

Instructions/ Steps:

Step: 1 The side seam dart should be placed approx 2 inches to 2.75 inches down from the underarm point on the side seam line. Measure down from the underarm point on the side seam line, and mark the position of the side seam line. Draw a line from that point to the Bust Point (Fig: 18).

Step: 2 Use the block as a guide for marking the different lines on the cardboard, draw the following lines with ruler:

Centre Front Line

Waistline - making sure this is at right angles to the Centre Front Line

Draw another line 3/16-inch below the waist line. (Fig: 19).

Step: 3 Place the block on the cardboard, mark it up on the Centre Front and Waist lines

(Note that the first dart leg should end up on the line 3/16-inch below the waistline).

Trace around the block from the new side seam dart line, around to the waist

The block should have a hole punched through the Bust Point and put a pencil tip in the hole and transfer that point to the cardboard placed below (Fig: 20).

Step: 4 Use a sharp pencil, put it at the pivotal point and hold the block at the Bust Point and rotate it so that the side seam waist corner touches the guide-line.

Hold the block firmly in place and put down the tool (Fig: 21).

Step: 5 Trace the incomplete line of the side seam; from the new side seam dart line to the waist corner and remove the block (Fig: 22).

Step: 6 Draw lines from the top side-seam dart point (A) to the Bust Point and from the Bust Point to the waist (point E) (Fig: 23).

(Measure the waist from the CF to the sides seam (from point C to D) = x.

Step: 7 The next step is to create the waist dart. The value of the waist dart will depend on the amount remained (z, the dart value, from above). If the amount remained is 1.75 inches or less, it is taken out in the

waist dart. If it is more than 1.75-inches, then the waist dart should be 1.75 inches, and the rest is taken off the side seam (Fig: 24).

Draw the waist dart width with the dashed line $\frac{3}{16}$ -inch below the waist line; take point E as the centre.

Step: 8 Draw a line from BP to point B. (Fig: 25).

Step: 9 Finish outlining the block. Complete the darts (Fig: 26).

Remember that the Dart Points finish before the Bust Point.

Step: 10 Finish off the block: Cut out, mark centre front and grain line, label the pattern piece, notch, prick BP and dart points, mark across chest line (Fig: 27).

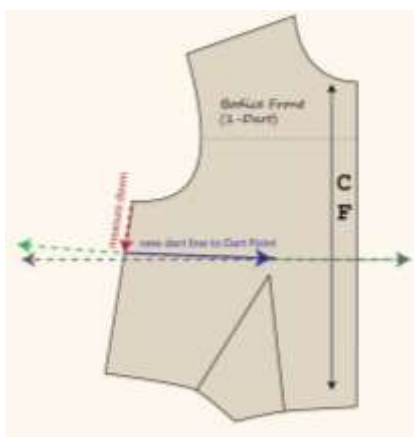


Fig: 18 Step 1



Fig: 19 Step 2

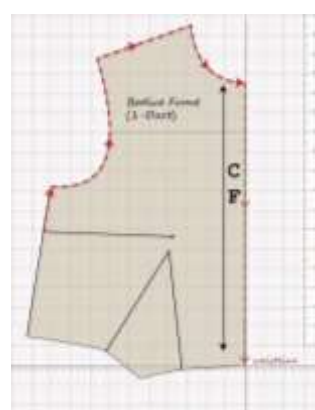


Fig: 20 Step 3

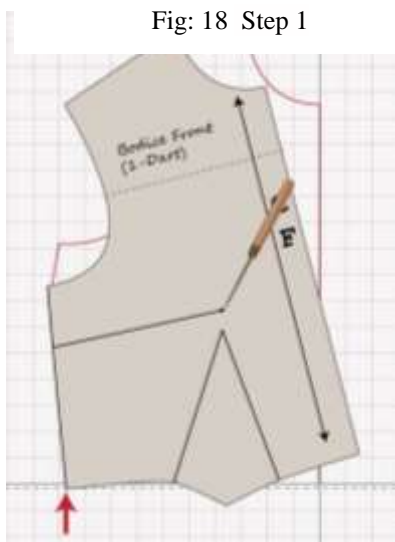


Fig: 21 Step 4

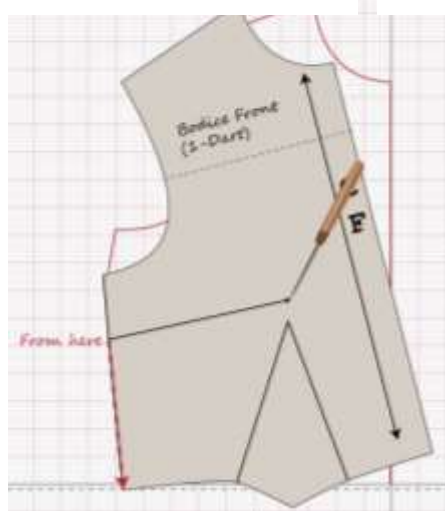


Fig: 22 Step 5

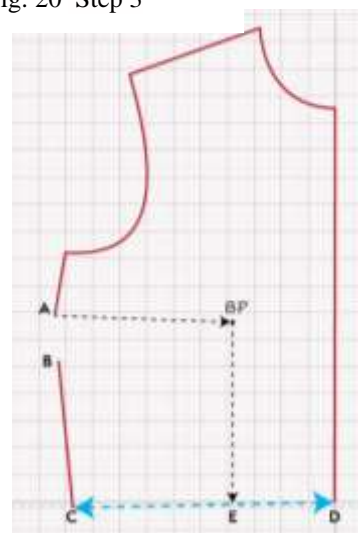


Fig: 23 Step 6

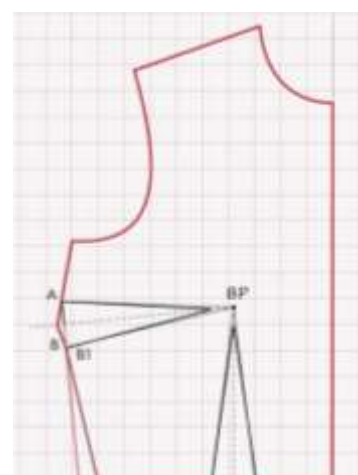
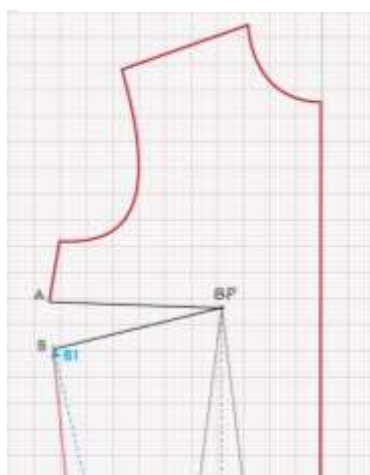
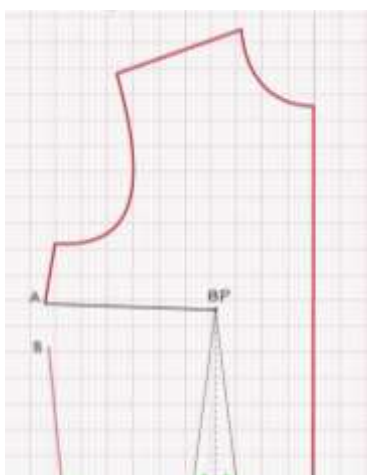


Fig: 24 Step 7

Fig: 25 Step 8

Fig: 26 Step 9

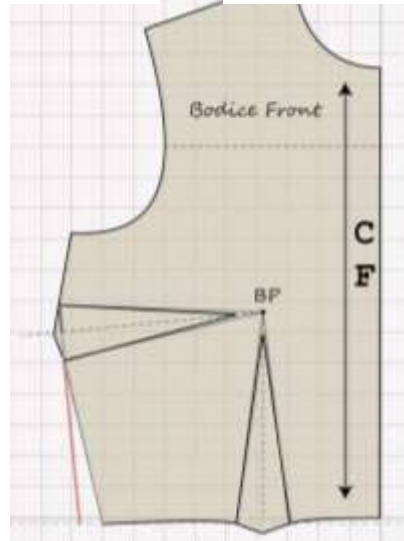


Fig: 27 Step 10

Image Source: <https://www.dresspatternmaking.com/principles/manipulating-darts/bodice-front/creating-2dart-block-from-1dart-block>

5.3 Designing with darts:

Darts are one of the most creative and flexible parts of the pattern. Designer can create end number of designs through their imagination using the space between the dart legs. Dart excess used as design is known as dart equivalent. Dart equivalents are use as tuck-darts, pleats, flares and gathers in the garment. They can be stitched end to end, tucked, partially stitched, stitched across the fold, and fullness is spread and gathered along with stitched line or flared. Here we will not go in detail of it and practical exercises like dart manipulation. The brief explanation is given below.

5.3.1 Graduated and Radiating darts:

- The darts with gradual variation in length are known as graduated darts. (Fig: 28).

Radiating Dart:

- The darts which spread from one centre or one part is called radiating darts (Fig: 28).



Fig 28: Graduated Darts & Radiating Darts

Source: <https://www.slideshare.net/thyrine/designing-with-darts>

- Asymmetric darts are crossed at front of the garment.
- A full front means both right and front pattern is required for this.
- The existing dart of the working may interfere with the placement stylized dart. If so, the dart should be transferred temporarily to another location (such as mid-armhole) before the pattern is drafted.

5.3.2 Asymmetric Darts:



centre
back
pattern
of a

Fig 29: Asymmetric darts

Source:

<https://www.slideshare.net/thyrine/designing-with-darts>

5.3.3 Intersecting Darts:

- Intersecting darts are similar to asymmetric darts and dart equivalents.
- The darts cross at center front and intersect with each other.



Fig 30: Intersecting darts

Source:

<https://www.slideshare.net/thyrine/designing-with-darts>

5.3.4 Style Lines:

The lines in which the darts are converted into seam line are known as style lines. It is also known as princess line. It is classified in two ways.

Style lines cross over the bust:

The style lines are crossing over the bust by replacing the dart legs with seams extending from one of the patterns to the other. The style lines cover the dart excess into stitch lines and also maintain the fitting of the garment. The original size and fitting of the garment remain same even though the shapes of pattern pieces have been changed through manipulation.

Style lines do not cross-

The style lines which are not crossing the bust point are not dart equivalents. The existing darts are still in control of the fit of garment. The blouses with princess line are in trend now a days. The example of style lines or princess lines are explained below.

a. The classic princess/style line:

This type of style lines are created as a perfect seamless working pattern. This is a popular base for other design variations. Seams are added as a guide for all style lines.

Design Analysis:

The classic pattern is distinguished by a style line that the front and back waist dart continuing over the bust point and shoulder blades, ending at mid-shoulder dart of the back. These designs can be based on one or two dart shift method. (Fig.: 31)

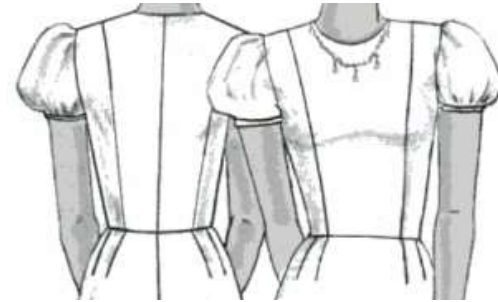


Fig 31: Classic princess style line
Source: <https://books.google.co.in/>

b. The armhole Princess style line:

Design Analysis:

The armhole princess line is a variation of classic princess line. It is a style line which curves from the bust point in the front, the shoulder blades of back to mid-armhole. This is developed from a two-dart pattern with side dart transfer to mid-armhole as a curved dart (Fig.: 32).

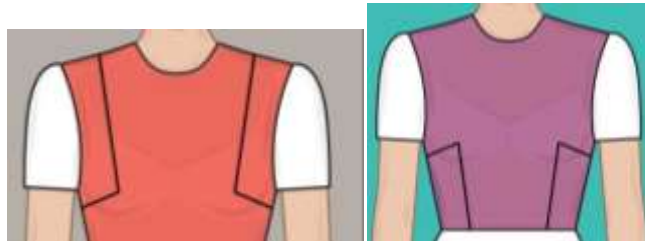


Fig 32: Armhole princess lines

Source: <https://www.slideshare.net/thyrine/designing-with-darts>

c. The panel style line:

It is not a dart equivalent as it does not pass through the bust point. The exiting darts control the fit of the garment.

Design Analysis:

The panel style line does not pass through the bust or shoulder blades. It extends from armhole curve to waist, forming a panel separating front and back of the garment. The panel can be designated either with or without a side seam (Fig.: 33).



Fig 33: Panel style lines

Source: <https://books.google.co.in/books>

5.4 Let Us Sum Up

Dart manipulation is one of the three principles of flat pattern making. In this chapter we have learned different dart manipulation techniques such as

slash and spread method, pivotal transfer method for both single and two dart shifting method step by step process. Designing with darts such as graduated darts, radiating darts, asymmetric darts, and style lines are the variations of single and two dart shifting methods. Thus we can say any design or variation can be made by shifting a dart to any other location or part of the pattern piece.

5.5 Check Your Progress

Q:1 What is dart manipulation?

.....
.....
.....

Q:2 Explain the methods followed for dart manipulation.

.....
.....
.....

Q:3 State the difference between slash-spread method and pivot method.

.....
.....
.....

Q:4 Explain the single dart shifting by pivotal transfer method with drawing.

.....
.....
.....

Q:5 Explain the two dart shifting with slash-spread method with drawing.

.....
.....
.....

Multiple Choice Questions

1. The space between the dart legs is called.....
 - a) dart excess
 - b) fullness
 - c) pivot point
 - d) none of above
2. The creative use of the dart excess is called.....
 - a) dart manipulation
 - b) dart equivalent

c) dart transfer d) pleats

3. Darts or equivalents are directed toward the point.

a) bust b) mid shoulder

c) pivot d) none of above

4..... method the does not require that the working pattern be slashed in order to change the original shape into a design pattern.

a) Dart manipulation b) Slash-spread

c) Slash and Pivotal d) Pivotal transfer

5. method is easy to learn the dart manipulation technique.

a) Slash-spread b) Pivotal transfer

c) Dart shifting d) All of above

5.5 Keywords:

Dart Excess: a space between the two legs of dart

Dart Equivalent: a creative use of dart excess such as gather, tucks, pleats etc.

Slash-Spread Method: This method comprises of three steps: cut, spread and overlap.

Pivotal Transfer: This method does not require the working pattern to be slashed in order to change the original shape into a design pattern. One has to only shift the working pattern.

5.6 Suggested Books

- Armstrong H.J., 2000, Pattern Making for Fashion Design, Harper & Row Publishers, New York.
- <https://www.slideshare.net/thyrine/designing-with-darts>
- <https://www.dresspatternmaking.com/principles/manipulating-darts/bodice-front/md-bf-style-01>

Answers

1. a

2. b

3. c

4. d

5. a

UNIT-6 TOOLS FOR DRAWING & SKETCHING

STRUCTURE:

6.0 Objectives

6.1 Introduction

6.2 Tools & Materials for Drawings and Sketching - Manual

6.2.1 Drawing Board

6.2.2 Sketchbook/Drawing Book

6.2.3 Canvas

6.2.4 Graph Paper

6.2.5 Tracing paper

6.2.6 Drawing Pin

6.2.7 Graphite Pencils

6.2.8 Charcoal Pencils

6.2.9 Sharpening Tools

6.2.10 Eraser

6.2.11 Kneaded Eraser

6.2.12 Ruler

6.2.13 Compass

6.2.14 Stencil

Check Your Progress - I

6.2.15 Different Type of Colours

6.2.16 Paint Brush

6.3 Tools & Materials for Drawings and Sketching - Electronic

6.3.1 Computer

Check Your Progress - II

Multiple Choice Questions

6.4 Let Us Sum Up

6.5 Keywords

6.6 Suggested Books

Answers

6.0 Objectives

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

- Understand the requirement of different tools and materials for drawing and sketching;
- Become aware about the tools and surface materials used for drawing;
- Know about the availability of various options for different types of colours;
- Apply varied tools and materials as per the requirement.

6.1 Introduction:

In order to draw any design, sketch or shape, various tools and materials are required. Basically, to draw anything there is a requirement of the two main things, i.e. a pencil and a paper.

But, it is necessary to use other materials and tools for more fruitful result of the work. Like, if a straight line is drawn by hand, it may be straight but not always perfect or exact. If that line is drawn by a ruler, in that case, the line will surely be straight and perfect. So, by using different materials and tools for drawing, the work becomes easy and accurate too. It depends on the quality of the tool and materials also, so it's better to use good quality tools and materials for drawing.

6.2 Tools & Materials for Drawing and Sketching – Manual

6.2.1 Drawing Board

Drawing board can be considered as a multipurpose desk, a support which is often used by artists and designers for any kind of drawing or sketching on a large sheet of paper.



Fig. 1 Drawing Board

6.2.2 Sketchbook/Drawing Book

A sketchbook consists of blank pages that can be used for sketching, drawing or painting. These are made of high-quality paper and come in different shapes and sizes. Depending on the weight and thickness of the paper, different drawing types such as pencil, watercolour, pen and ink drawings, etc. can be used. The paper itself comes in different tones and commonly include white, cream and at times, even gray and black. Artists often personalize their sketchbooks by utilizing decorative covers.



Fig. 2 Sketchbook / Drawing book

6.2.3 Canvas

Canvas is a very popular medium for painting. Mainly it is used for oil paintings. Earlier it was made of linen but, in a modern era it is made from cotton or linen along with polyvinyl chloride (PVC).



Fig. 3 Canvas

Canvas is durable in nature and one of the most preferred surfaces of artists. It comes in different types, which are mentioned below...

Types of Canvas:

Dyed canvas, Fire-proof canvas, Printed canvas, Stripe canvas, Water-resistant canvas, Waterproof canvas, Waxed canvas, Rolled canvas, etc.

6.2.4 Graph Paper

Graph paper is also known as grid paper or squared paper. It has printed grids/ squares of different size. The size of paper and grid varies as per the requirement of design. It is used for the enlargement and reduction of the size of design. It can make the enlargement and reduction task easy with appropriate proportion and balance.



Fig. 4 Graph paper

6.2.5 Tracing Paper

Tracing paper is a material used in drawing and sketching. It has low clarity and it is semi-transparent in nature, it allows the light to pass through it. It has the ability to trace the design or drawing on it.

Tracing paper was originally invented for engineers and architects to create designs which can be easily traced or copied by using manual copy process. Later on, the other uses of tracing paper came into existence and nowadays it is used as a helping material for artist and designers to trace the design easily and precisely.



Fig. 5 Tracing Paper

6.2.6 Drawing Pin

Drawing pin is a tool which is used to hold a drawing paper or drawing sheet on a drawing board. It is made of steel, plastic, metal or aluminium.



Fig. 6 Drawing Pin

6.2.7 Graphite Pencils

A graphite drawing pencil completes the art kit. It seems very basic, but it is very much helpful and required by every artist. An artist can draw and express the feelings, thoughts, and imagination with a pencil in the form of sketches, realistic images, and more with wonderful versatility.

The pencils come in different grades from hard (H) to soft (B). As the numbers increase, they become harder or softer. Like, 2H, 3H, 4H; they progressively become harder, whereas, 2B, 3B; progressively become softer. HB is the middle tone.

As per its nature, each pencil produces a tone on paper; darker or softer and no amount of pressure can make the tone darker; for which one needs to use an appropriate numbered pencil. So, the pencils should be used as per the requirement of drawing or sketch.

The pencils are made of different quality. It is necessary to use a good quality pencil to draw in the same type of tone. The low-quality pencil's point may break frequently and may consume a lot of time of the user to sharpen it. So it is better to select a high-quality pencil for a good outcome at a precise time.



Fig. 7 Graphite Pencils

6.2.8 Charcoal Pencils

Charcoal pencils are one of the oldest materials for drawing. It is made from carbonizing wood, various kind of sticks are made in different grades. The charcoal sticks are graded in soft and hard tone, the thickness varies, like thin, medium, thick and extra thick sticks. It works differently as per the thickness, where thin sticks are used for fine detailed work and the thick sticks used for larger areas.



Fig. 9 Charcoal Pencils

6.2.9 Sharpening Tools

A pencil sharpener is a tool used to sharpen the pencil's writing point by removing the outer layer. It is also known as pencil pointer and it can be operated manually or by an electric motor. It comes in different shapes, sizes, and colours, generally, sharpeners have a case on it which is removable, and it is removed for emptying the pencil waste into a dust bin.

The sharpener is the best tool for pencil sharpening; it makes a neat and sharp point of a pencil. It allows the user to sharpen the point as per the type and requirement of work (pointed, medium, thick, short, long or angled point of a pencil). The blade of the sharpener should be sharp enough before its use. It is also used to trim the dirty edges of erasers.



Fig. 9 Sharpening Tool

6.2.10 Eraser

An Eraser is also known as rubber commonly. It is used to erase and remove the drawing or writing from the paper. It comes in various types of sizes, shapes, and colours. Some pencils have an eraser on one end. The price of the eraser depends upon the material it has been made from. Cheaper erasers are made from synthetic rubber, whereas expensive erasers are made from plastic, vinyl or gum-like materials.

Earlier, erasers were made to remove or erase the mistakes made with graphite pencils, but as time passed, more abrasive ink-erasers were introduced in the market. They are used for erasing the dense pen marks.



Fig. 10 Eraser

6.2.11 Kneaded Eraser

A kneaded eraser is a useful tool for artists. It is also known as putty rubber. It is made of a grey or white flexible material and it looks like chewing gum or putty. Generally, it comes in grey, black or white colours, but nowadays it can be found in various colours like blue, pink, green, yellow, etc.

The function of a kneaded eraser is different than a normal eraser. It is not used to erase the pencil marks but it absorbs and picks up the graphite and charcoal elements and additionally, it also removes the carbon and pastel marks. It lasts longer than other erasers because it does not wear away and does not leave any eraser residue. It is used to remove light charcoal marks and graphite marks from drawing. It erases the marks slightly, not fully.



Fig. 11 Kneaded Eraser

6.2.12 Ruler

A ruler is a very basic and helpful tool for drawing. It is used to draw straight lines, to measure and to draw other different shapes. Generally, it's made of wood, plastic, steel, etc. It is a useful tool for artists, drawers and

many others. It's a very old tool, invented before more than four thousand years ago. Since then, people are using this tool in different aspects. A ruler comes in different sizes and is used as per the work requirement.



Fig. 12 Ruler

6.2.13 Compass

A compass is a drawing tool or a technical instrument, made of plastic or metal. It is generally used to draw various sizes of circles and arcs. Like dividers, it can also be used as a tool of measurement for particular distance on maps. It is a useful tool for drawing, drafting, navigation, mathematics, and many other purposes.

It consists of two parts, joined by a hinge which can be adjusted to change the radius of the circle drawn. At the end of one part, there is a point or spike and the on other part there is a whole with a screw to hold a pencil, or sometimes a pen.



Fig. 13 Compass

6.2.14 Stencil

A stencil is a type of mould, with a design cut out (design and gap) which allows the colour to reach to the surface. The surface should be flat. With the help of stencil, a design, picture or text can be created on paper, cloth, wall or any flat surface. It is a very old tool used by people from more than thirty-five thousand years ago in different countries of the world. It is used for repetitive designs to save the time and efforts. The stencil can be reused many times. Proper care should be taken after using the stencil.



Fig. 14 Stencil

Check Your Progress - I

1) What are the commonly used surfaces for drawing?

2) What is the difference between simple eraser and kneaded eraser?

3) What is charcoal pencil? How it works?

4) What is the use of stencil?

6.2.15 Different Types of Colours

6.2.15.1 Watercolour:

Watercolour is a painting material which is made of pigments suspended in a water-based solution. It is an old method of painting on paper. Different shades, tones, and tints can be made with the help of a mixture of various colours.



Fig. 15 Watercolour Palette

6.2.15.2 Pencil Colours

A pencil colour is a narrow, pigmented core encased in a wooden cylindrical case. As the graphite pencil or charcoal pencil has graphite or charcoal inside the wooden layer, the same way a pencil colour has wax or oil based core inside. It comes in many different pigments and sizes. Water soluble pencils and pastel pencils are also available.



Fig. 16 Pencil Colours

6.2.15.3 Crayons

Crayons are also known as wax colours or wax pastels. It is available at a reasonable price. It is easy to use and less messy than other markers or paints. That is why it is mostly used as a material for drawing to teach small children and it is used by artists and professionals also. It comes in a wide range of pigments with different sizes and quality.



Fig. 17 Crayons

6.2.15.4 Brush Pen Colours

A brush pen colour is a beautiful tool for sketching. It is in the form of a pen (sketch pen) with a wet tip. The tip of it is similar to the tip of a paintbrush. It can create the effect of watercolour with the ease of a pen. The user can create a desirable art piece without any inconvenience. It is specifically used for calligraphy. A beautiful calligraphy art work can be prepared by using brush pen colours.



Fig. 18 Brush Pen Colours

6.2.15.5 Sketch Pen Colours

Sketch pen colour is a basic material for sketching. It is generally used by beginners or children, but it is also useful for artists. It is a common tool as a liquid colour in a pen form. It is very easy to use and it comes in various vibrant shades.



Fig. 19 Sketch Pen Colours

6.2.15.6 Oil Paints

Oil paint is used by artists and professionals. This is a type of colour which requires more time to get dry in comparison to acrylic or watercolour. If more layers are applied then it may take much time to get dry, and eventually, the work may get completed in many sessions or days.

The surface on which the oil paint is used also matters a lot. It can be used on stretched canvas (canvas stretched over a wooden frame), other than that a less bulky and very popular alternative is a canvas panel or canvas board. These consist of a strong but thin stiff cardboard coated with canvas.

Oil paint is soft in nature; it can be merged or blended easily, which allows an artist to create desirable details of shades, tints, shadow or light. For e.g., while painting a realistic portrait, it will be much easier to achieve soft and subtle tones on the cheek area, compared to other type of colours.



Fig. 20 Oil paint colours

6.2.16 Paint Brush:

A paintbrush is used to apply paints or watercolour. It is made of a handle clamping with bristles. It is available in different shapes, sizes, colours, materials, and quality. There are two types of paint brushes available – round brushes and flat brushes. Round brush is also called fan brush. It can be thick, thin or medium in size. Its uses depend on the nature of work. Thin brushes are used for detailed work and thick brushes are used for filling the shape. Flat brushes are used for painting large surfaces, and round brushes are used for fill work, to blend colours and to paint grass, hair, etc. It is a useful material for artists, designers, professionals, and students.



Fig. 21 Paint Brushes

6.3 Tools & materials for Drawing and Sketching - Electronic

6.3.1 Computer

Computer Aided Designing and Drawing has become very popular these days. In today's modern era, most of designers are using computer as their drawing and designing tool for day-to-day operations.

Different useful softwares are available which are specially made for drawing and designing. The most complicated drawing and designing work can be completed with accuracy and at a high speed with the help of different software. There is as availability of multiple features and options of drawing tools, textures, colours, patterns, themes, etc. in different softwares. So, the computer and available drawing software can make designing work interesting, easy and fast.

Some of the softwares for designing and drawing are- AutoCAD, CorelDraw, Photoshop, Adobe Illustrator, Paint, etc.

Microsoft Paint – It is also known as MS Paint. It is a basic program for drawing and sketching. There is as availability of various tools like pencil, pen, eraser, brushes, air spray, magnifier, etc. It is able to create various lines, shapes, add text, edit picture, crop the picture, etc.



Fig. 22 Microsoft Paint

AutoCAD - It is a Computer Aided Design software used to create 2D and 3D designs. It is used by engineers, architects, designers, professionals, etc. The use of software for drawing and designing helps in achieving precise results at a higher speed with less time and efforts.

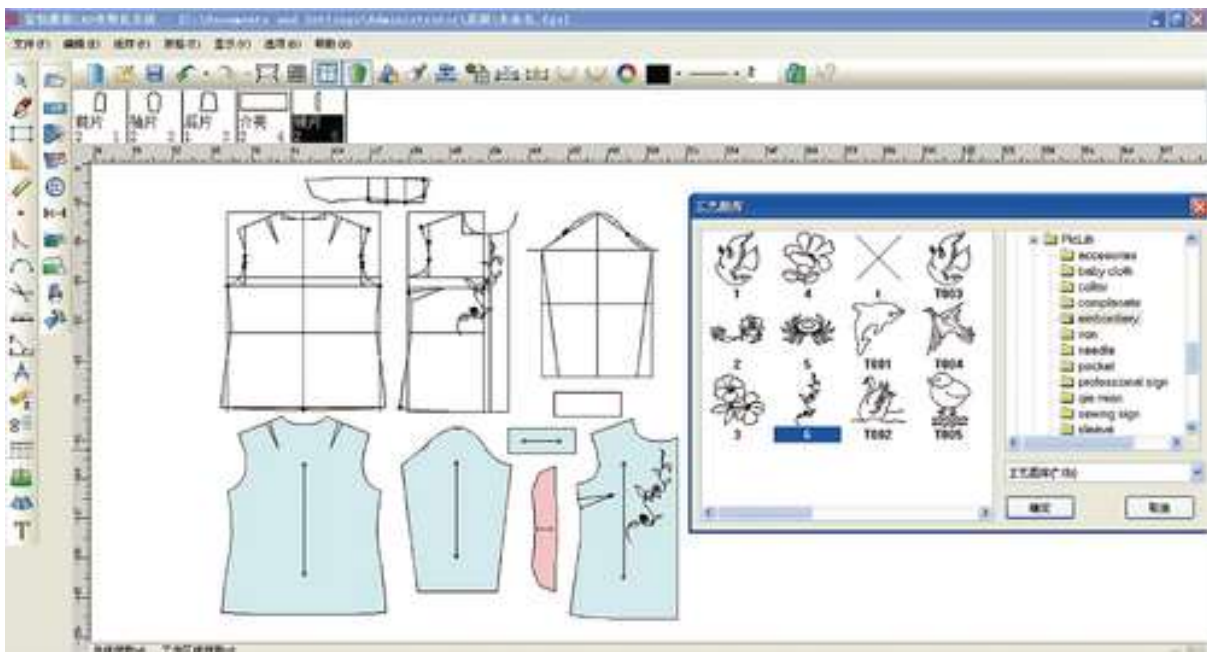


Fig. 23 AutoCAD screen preview

CorelDraw – It is a design software used in today’s fashion industry. It is a computer aided software which is used by fashion designers to draw figures, mannequins and garment designs also. The designers usually create different fashion garments according to the themes, which present different

fashion figurine poses. So, to create various figurine poses, garments, etc. this software is useful.

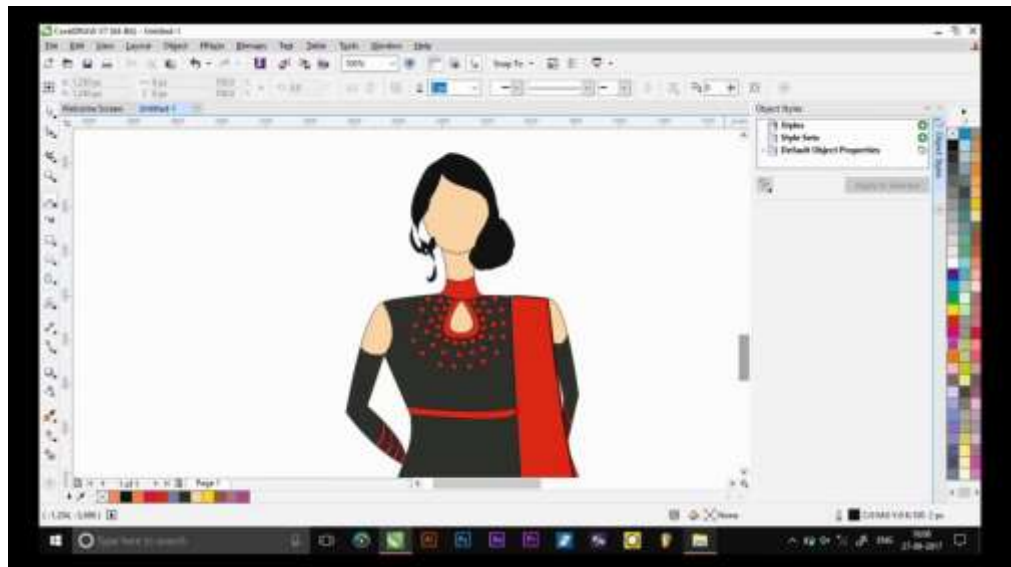


Fig. 24 CorelDraw screen preview

Photoshop – It is used for rendering techniques. The Photoshop software allows you to work with bitmap images and one can import the images or sketches from the Adobe Illustrator also. It is a multipurpose programme used for – cropping the images, colouring, recolouring fabric patterns and textures, colour modification, to create mood boards, theme boards, embroidery patterns, repetitive designs, etc.



Fig. 25 Photoshop screen preview

Adobe Illustrator – AI is the vector based software programme. It means that the sketch or artwork created by the designer in AI can be scaled and printed in any size and resolution with full details and good clarity. It is used for sketching, filling colours, or to change the colour in design, to create pattern swatches, etc.

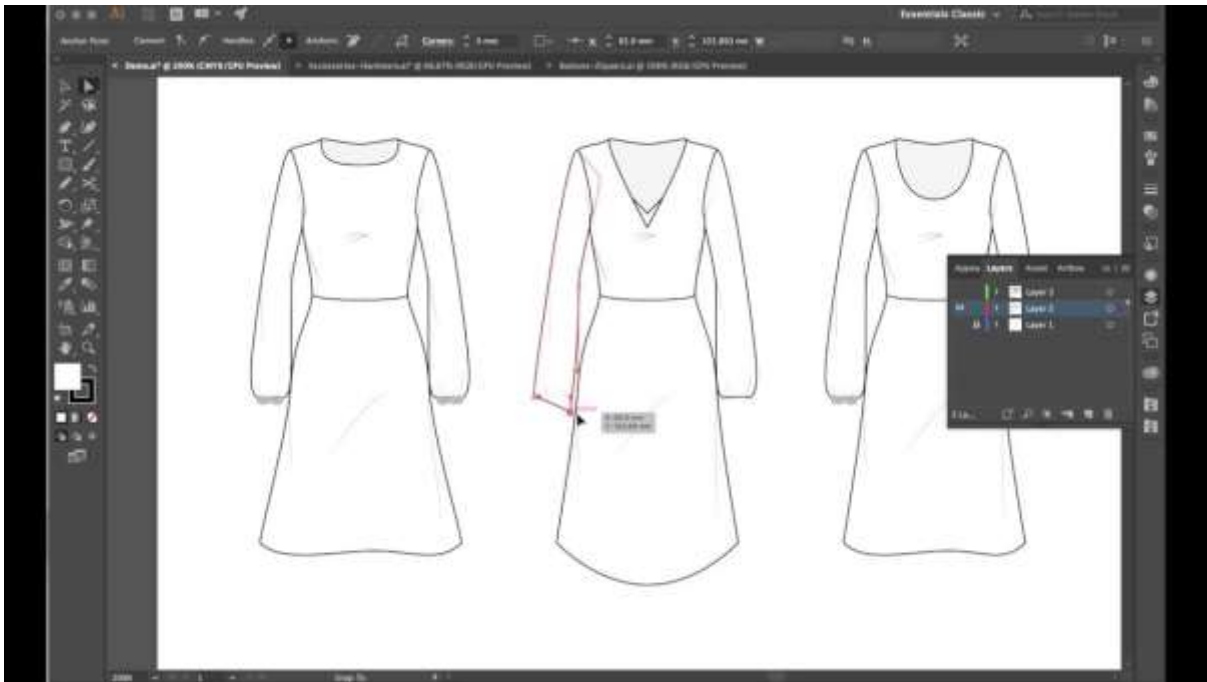


Fig. 26 Adobe Illustrator screen preview

Check Your Progress - II

5) Make a list of different types of colours. Explain – water colour, pencil colour and crayons.

6) Write the specific use of brush pen colours.

7) List out various tools and materials for manual drawing and sketching.

8) Write the names of some designing softwares.

9) What is the use of Photoshop?

10) What is the use of CorelDraw?

Multiple Choice Questions:

1. A sketchbook consists of _____ pages that can be used for sketching, drawing or

painting.

- (a) Designer (b) blank
(c) Coloured (d) Textured

2. Canvas is a popular medium for painting, mainly used for _____ painting.

- (a) Oil (b) Water colour
(c) Sketch pen (d) Crayons

3. _____ paper is also known as grid paper.

- (a) Drawing (b) Canvas
(c) Graph (d) Design

4. Tracing paper was originally invented for to create designs which can be easily traced or

copied.

- (a) Engineers and architects (b) designers

- (c) Artists (d) Sketchers
5. ____ is a tool which is used to hold a drawing paper or drawing sheet on a drawing board.
- (a) Drawing pin (b) Stencil
(c) Compass (d) Ruler
6. To draw a straight line or different shapes _____ is used.
- (a) Tracing paper (b) Grid paper
(c) Stencil (d) Ruler
7. A stencil is a type of mould, with a design & gap to draw _____ designs.
- (a) Abstract (b) Repetitive
(c) Simple (d) Natural
8. _____ are also known as wax colours or wax pastels.
- (a) Sketch pens (b) Brush pens
(c) Oil paints (d) Crayons
9. A beautiful calligraphy art work can be made by special _____ colours.
- (a) Brush pen (b) Sketch pen
(c) Crayon (d) Water
10. The _____ software allows you to work with bitmap images.
- (a) Illustrator (b) Photoshop
(c) Paint (d) CorelDraw
11. _____ is the vector based software programme.
- (a) Microsoft paint (b) Photoshop
(c) Adobe Illustrator (d) AutoCAD
12. _____ is a Computer Aided Design software used to create 2D and 3D designs.
- (a) CorelDraw (b) AutoCAD
(c) Photoshop (d) Adobe Illustrator

6.4 Let Us Sum Up

- To draw any design, sketch or shape, there is a requirement of various tools and materials. The end result of art work depends on the quality of tools and materials used for drawing and sketching.

- A sketchbook consists of blank pages that can be used for sketching, drawing or painting. It is made of high quality papers and comes in different sizes .
- Canvas is a very popular medium for painting. Mainly it is used for oil paintings. Dyed canvas, Fire-proof canvas, Printed canvas, Stripe canvas, Water-resistant canvas, Waterproof canvas, Waxed canvas, Rolled canvas, etc. are the types of canvas.
- Graph paper is also known as grid paper or squared paper. It has printed grids/ squares of different size. It is used for enlarging and reducing the size of design.
- Tracing paper has low clarity and it is semi-transparent in nature, it allows the light to pass through it. It has the ability to trace the design or drawing on it.
- A graphite drawing pencil makes the art kit complete. It seems very basic, but it is very much helpful and required by every artist. It comes in different grades from hard (H) to soft (B) and should be used as per the requirement.
- Sharpening tools, erasers and kneaded erasers, ruler, compass, etc. are supportive tools for drawing and sketching which complete the art kit.
- A stencil is a type of mould, with a design and a gap which allows the colour to reach to the flat surface. It is very old and popular tool used for repetitive designs.
- The different types of colours are- Watercolour, Pencil colours, Crayons, Brush pen colours, Sketch pen colours, Oil Paints, etc.
- Computer Aided Designing and Drawing has become very popular these days. The most complicated drawing and designing work can be completed with accuracy and at a high speed with the help of different software.
- Some of the software for designing and drawing are- AutoCAD, CorelDraw, Photoshop, Adobe Illustrator, Paint, etc.

6.5 Keywords

Absorb – soak up or suck up something

Clamp – to hold tightly or press together

Dense – something that is solid or dark or intense

Encased – something that is covered; to enclose in or as in a case

Figurine – a figure or small statue or model

Frequently – often, regularly, commonly

Hinge – a jointed device or flexible piece on which a tool, door, gate, shutter, lid, or other attached part turns, swings, or moves.

Invent – to create or originate or discover or produce something

Knead – to work (eraser, dough, clay, etc.) into a uniform mixture by pressing, folding, and stretching

Precise – something that is exact or accurate

Residue – something that remains after a part is used, removed or disposed of

Shade – when any colour diluted or mixed with black colour it generates a shade of that colour

Subtle – fine or delicate

Theme – the unifying subject or idea or topic of the type of visual work

Tint – when any colour diluted or mixed with white colour it generates tint of that colour

Trim – to remove or to cut something

Versatility- flexibility of something

6.6 Suggested Books

The Complete Book of Drawing and Painting, Mike Chaplin, Published by Quantum, 2006

Fashion Design Workshop, Stephanie Corfee, Walter Foster Publishing Inc.

Foundations of Drawing, AL Gury, Potter/Ten Publishers, first edition

Tools of the Imagination, Susan C. Piedmont-Palladino, Princeton Architectural Press, 2007

The Complete Drawing Set, Jeremy Radvan, Reader's Digest Association, Incorporated, 2005

Photoshop CS5 : The Missing Manual, Lesa Snider, O'Reilly media, first edition, 2010

CorelDRAW X4, Kogent Solutions Inc., dreamtech press, New Delhi, 2008 edition

Answers

Check Your Progress – I

1) Drawing can be done on various surfaces. The drawing or designing can be done manually or in computer software. So the surfaces can be selected as per the requirement of design and designer. The different drawing surfaces for manual drawing are – drawing sheet, drawing book, drawing

paper, graph or grid paper, canvas etc. The drawing can be done in computer with the help of different softwares also.

2) The difference between simple eraser and kneaded eraser is mainly of its functionality. The simple eraser is used for erasing the drawing or writing by pencil/pen from the paper. It lasts shorter than a kneaded eraser.

The kneaded eraser absorbs and picks up the graphite and charcoal elements and additionally, it also removes the carbon and pastel marks. It lasts longer than a simple eraser.

3) Charcoal pencil is a drawing tool made from carbonizing wood. Various kinds of sticks are made in different grades from soft to hard. Its thickness can be in the range of thin, medium, thick and extra thick. Its use depends upon its requirement. Like thin sticks are used for fine detailed work and thick sticks are used for non-detailed work.

4) Stencil is a mould which is useful for creating design on flat surfaces like paper, cloth, wall, etc. The repetitive designs can consume more time and efforts yet all the designs may not be accurate and exact. But with the help of stencil, repetitive designs can be created in a less time and less efforts with more accuracy.

Check Your Progress – II

5) The list of different types of colours –

- Watercolour
- Pencil colours
- Crayons
- Brush pen colours
- Sketch pen colours
- Oil Paints

Watercolour

Watercolour is a painting material which is made of pigments suspended in a water-based solution. It is an old method of painting on paper. Different shades, tones, and tints can be made with the help of a mixture of various colours.

Pencil colours

A pencil colour is a narrow, pigmented core encased in a wooden cylindrical case. As the graphite pencil or charcoal pencil has graphite or charcoal inside the wooden layer, the same way a pencil colour has wax or oil based core inside. It comes in many different pigments and sizes. Water soluble pencils and pastel pencils are also available.

Crayons

Crayons are also known as wax colours or wax pastels. It is available at a reasonable price. It is easy to use and less messy than other markers or paints. That is why it is mostly used as a material for drawing to teach small children and it is used by artists and professionals also. It comes in a wide range of pigments with different sizes and quality.

6) A brush pen colour is a beautiful tool for sketching. It is in the form of a pen (sketch pen) with a wet tip. It is specifically used for calligraphy. A beautiful calligraphy art work can be prepared by using brush pen colours.

7) List of various tools and materials for manual drawing and sketching is as below

- Drawing Board
- Sketchbook/Drawing Book
- Canvas
- Graph Paper
- Tracing Paper
- Drawing Pin
- Graphite Pencils
- Charcoal Pencils
- Sharpening Tools
- Simple Eraser
- Kneaded Eraser
- Ruler
- Compass
- Stencil
- Different types of colours
- Paint Brush

8) In today's modern era, most of the designers are using computer as their drawing and designing tool for day-to-day operations. Some of the softwares for designing and drawing are- AutoCAD, CorelDraw, Photoshop, Adobe Illustrator, Paint etc.

9) Photoshop is used for different purposes like – cropping the image, editing, colouring, recolouring, applying fabric effects like texture, patterns, lines, checks, plaids etc., to create and edit mood boards, theme boards, etc.

10) CorelDraw is used for sketching, drawing figures, mannequins and garment designs. Different types of figurine poses can be created in this software.

Multiple Choice Questions Answers

1. (b) blank
2. (a) Oil
3. (c) Graph
4. (a) engineers and architects

5. (a) Drawing pin
6. (d) Ruler
7. (b) repetitive
8. (d) Crayons
9. (a) Brush pen
10. (b) Photoshop
11. (c) Adobe Illustrator
12. (b) AutoCAD

References:

- Fig. 1 – [Pexels](#)
- Fig. 2 – [Pexels](#)
- Fig. 3 – [Pexels](#)
- Fig. 4 – [Pexels](#)
- Fig. 5 – [Flickr](#)
- Fig. 6 – [Wikimedia Commons](#)
- Fig. 7 – [Pxhere](#)
- Fig. 8 – [Wikimedia Commons](#)
- Fig. 9 – [Public domain pictures](#)
- Fig. 10 – [Needpix](#)
- Fig. 11 – [Brodart](#)
- Fig. 12 – [Needpix](#)
- Fig. 13 – [Flickr](#)
- Fig. 14 – [Ali Express](#)
- Fig. 15 – [Wallpaper Falre](#)
- Fig. 16 – [Wallpaper Flare](#)
- Fig. 17 – [Pxhere](#)
- Fig. 18 – [Amazon](#)
- Fig. 19 – [Pxhere](#)
- Fig. 20 – [Needpix](#)
- Fig. 21 – [Public Domain Pictures](#)
- Fig. 22 – [Theonbutton](#)

Fig. 23 – [Indiamart](#)

Fig. 24 – [YouTube](#)

Fig. 25 – [Pinterest](#)

Fig. 26 – [YouTube](#)

UNIT – 7 Elements of Design

STRUCTURE:

7.0 Objectives

7.1 Introduction

7.2 Line

7.2.1 Vertical line

7.2.2 Horizontal line

7.2.3 Zigzag line

7.2.4 Diagonal line

7.2.5 Curved line

7.3 Shape and Form

7.4 Space

7.5 Texture

7.6 Patterns

7.6.1 Geometric patterns

7.6.2 Naturalistic patterns

7.6.3 Conventional patterns

7.6.4 Dots & Spots

7.7 Colour

Check Your Progress

Multiple Choice Questions

7.8 Let Us Sum Up

7.9 Keywords

7.10 Suggested Books

Answers

7.0 Objectives:

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

- Understand the importance and types of art elements used in dress design;
- Identify the elements that influence clothing design development;
- Apply the relevant elements in various dress designing aspects.

7.1 Introduction:

Design: A design is a drawing or a plan created to show the look and function or working of a garment, building or any other object.

To create a beautiful design is all about a fresh and creative idea. The design can be made with the help of an inspiration. It is necessary to understand the fundamentals to create a good and well balanced design.

The **elements of design** are the basic and main components which are helpful to create an appropriate and accurate design. A design is a mixing of known elements in a new and exciting way in order to create fresh and pleasing combinations. A beautiful design can be achieved when all the elements and principles of design work together harmoniously with the theme of the garment.

There are various elements of design available, which are as below.

7.2 Line:

The first and most important basic element of design is line. It is the fundamental element of design. It can be straight, curved, horizontal, vertical, wavy, diagonal, spiral, dotted, perpendicular, thick, thin, zigzag, etc.

A line is an elongated mark, the connection between two points or the edge of objects where there is no actual line on the object itself. The line leads the eyes to view in direction the line is moving and it separates the space through which it passes.

A designer can creatively use a line in a garment through various mediums like patterns, tucks, prints, contrast stitching, fasteners, darts, trims and other decorative details.

Types of Lines:

7.2.1 Vertical line:

Vertical line is used by the designer to create an effect or optical illusion. It creates an illusion of **added height**. So, the vertical line is helpful to design a garment for a short person to look tall. Vertical lines create the sense of elegance and lengthiness, they lead the eyes to view the body in an up-and-down motion.



Fig. 1 Garment with Vertical lines

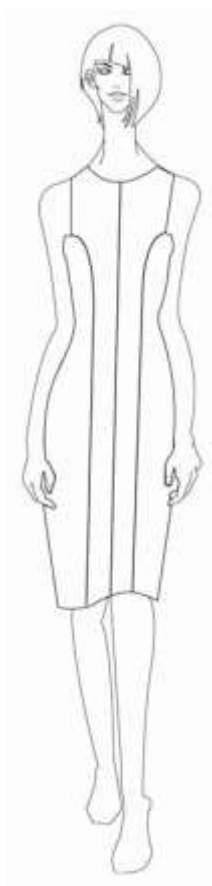


Fig. 2 Garment with Vertical lines

7.2.2 Horizontal line:

Horizontal line moves the eyes side to side or around the garment. It creates the optical illusion of **shortness** and **width** because of the side to side movement. It is suitable for the people who have more height and the people who are slim. The garments with horizontal lines give effect of short height to the ones who are very tall and it gives the effect of width to the body so it can be used for the people who are very thin; as the illusion depends on the space between lines as well as the width of a line too.

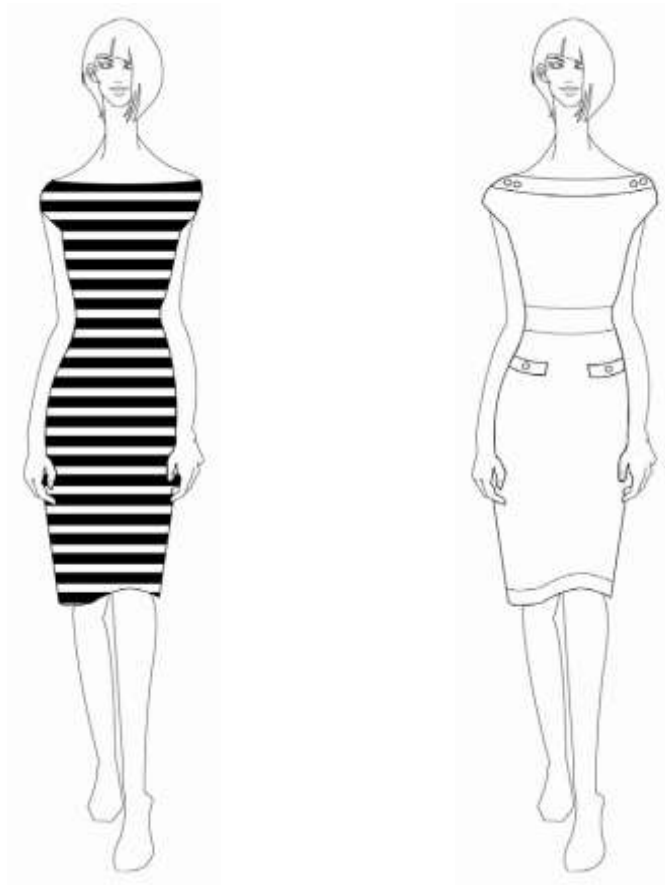


Fig. 3 Garment with horizontal lines

Fig. 4 Garment with horizontal lines

7.2.3 Zigzag line:

Zigzag line has sharp points and it is dramatic by nature. It changes the direction very abruptly. It is easily noticeable. It usually gives **bold** effect to the garment. The zigzag line should be used carefully in garment. It must match with the type of garment and the occasion for which it is designed. For example, the use of zigzag garment in a casual summer wear may not

be much suitable, but, its use in a dramatic evening gown will be appropriate.

7.2.4 Diagonal line:

A diagonal line moves diagonally in a garment. The direction of it is from an angle and it moves diagonally across and around the body. It gives a **dramatic** effect and these lines are strong to draw attention to the area where they are used. The use of diagonal lines should be made after considering the body type of the person, occasion as well as other things also. Generally, the diagonal lines seem busy, restless and unstable, but it gives a powerful effect. The use of too many diagonal lines may give a wobbly illusion, so there should be a use of opposite diagonal to balance it. It can give the effect of elegance, if it is used in a proper and balanced way.

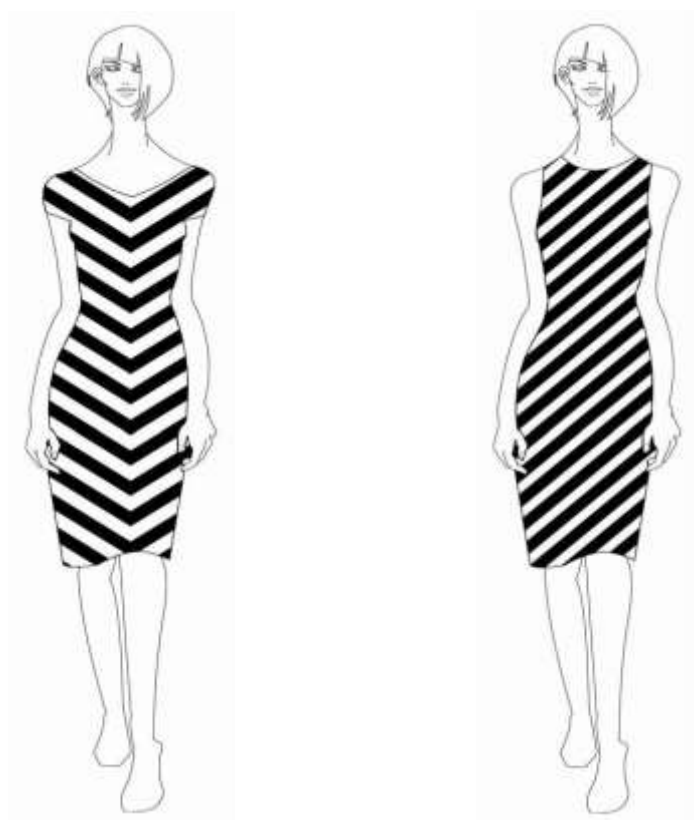


Fig. 5 Garment with diagonal lines Fig. 6 Garment with diagonal lines

7.2.5 Curved line:








A curved line is less conservative, powerful and formal than straight line. It creates **gentle, soft and flowing effect**. With the use of curved lines the






space looks larger than it really is. But, use of too many curved lines in a garment may create a confusing look, so it should be used carefully. It creates an effect of gracefulness, elegance and movement. Curved lines are more **feminine and graceful**; those in a diagonal direction are considered more graceful and can be seen in the soft folds of the material in a ruffled collar or a draped dress.

7.3 Shape and Form:

There are innumerable things around us and all have different shapes and forms. The **shape** is **two dimensional**, i.e. it has length and width. The different types of shapes are circle, oval, triangle, square, rectangle, tear drop, star, trapezoid, etc. The use of different shapes in garments can be introduced structurally by means of necklines, yokes, pockets, collars and in a decorative manner with the help of different pattern on the fabric, trims and other means of decorative work such as cut work.



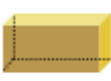

Two-Dimensional Shapes:


| Name of the Shape | Picture of the Shape |
|-------------------|---|
| Circle |  |
| Oval |  |
| Triangle |  |
| Square |  |
| Rectangle |  |
| Parallelogram |  |
| Star |  |

| | |
|-----------|---|
| Trapezium |  |
| Kite |  |
| Pentagon |  |
| Hexagon |  |
| Octagon |  |

A shape can be defined as the form of an object or its outline, outer boundary or outer surface. Shape is a flat space which is closed by line. In garment/ clothing, it is known as a flat, two dimensional area enclosed by a line.

The **form** is **three dimensional** – length, width, and depth. When depth is added to any shape, it will become three dimensional form. The examples of form are cube, cuboids or rectangular prism, cone, cylinder, sphere, dome, etc. The use of different forms in a dress can be structurally introduced by skirts, lehenga, puff sleeves, etc. Here’s a list of 3-D or three-dimensional shapes with their names and pictures:

| Name of the Form | Picture of the Form |
|-----------------------------|---|
| Sphere |  |
| Cube |  |
| Cuboid or Rectangular Prism |  |
| Cone |  |

| | |
|----------|---|
| Cylinder |  |
|----------|---|

In fashion industry, shape of a garment is known as “**silhouette**”. It normally describes the outline or shape of a costume. The garments are three dimensional, the silhouette changes as the garment is viewed from different angles of 360 degrees.

7.4 Space:

Space is an important element of design. It refers to the **area** within, around, above or below a design or design / an object or objects. It plays a crucial role in creating two dimensional and three dimensional art forms.

In two dimensional art, the surface will be flat. For example, a drawing paper is a flat surface. The drawing is made with the help of different two dimensional shapes on a drawing paper. So, here the **space** will be the available **area** on flat paper for drawing. If anything looks three dimensional on drawing paper then it is an illusion created by using three dimensional forms in design! Even the most realistic paintings or photographs are illusions.

So, the surface and available area should be considered at the time of using space as an element of design. Space deals with the illusion of depth on a flat surface. You might overlap shapes to make some look closer, or make objects in the distance smaller to look like they are farther away. The element of space can be used in three-dimensional art as well. In three dimensional art, the **space** that the objects occupy is real as is the space around the objects.

Space can be utilised creatively and innovatively. In design, space is the available area on the surface and in garment, space is actually available as a garment itself. The utilisation of space element in garment can be done with the help of different decorative applications like embroidery,

placement of buttons, ribbon work, painting, printing, etc. to make it more beautiful and attractive.

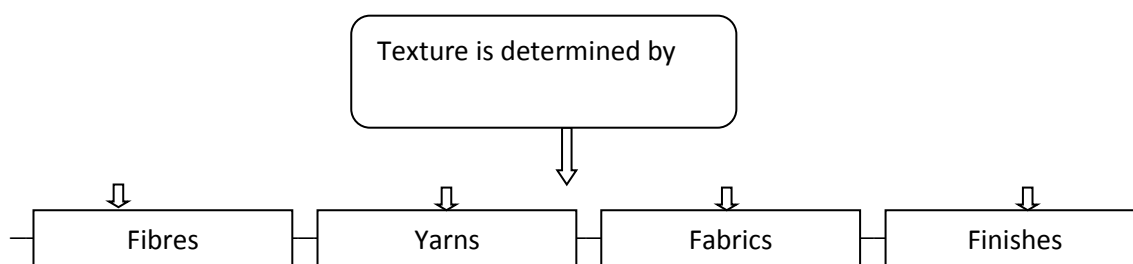
Space is the area that the designer works with. Types of Spaces are;

- 1- Open or Uncluttered spaces
- 2- Cramped or Busy spaces
- 3- Unused v/s Good use of space

7.5 Texture:

Texture is an important element of design. Texture means the **surface** of any object which can be felt or understood by **sight** as well as **touch**. In context of fashion, texture is the surface of fabric, created by weave and the reflection of light. Different fabrics have different textures; the design of the garment depends upon the type of the texture of fabric. Various types of textures are soft, smooth, coarse, glossy, heavy, nubby, crisp, shiny, dull, etc.

There are different factors or components that determine the texture of fabric; they are fibres, yarns, fabrics and finishes.



All the fabric textures depend on these **four factors**: fibre content, yarn structure, fabric structure and finishes. In today's era, texture is one of the vital elements in fashion industry and it plays a key role in visual effect and appearance of the garment.

Texture influences the **drape** of a garment. Satin and chiffon fabric flows well, so it is suitable for soft and feminine style, while denim has the firmness and bulk, so it is suitable for jeans, jackets, etc.



Fig. 7 Satin fabric



Fig. 8 Garment of satin fabric



Fig. 9 Denim jacket



Fig. 10 Denim jeans



Fig. 11 Denim jacket

Texture affects the **colour** of the fabric, either it absorbs the light or reflects it. The rough texture absorbs the light which makes the fabric appear flat. Smooth texture reflects the light which makes the fabric brighter in appearance. For example, a colour that appears extremely shiny and bright in satin or vinyl will become dull in rough wool.

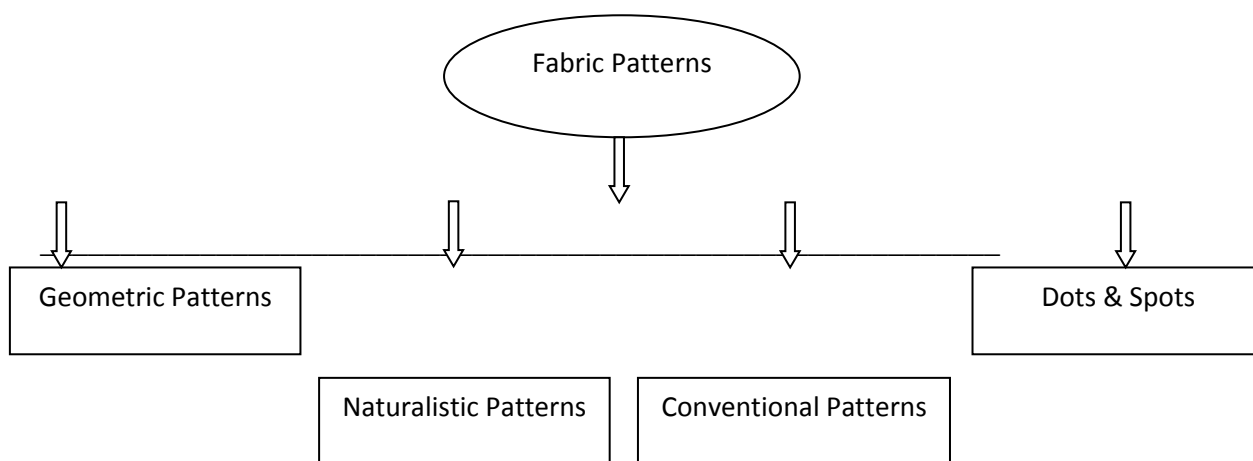
Texture can create illusionary effect of fullness and narrowness in the wearer, same as the way lines, patterns and colours create illusionary effects. The designers usually select the fabric first and then create the sketch design in accordance of the texture of fabric, rather than to make a sketch first and then find the proper fit for the sketch design.

7.6 Patterns:

Pattern is a very interesting element of design. Patterns can be co-ordinated by other elements of design like lines, dots, colours, shapes, space, etc. They can be created in infinite variations and varieties like floral, checks, stripes, geometrical, abstract motifs and many more. Different patterns

convey different visual effects and appearances. The interest can be gained through printed and dyed fabrics and it can boost new fashion easily and quickly.

The designers may shop different fabric patterns or garments as a source of new idea from various places of the world. There are major four categories of fabric patterns which are most common and traditional, listed below:



7.6.1 Geometric Patterns:

Geometric patterns are the textural patterns, checks, stripes, plaids that can be woven, knitted or printed. It is a type of pattern formed of geometric shapes and typically repeated like a wall paper design.

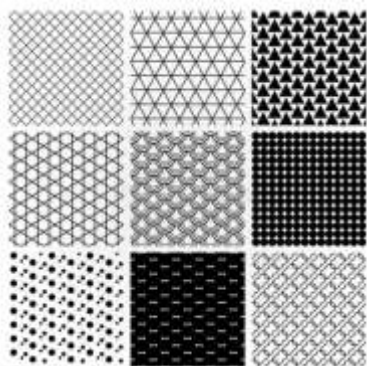


Fig. 12 Geometric pattern swatches
Geometric pattern



Fig. 13 A dress with
Geometric pattern



Fig. 14 Geometric pattern swatches

7.6.2 Naturalistic Patterns:

A naturalistic pattern is inspired by Nature and principally floral patterns, although other motifs are also used like paisley, leopard spots and others.



Fig. 15 Naturalistic pattern swatches pattern



Fig. 16 Garment with Naturalistic pattern



Fig. 17 Garment with Naturalistic pattern

7.6.3 Conventional Patterns:

Conventional patterns refer to naturalistic motifs that are stylized. Conventional pattern combines the rhythm of stripes with soft natural charm of floral. For example, woven silk brocade, block print, fancy woven stripes, etc.

7.6.4 Dots:

Dot is known as a basic element of design. It is a smallest unit suggesting its presence and location in a garment. Dots can be used to make a garment more interesting. It plays a significant role in design function.

The size of the dot can be small, medium or large; size of the dot also conveys a message. The big sized dots create the effect of enlarged space, and vice versa. Hence, a person whose figure is thin should wear a dress of bigger dots. With the help of it, the illusion of moderate figure can be created.

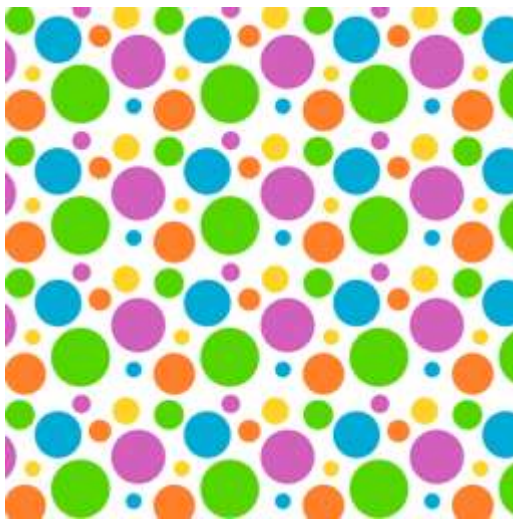


Fig. 18 Dots



Fig. 19 Dots print in a garment

Dots joined and proceeding towards one side indicate direction. A chain of various dots become a line. For example, a row of buttons stitched vertically or horizontally on a garment.



Fig. 20 Line of buttons represents dots in garment

7.7 Colour

Colour is a key element of design. Many important things depend on colour schemes and selection. We will learn more about colour as an element of design in next unit.

Check Your Progress

1. Name different elements of design.

2. What is a line?

3. Explain about diagonal and vertical line.

4. List down different types of lines.

5. What is a shape?

6. What is form?

7. Explain space.

8. Describe texture.

Multiple Choice Questions

1) _____ lines create an illusion of added height.

- (a) Horizontal (b) Vertical
(c) Curved (d) Zigzag

2) Shape is a flat space which is closed by_____.

- (a) Line (b) Space
(c) Object (d) Form

3) _____ lines create the optical illusion of shortness and width.

- (a) Curved (b) Diagonal
(c) Horizontal (d) Vertical

4) _____ refers to the area within, around, above or below a design or design / an object or objects.

- (a) Shape (b) Form
(c) Space (d) Line

5) _____ lines are more feminine and graceful.

- (a) Vertical (b) Zigzag
(c) Curved (d) Diagonal

6) _____ means the surface of any object which can be felt or understood by sight as well as touch.

- (a)Form (b) Shape
(c) Space (d) Texture

7) _____ patterns are the textural patterns, checks, stripes, plaids that can be woven, knitted or printed.

- (a) Geometric (b) Dots
(c) Natural (d) Conventional

8) Texture can create illusionary effect of _____ in the garment.

- (a) Height (b) Shortness and width
(c) Dullness (d) Fullness and narrowness

9) _____ patterns refer to naturalistic motifs that are stylized.

- (a) Natural (b) Conventional
(c) Dots (d) Geometric

10) _____ textures reflect the light which makes the fabric brighter in appearance.

- (a) Soft (b) Nubby
(c) Smooth (d) Coarse

7.8 Let Us Sum Up

The elements of design are the basic and main components which are helpful to create an appropriate design. Design is a mixing of known elements in a new and exciting way in order to create fresh and pleasing combinations.

There are various elements of design like, line, shape and forms, space, texture, patterns, and colours.

A line is an elongated mark, a connection between two points or the edge of objects where there is no actual line on the object itself. It can be straight, curved, horizontal, vertical, wavy, diagonal, spiral, dotted, perpendicular, thick, thin, zigzag, etc.

A shape is a flat space which is closed by line. In garment/ clothing, it is known as a flat, two dimensional (length and width) area enclosed by a line. The form is three dimensional – length, width and, depth. When the depth is added to any shape, it will become three-dimensional form.

Space refers to the area within, around, above or below design or design / an object or objects. It plays a very vital role in creating two dimensional and three-dimensional art forms.

Texture means the surface of an object which can be felt or understood by sight as well as touch. Texture can create an illusionary effect of fullness and narrowness. Texture influences the drape of a garment.

Patterns can be coordinated by other elements of design like lines, dots, colours, shapes, space, etc. They can be created in infinite variations and

varieties like floral, checks, stripes, geometrical, abstract motifs and many more.

Colour is a key element of design. Many important things depend on colour schemes and selection.

A beautiful design can be achieved when all the elements and principles of design work together harmoniously with the theme of the garment.

7.9 Keywords

Coarse - rough or harsh in texture

Conventional - based on or in accordance with what is generally done or believed

Crisp - firm, dry, and brittle

Drape - arrange (cloth or clothing) loosely or casually on or around something

Illusionary – unreal or lacking in reality or an instance of a wrong or misinterpreted perception of a sensory experience

Motif - a decorative image or design, especially a repeated one, forming a pattern

Nubby - coarse or knobby in texture, having small knobs or lumps in texture

Rhythm - a strong, regular repeated pattern of movement

Subdue – control or hold back

Vice versa - used to say that what you have just said is also true in the opposite order

Vinyl - synthetic resin or plastic consisting of polyvinyl chloride or a related polymer, used for wallpapers and other covering materials

Visual effect - relating to seeing or sight, or a picture, piece of film, or display used to illustrate or accompany something

Wobbly – Unsteady or unstable lines

7.10 Suggested Books

Elements of Fashion and Apparel design – G.J.Sumathi, 2002, New Age International (P) ltd. Publishers

Visual Design in Dress – Marian L. Devis – Prentice-hall, inc.

Colour and Line in Dress – Hemstead, Lawrance Practice Hall

Fashion by Design – Janice Ellinwood, 2011, Fairchild publications

Elements of Design – Gail Greet Hannah, first edition 2001, Princeton Architectural Press

Answers

Check Your Progress

1. Name of different elements of design are as below.
 - Line
 - Shape and Form
 - Space
 - Texture
 - Patterns
 - Colour
2. A line is an elongated mark, the connection between two points or the edge of and objects where there is no actual line on the object itself. The line leads the eyes to view in direction the line is moving and it separates the space through which it passes.
3. A diagonal line moves diagonally in a garment. The direction of it is from an angle and it moves diagonally across and around the body. It gives a **dramatic** effect and these lines are strong to draw attention to the area where they used. It can give the effect of elegance, if it is used in proper way with balance.

Vertical lines used by the designer to create an effect or optical illusion. It creates an illusion of **added height**. So, the vertical line is helpful to design a garment for a short person to look tall. Vertical lines create the sense of

elegance and lengthiness, they leads the eyes to view the body in an up-and-down motion

4. List of different types of lines –
 - Vertical lines
 - Horizontal lines
 - Zigzag line
 - Diagonal lines
 - Curved lines
5. A shape can be defined as the form of an object or its outline, outer boundary or outer surface. Shape is flat space which is closed by line. In garment/ clothing, it is known as a flat, two dimensional area enclosed by a line.

The **shape** is **two dimensional**, i.e. it has length and width. The different types of shapes are circle, oval, triangle, square, rectangle, tear drop, star, trapezoid, etc. The use of different shapes in garments can be introduced structurally by means of necklines, yokes, pockets, collars and decoratively with the help of different pattern on the fabric, trims and other means of decorative work such as cut work.

6. The **form** is **three dimensional** – length, width and, depth. When the depth added to any shape, it will become three dimensional forms. The examples of form are cube, cuboids or rectangular prism, cone, cylinder, sphere, dome, etc. The use of different forms in a dress can be structurally introduced by skirts, lahenga, puff sleeves etc.
7. It refers to the **area** within, around, above or below a design or design / an object or objects. It plays very vital role in creating two dimensional and three dimensional art forms. Space can be utilised creatively and innovatively. In design, the space is available area on the surface and in garment the space that is actually available as a garment itself.

8. Texture means the **surface** of any object which can be feel or understood by **sight** as well as **touch**. In context of fashion, the texture is the surface of fabric, created by weave and the reflection of light. Various types of texture are soft, smooth, coarse, glossy, heavy, nubby, crisp, shiny, dull etc.

Multiple Choice Questions

- 1) (b) Vertical
- 2) (a) line
- 3) (c) Horizontal
- 4) (c) space
- 5) (c) Curved
- 6) (d) Texture
- 7) (a) Geometric
- 8) (d) fullness and narrowness
- 9) (b) Conventional
- 10) (c) Smooth

References:

Fig. 1 to 6 – [FashionDesignBasics](#)

Fig. 7 – [TradeNews](#)

Fig. 8 – [AmazonFashion](#)

Fig. 9 – [Sweetboxstore](#)

Fig. 10 – [Bonobos](#)

Fig. 11- [DiBell](#)

Fig. 12- [dreamstime](#)

Fig. 13- [cleo](#)

Fig. 14- [CreativeMARKET](#)

Fig. 15- [123RF](#)

Fig. 16- [SRStore](#)

Fig. 17- [Bazaar](#)

Fig. 18 – [Snappygoat](#)

Fig. 19 – [Amazon](#)

Fig. 20 - [Pinterest](#)

યુનિવર્સિટી ગીત

સ્વાધ્યાય: પરમં તપ:

સ્વાધ્યાય: પરમં તપ:

સ્વાધ્યાય: પરમં તપ:

શિક્ષણ, સંસ્કૃતિ, સદ્ભાવ, દિવ્યબોધનું ધામ
ડૉ. બાબાસાહેબ આંબેડકર ઓપન યુનિવર્સિટી નામ;
સૌને સૌની પાંખ મળે, ને સૌને સૌનું આભ,
દશે દિશામાં સ્મિત વહે હો દશે દિશે શુભ-લાભ.

અભણ રહી અજ્ઞાનના શાને, અંધકારને પીવો ?
કહે બુદ્ધ આંબેડકર કહે, તું થા તારો દીવો;
શારદીય અજવાળા પહોંચ્યાં ગુર્જર ગામે ગામ
ધ્રુવ તારકની જેમ ઝળહળે એકલવ્યની શાન.

સરસ્વતીના મયૂર તમારે ફળિયે આવી ગહેકે
અંધકારને હડસેલીને ઉજાસના ફૂલ મહેંકે;
બંધન નહીં કો સ્થાન સમયના જવું ન ઘરથી દૂર
ઘર આવી મા હરે શારદા દૈન્ય તિમિરના પૂર.

સંસ્કારોની સુગંધ મહેંકે, મન મંદિરને ધામે
સુખની ટપાલ પહોંચે સૌને પોતાને સરનામે;
સમાજ કેરે દરિયે હાંકી શિક્ષણ કેરું વહાણ,
આવો કરીયે આપણ સૌ
ભવ્ય રાષ્ટ્ર નિર્માણ...
દિવ્ય રાષ્ટ્ર નિર્માણ...
ભવ્ય રાષ્ટ્ર નિર્માણ



**CERTIFICATE IN
FASHION DESIGNING
PATTERN MAKING & DESIGNING
CFD-02**

Block-2

Message for the Students

Dr. Babasaheb Ambedkar Open (University is the only state Open University, established by the Government of Gujarat by the Act No. 14 of 1994 passed by the Gujarat State Legislature; in the memory of the creator of Indian Constitution and Bharat Ratna Dr. Babasaheb Ambedkar. We Stand at the seventh position in terms of establishment of the Open Universities in the country. The University provides as many as 54 courses including various Certificate, Diploma, UG, PG as well as Doctoral to strengthen Higher Education across the state.



On the occasion of the birth anniversary of Babasaheb Ambedkar, the Gujarat government secured a quiet place with the latest convenience for University, and created a building with all the modern amenities named 'Jyotirmay' Parisar. The Board of Management of the University has greatly contributed to the making of the University and will continue to this by all the means.

Education is the perceived capital investment. Education can contribute more to improving the quality of the people. Here I remember the educational philosophy laid down by Shri Swami Vivekananda:

“We want the education by which the character is formed, strength of mind is increased, the intellect is expand and by which one can stand on one’s own feet”.

In order to provide students with qualitative, skill and life oriented education at their threshold. Dr. Babaasaheb Ambedkar Open University is dedicated to this very manifestation of education. The university is incessantly working to provide higher education to the wider mass across the state of Gujarat and prepare them to face day to day challenges and lead their lives with all the capacity for the upliftment of the society in general and the nation in particular.

The university following the core motto ‘स्वाध्यायः परमम् तपः’ does believe in offering enriched curriculum to the student. The university has come up with lucid material for the better understanding of the students in their concerned subject. With this, the university has widened scope for those students who are not able to continue with their education in regular/conventional mode. In every subject a dedicated term for Self Learning Material comprising of Programme advisory committee members, content writers and content and language reviewers has been formed to cater the needs of the students.

Matching with the pace of the digital world, the university has its own digital platform Omkar-e to provide education through ICT. Very soon, the University going to offer new online Certificate and Diploma programme on various subjects like Yoga, Naturopathy, and Indian Classical Dance etc. would be available as elective also.

With all these efforts, Dr. Babasaheb Ambedkar Open University is in the process of being core centre of Knowledge and Education and we invite you to join hands to this pious *Yajna* and bring the dreams of Dr. Babasaheb Ambedkar of Harmonious Society come true.



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ISBN-978-93-89456-72-1

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Dr. Babsaheb Ambedkar Open University

(Established by Government of Gujarat)

**CERTIFICATE IN FASHION
DESIGNING PATTERN MAKING & DESIGNING
CFD-02**

Block

2

Unit 8

Colour as an Element

Unit 9

Silhouette & Its Variation

Unit 10

Principles of Design

Unit 11

Types of Design

Unit 12

Enlargement and Reduction of Design

Unit 13

Standard Figure Sketching

Unit 14

Basic Rendering Techniques

UNIT -8 COLOUR AS AN ELEMENT

STRUCTURE:

8.0 Objectives

8.1 Introduction

8.2 What is Colour?

8.3 Different Colours and their Effects

8.4 Colour Dimensions or Properties of Colour

8.5 Colour Wheel

8.6 Colour Schemes

Check Your Progress

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8.7 Let Us Sum Up

8.8 Keywords

8.9 Suggested Books

Answers

8.0 Objectives

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

- know about different colours and it's dimensions;
- understand the colour wheel and its importance;
- understand the colour schemes and it's application;
- become aware of different colours and their effects.

8.1 Introduction

Colour is a very important element of design and fashion. It is the eye-catching element which affects the most to the customers. Generally, it is seen that female customers like and love colours more than male customers. That can be a valid reason for giving emphasis on colours and colour combinations at the time of designing the garments for females. There is a wide range of different colours and combinations available for them. There are different colours available for male customers, which are more neutral and somewhat limited, compared to the availability of a wide colour range for females. However, in the current era, designers experiment with different colours for male's and female's garments.

The colour is the first element that is being noticed with the design of a garment. People usually notice the colours of a garment and how other combinations are used in it. It affects the emotions and perception of people. The perception of various colours may vary from person to person. Thus, colour plays an important role in the starting point of the design.

Historically, colours were used to denote some prestigious positions, ranks and professions. Different colours were used by different categories of people and various colours were associated with some occasions also. For example, violet and purple colours were associated with royalty and it was worn by royal people like kings and queens. Golden yellow was also associated with royalty and worn by the Chinese emperor in some period. White colour is worn by brides as a sign of purity in western culture. However, it is the colour of mourning in India and China.

In today's era, the fashion colour changes often as fashion itself. Generally, new colours with new names come into existence from an exciting colour palette. The fashion forecasting and prediction companies develop and launch new colours for different seasons before the designers start working on their collections. New colours are usually developed by these companies from various sources like national and international fabric fairs, where the fabric designers, trimming merchants, and other people from these industries showcase their newly developed colour stories.

There is a direct relation between colour and fabric texture, because it is the surface that reflects the colour. So, the textile industry emphasizes on the development of fabric technology with new and creative weaves, textures, knits and the finishes.

The newly developed colour stories, prediction and trends are shown twice a year in Paris, Milan, New York, Hong Kong as well as other major fabric trade fairs all over the world. Fashion magazines discuss new colour in trend and its influence on people. Fashion designers and manufacturers can take help from it as a fashion guideline for their new collection.

8.2 What is Colour?

Meaning:

Colour is a reflection of light that you perceive with your eyes.

Two essential things make up colour – light and your perceptions.

Light is necessary to see the colour. It can be daylight or white light. Colour cannot be seen without light. In the absence of light, there can be darkness or blackness.

When light strikes an object, it absorbs some of the waves and reflects the remaining waves. This reflection is perceived as colours by human eyes.

Different colours have different wavelengths. Red has the longest wavelength while Violet has the shortest. When you see all the wavelengths together, you see White colour.

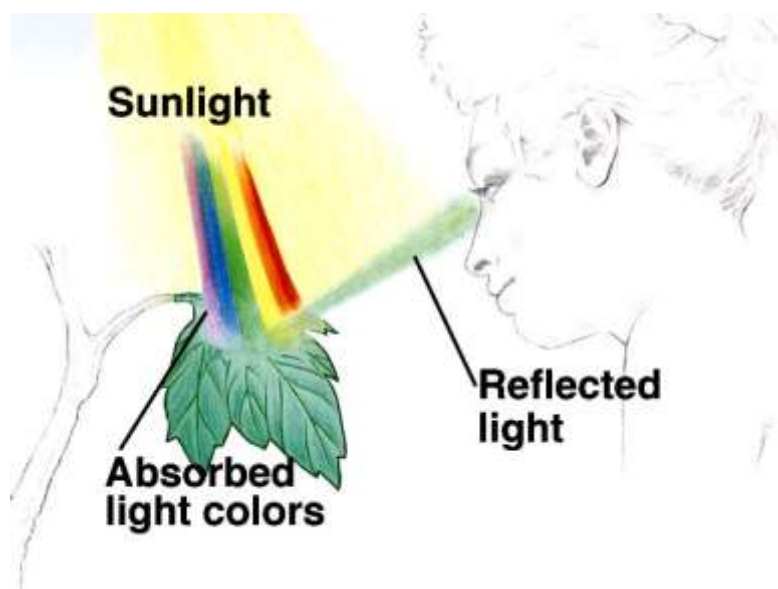


Fig. 1 Light and colours

Colour is a key element of fashion designing. We cannot imagine life without colours. It plays a vital role at the time of designing a garment. To select a colour/ colours is an exciting factor. But, colours should be selected appropriately with balance and harmony. Fashion designers generally select the colours from the palette and newly developed colour stories.

Fashion colour changes from year to year and season to season. The selected colour should be in rhythm and balance with the design of the garment and it should be as per the current trends in the market. There is an availability of various colours with different names and new colours with new and exciting names are developed and introduced in the market every year. The main aspect of colour is that it should appeal to the customer. Different people perceive individual colours differently. It means a colour that is liked by person A may not appeal to person B and that person may not like to buy or wear that particular colour. For instance, orange colour can be the most favourite colour of person A, but the same colour may not be liked by person B. He/she may like green colour the most. Thus, all colours appeal differently to various individuals.

8.3 Different Colours and their Effects

There are various colours with different effects. Colours affect physically and psychologically too. So, different colours are known for their individual characteristics. Different emotions and thoughts are also related to colours. Here are some colours with its uses and the emotions associated with it.

Orange: Orange is the colour between red and yellow. It is the colour of warmth and happiness. It also denotes the risk-taking ability and adventure, young people relate well with orange colour. It is the colour which is very - lively, cheerful, joyful, warm, energetic, hopeful, and hospitable.

The designers experiment with orange colour and its variations for different dress designing. It is the colour of youth. In India, orange colour is associated with sacrifice and enthusiasm. It is the colour of confidence and independence.

Variations of orange colour are – peach, golden orange, amber, burnt orange, dark orange etc.

Red: Red colour is an attractive colour. It is a colour of energy; it motivates and excites people to take decisions. Red colour denotes - danger, anger, passion, sentimental, excitement, aggression, vibrance and power.

In India, red colour is associated with purity and good luck. Indian brides wear red wedding outfits. At the time of festivals, celebration and other auspicious events Indians adorn red outfits.

Green: The colour green is the colour of grass and trees. It is the colour of love for nature, family, friends, pets and home. It indicates the balance, harmony and rhythm. This is the colour for inspiring hope, positivity, self-reliability, etc.

The colour green is associated with - calm, cool, fresh, friendly, pleasant, balanced, restful, lucky, and envious. It also denotes possessiveness, jealousy, materialism and selfishness.

Yellow: The colour yellow is a bright, sunny colour. It indicates the traits like creativity, new idea and quick decision making. This colour is cheerful, warm, happy, lively and prosperous. At the negative side, it indicates being impulsive, judgemental, critical, cowardly and deceitful.

Yellow colour is used for day wear and evening wear also. It is an exciting colour.

The variations of yellow colour are – light clear yellow, lemon yellow, golden yellow, cream, dark yellow.

Blue: The colour blue is the colour of sea and sky. It indicates peace, calm and restfulness. It is the colour of trust, honesty, loyalty and responsibility.

The colour blue also conveys sadness, depression. It is also a colour mostly used in informal occasions.

The designers usually use light blue colour to denote young and sporty look. The blue colour is used for formal wear.

Some of the variations of blue colour are - pale blue, sky blue, dark blue, etc.

Purple: Purple and Violet are interchangeably used. The main difference between these two colours is that the violet appears in a rainbow or visible light spectrum and purple is the mixture of two colours blue and red.

The colour purple is associated with royalty. This colour was worn by the king and queens in the past era. It is also associated with spirituality, imagination and sophistication.

The purple colour is used for designing evening wears. This colour is mostly used for female garments.

It also indicates - royal, dignified, powerful, rich, dramatic, mysterious, wise, and passionate traits.

Some of the variations of purple colour are – lavender, lilac, plum, deep purple, etc.

Brown: Brown is the colour of soil, it indicates fertility. It is a colour that denotes security, protection and material wealth. It is also known for its dullness, boredom and sadness.

Some of the variations of brown colour are - light brown, dark brown, tan, ivory, and beige

White: White colour is known for purity, faith, wholeness and peace. It also indicates new beginning, innocence, equality and unity.

It is the colour of winter. Christian brides wear a white coloured wedding gown. It is the colour of purity and good luck for them.

In India, white colour is used as a colour of mourning and death. Too much use of white colour can cause the feeling of emptiness, depression and isolation.

Black: Black is associated with death, sadness and evil. It is an orthodox approach with black colour.

In India, black colour is associated with mourning and death, like white colour.

On the contrary, black colour indicates sophistication and dignity. It is used for formal wear as well as evening wear.

Black colour is also indicates - mysterious, tragic, serious, sad, silent, sophisticated, strong, and wise traits.

Grey: Grey indicates modesty, reliability and maturity.

It is the colour between two non-colours i.e. black and white. Grey colour is impartial and creates balance. It denotes neutrality, compromise and control.

Grey colour is also known as boring, sad, old and depressive.

The variations of grey colour are- dark grey and light grey.

8.4 Colour Dimensions or Properties of Colour

Hue:

Hue is the term for pure colour. A hue is a name given to any particular colour like orange, green, yellow, purple, etc. It is required to differentiate one colour from another.

Value:

Value is the darkness or lightness of a colour (hue). The value scale falls between white to black. White is pure light; black is the total absence of light. When we add white to any colour, it lightens that particular colour. When we add black to any colour, it darkens that particular colour. The lighter values of any colour are known as tints, and the darker values of any colour are known as shade.

Intensity:

Intensity is the brightness or dullness of a colour (hue). Any particular colour in its pure form is of high intensity (brighter). When any colour is complimented with any other colour or water, then it has low intensity (it will become dull or pale).

For example, a pure green colour has high intensity, means it is a bright colour. When any other colour is added to the bright green colour, for example, yellow colour then it will become parrot green colour which will have low intensity. Another example can be, a pure orange colour is with high intensity, when white colour is added to it, it will become a pale colour known as peach i.e. with low intensity.

8.5 Colour Wheel

A colour wheel represents the arrangement of basic colours in a circle. The primary colours, secondary colours and tertiary colours are arranged in a circle known as a colour wheel. There is a total of twelve colours in the colour wheel. A colour wheel is a very useful tool to distinguish one colour from another. It also helps in establishing a relationship between different colours. New and exciting colour combinations can be created with the help of a colour wheel.

COLOUR WHEEL



Fig. 2 Colour wheel

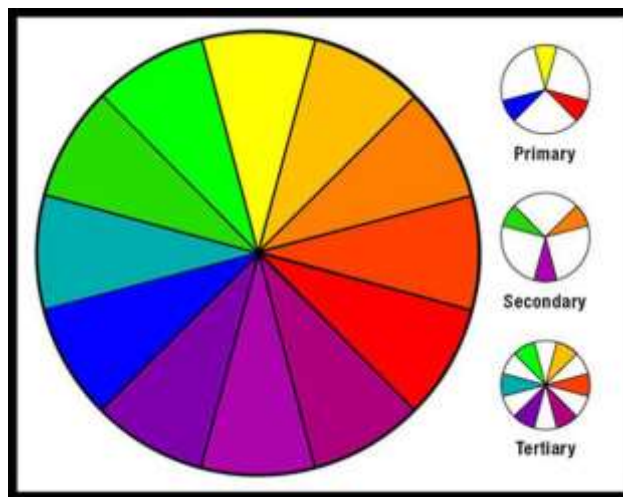


Fig.3 Colour wheel

Primary Colours

The primary colours are Red, Yellow and Blue. These three basic colours are the primary colours in the world of art. Primary colours cannot be made by mixing any other colours. These are known as primary colours because no colour combination can make these colours. These are situated at an equal distance on the colour wheel. These colour are used to create other colours.

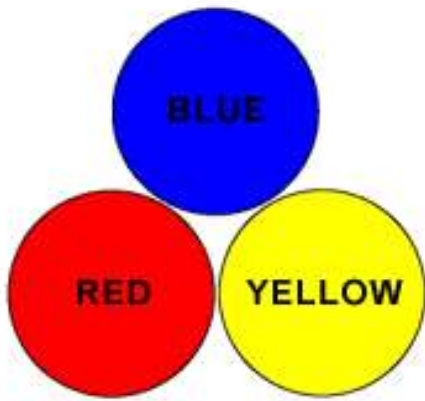


Fig. 4 Primary colours

Secondary Colours

A secondary colour is a result of mixing of two primary colours. When two primary colours are combined together, it creates a new colour known as a secondary colour. There are three secondary colours known as Orange, Green and Violet.

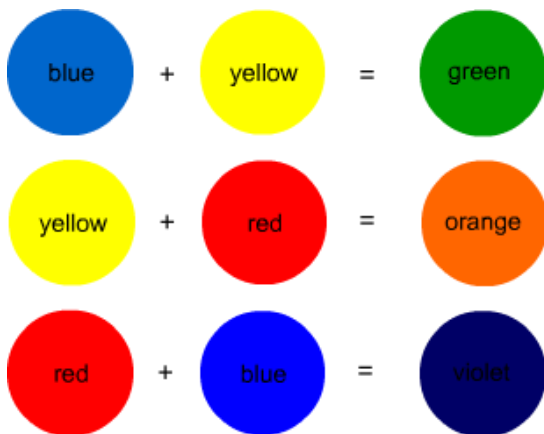


Fig. 5 Secondary colours

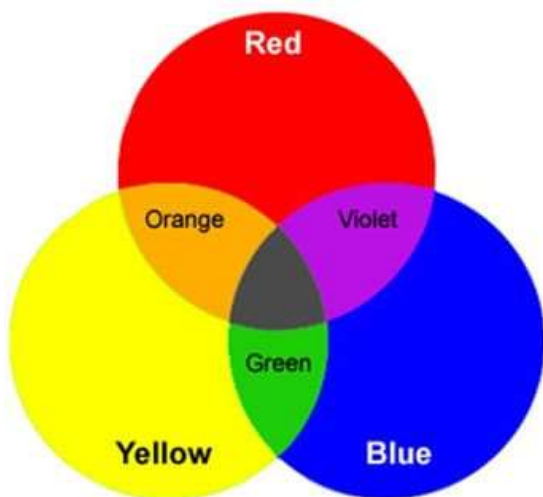


Fig. 6 Secondary colours

Tertiary colours / Intermediate colours

A tertiary colour is a result of mixing one primary colour and one secondary colour. There is a total of six tertiary colours. They are: Yellow-Orange, Red-Orange, Red-Violet, Blue-Violet, Blue-Green and Yellow-Green.

Yellow + Orange = Yellow-Orange

Red + Orange = Red-Orange

Red + Violet = Red-Violet

Blue + Violet = Blue-Violet

Blue + Green = Blue-Green

Yellow + Green = Yellow-Green



Fig.7 Tertiary colours / Intermediate colours

Thus, a colour wheel is formed by a circle of a total of twelve colours, including three primary colours, three secondary colours and six tertiary colours.



Fig. 8 Tertiary colours / Intermediate colours

8.6 Colour Schemes

Achromatic – Achromatic colours are the ones which lack the hue. It has darkness and lightness but there is an absence of hue. White, Black and Grey are achromatic colours.

Monochromatic – This scheme is of different shades, tints and intensities of one colour. It is restful and soothing to eyes. At the time of designing any garment, a monochromatic colour scheme can be used. The neutrals can also be added as a contrast.

Analogous – It is a group of three colours next to each other on a colour wheel. It is a bunch of three colours sharing a common colour. One colour is a primary colour, another two are secondary colour and the tertiary colour respectively. The analogous can create a good and rich monochromatic effect.

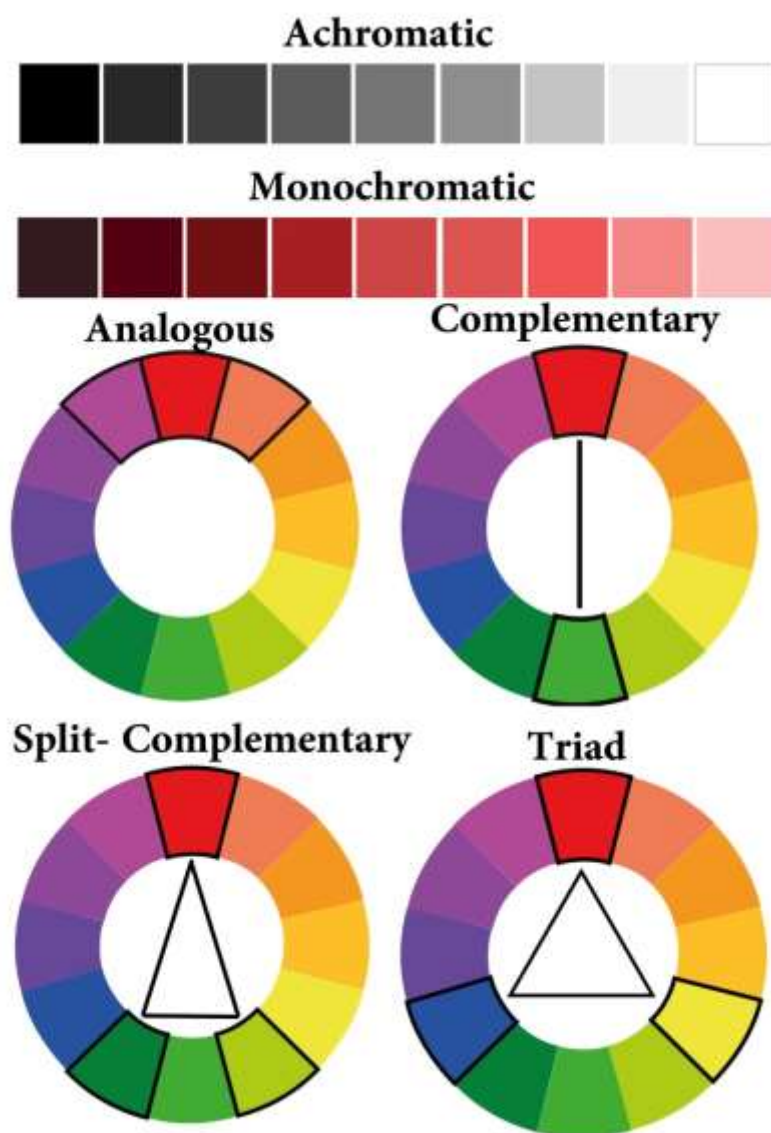


Fig. 9 Colour Schemes

Complementary – Complementary colours are the opposite colours on the colour wheel. It is the direct opposite colour across one another. The complementary colour of any primary colour is a result of the mixing of another two primary colours.

For instance, the complementary colour of Red is a Green colour, which is a mixture of another two primary colours i.e. Yellow and Blue.

The complementary colour of Yellow is Violet colour. (Red + Blue = violet)

The complementary colour of Blue is Orange colour. (Red + Yellow = orange)

Split Complementary - It is a group of three colours. One is the base colour, another two are adjacent to its complement. To get this colour, select any colour as a base colour on a colour wheel, draw a straight line opposite to that base colour, and then look at the immediate right and left of the colour of the complementary colour.

For example, select Red colour as a base colour, the opposite colour of it is Green colour. So the red and green are complementary colours, now look at the adjacent i.e. immediate right and left of green colour – Yellow-green and blue-green.

So, red, yellow-green and blue-green is group of three colours which are split complementary colours on the colour wheel.

Triad – A triadic colour scheme is the three colours at an equal distance apart on a colour wheel. These are the colours which are evenly spaced around the colour wheel.

For example, red, blue and yellow represent a triadic colour scheme.

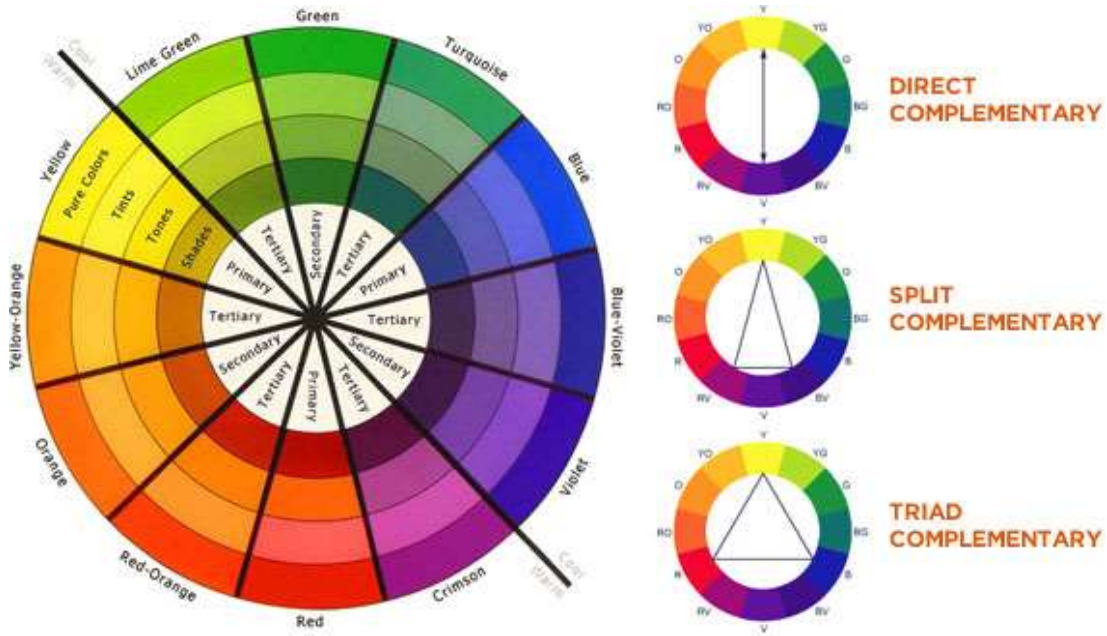


Fig. 10 Colour schemes

Check Your Progress

1. What is colour?

2. Explain the orange colour and its effects.

3. What are the colour dimensions?

4. What is the colour wheel?

5. Explain secondary colours

6. What do you mean by the monochromatic colour scheme?

7. What are the achromatic colours?

8. Explain complementary colours with example.

Multiple Choice Questions

1. A _____ represents the arrangement of basic colours in a circle.

- (a) Colour scheme (b) Colour wheel
(c) Hue (d) Colour combination

2. There are total _____ primary colours..

- (a) Three (b) Six
(c) Nine (d) Twelve

3. Orange is a _____ colour

- (a) Primary (b) Secondary
(c) Tertiary (d) Achromatic

4. _____ is a group of three colours next to each other on a colour wheel.

- (a) Monochromatic (b) Achromatic

- (c) Triad (d) Analogous
5. White, black and grey are _____ colours.
- (a) Primary (b) Secondary
(c) Tertiary (d) Achromatic
6. _____ colours are the opposite colours on the colour wheel.
- (a) Triad (b) Split-complementary
(c) Complementary (d) Monochromatic
7. _____ is the colour between red and yellow.
- (a) Orange (b) Blue
(c) Green (d) Violet
8. Hue, value and intensity are _____ of colour.
- (a) Direction (b) Dimensions
(c) Schemes (d) Elements
9. There are total _____ colours in a colour wheel.
- (a) Three (b) Six
(c) Twelve (d) Nine
10. A tertiary colour is a result of mixing _____ primary colour and _____ secondary colour.
- (a) One, one (b) One, two
(c) Two, two (d) Two, one

8.7 Let Us Sum Up

- The colour is the first element that is being noticed in the design of a garment. It affects the emotions and perception of people. It is the eye-catching element which affects most of the customers.
- Colour is a reflection of light that you perceive with your eyes. When light strikes an object, it absorbs some of the waves and reflects the remaining waves. This reflection is perceived as colours by human eyes.
- Colour is a key element of fashion designing. Fashion designers generally select the colours from the palette and newly developed colour stories. The fashion colour changes from year to year and season to season.

- There are various colours with different effects. Colours affect physically and psychologically too.
- Hue, value and intensity are the three colour dimensions also known as properties of colour.
- A colour wheel represents the arrangement of basic colours in a circle. The primary colours, secondary colours and tertiary colours are arranged in a circle known as a colour wheel. There is a total of twelve colours in a basic colour wheel.
- The arrangements or the combinations of colours from the colour wheel are known as colour schemes. It includes – Monochromatic, Analogous, Complementary, Split Complementary and Triad.
- Any design or garment is incomplete without using proper colour combinations. So, the colour wheel and colour schemes are the elements that make any design or garment appealing to the people.

8.8 Keywords

Adjacent – the colours that are nearby or neighbouring to each other on a colour wheel

Distinguish – to differentiate

Emit – to produce/release or discharge

Emperor – the king or ruler

Envious – jealous

Forecasting – to predict or estimate the future event or trend

Hospitable – welcoming/friendly or generous to visitors

Isolation – separation or remoteness

Lilac – it is a pale violet colour with a slightly pinkish hue.

Mourning – the expression of sadness or sorrow on someone's death

Pale – light in colour or containing little colour or pigment

Palette – a flat surface on which a painter arranges and mixes the colours

Perception - the ability to see, hear or become aware of something through the senses

Plum – it is a reddish purple colour

Prediction - to forecast future behaviour

Radiation - energy/ rays / waves

Sensation – feeling / sense / awareness

Spectrum – a range or band of colours as seen in a rainbow

Stimulation – motivation or encouragement

Trait – a distinguishing quality or characteristics/features

Visible spectrum - the portion of the electromagnetic spectrum that is visible to the human eye

8.9 Suggested Books

Elements of Fashion and Apparel Design – Sumathi G.J. First edition 2002, reprint – 2004.

Colour Theory – Patti Mollica, 2013, Walter Foster Publishing.

Principles of Colour and Appearance Measurement – Asim Kumar Roy Chaudhary, Woodhead publishing, 2014.

Colour: How to use colour in Art and Design – Edith Anderson Feisner, 2006, Laurence King Publishing.

The Elements of Colour – Johannes Itten, John Wiley & Sons publishers.

Answers

Check Your Progress

1. Colour is an important element of design and fashion. It is a reflection of light which can be perceived by eyes. Light is necessary to see the colour. It can be daylight or white light. Colour cannot be seen without light. In the absence of light, there can be darkness or black.
2. Orange is the colour between red and yellow. It is the colour of warmth and happiness. It also denotes the risk-taking ability and adventure, the young people relate well with orange colour. It is the colour that is very - Lively, cheerful, joyful, warm, energetic, hopeful, hospitable.
3. Colour dimensions are Hue, value and intensity. Hue is the name of any pure colour. It differentiates one colour from another. Value is the darkness or lightness of any colour. Intensity means the brightness or darkness of any colour.
4. A colour wheel is a circle which represents the arrangements of basic colours. The primary colours, secondary and tertiary colours are placed on a colour wheel. It includes a total of 12 colours.

5. A secondary colour is a result of the mixing of two primary colours. When two primary colours combined together, it creates a new colour known as a secondary colour. There are three secondary colours known as Orange, green and violet.

6. The monochromatic colour scheme is the different shades, tints and intensities of one colour. It is restful and soothing to eyes. At the time of designing any garment, a monochromatic colour scheme can be used.

7. Achromatic colours are the one which lacks the hue. It has darkness and lightness but there is the absence of hue. White, black and grey are the achromatic colours.

8. Complementary colours are the opposite colours on the colour wheel. It is the direct opposite colour across one another. The complementary colour of any primary colour is a result of the mixing of another two primary colours.

For instance, the complementary colour of Blue is an Orange colour, which is a mixture of another two primary colours i.e. Yellow and Red.

Multiple Choice Questions

1. (b) colour wheel
2. (a) three
3. (b) secondary
4. (d) Analogous
5. (d) achromatic
6. (c) Complementary
7. (a) Orange
8. (b) dimensions
9. (c) twelve
10. (a) one, one

References:

Fig. 1- [David McCulloch of Collin Community College](#)

Fig. 2- [Creativesonline](#)

Fig. 3- [owips](#)

Fig. 4- phpsbreed.wordpress

Fig. 5- ArtFoundations

Fig. 6- StackExchange

Fig. 7- Lifehacker

Fig. 8- wifd

Fig. 9- artnebulaph

Fig. 10- WayneLowe

UNIT 9 SILHOUETTE & ITS VARIATIONS

STRUCTURE

- 9.0 Objectives
- 9.1 Introduction
- 9.2 Types of Silhouettes
- 9.3 Body Types
- 9.4 Let Us Sum Up
- 9.5 Check Your Progress
- Multiple Choice Questions
- 9.6 Key words
- 9.7 Suggested Books
- Answers

9.0 Objectives

- 9.0.1 To impart knowledge of silhouettes and its importance in fashion designing
- 9.0.2 To make students able to identify different types of silhouettes and its application in the field of fashion design

9.1 Introduction

The dictionary meaning of the word silhouette is ‘shape’ or outline of any object. Here we are learning about the outline of the dress. The designer has to keep in mind the silhouette or shape first before deciding other features. Thus silhouette is very important and basic thing for fashion design. In this chapter we are going to learn different types of silhouettes and its suitability on different body type. After learning about different silhouettes the students will be able to identify different silhouette and its application on suitable body type. The knowledge of different silhouette will help in creating new designs.

9.2 Types of Silhouettes

Basic silhouettes:

1. Sheath silhouette
2. A line silhouette
3. Bell Silhouette
4. Empire silhouette
5. Mermaid silhouettes

1. Sheath Silhouette

The meaning of word Sheath is close to body. The sheath dresses are close to body and the hemline is between mid-thighs to mid-calf.

The neckline can vary, but a fitted waist is the focal point of this type of dress. Sheaths are also often sleeveless, and when they are longer than mid-thigh, a slit up the back makes it easier to walk in.

Shorter sheath dresses are great for parties while a longer dress in a more conservative cut is very much suitable for the office.

This style is usually fitted with slits in the hem for ease in movements. Sheath dresses are main example of this silhouette. Fitted jeans, pencil skirts all examples of this silhouette. (Fig: 1 & 2)



Fig:1: Sheath Dress (Shorter)

Source: <https://www.lanebryant.com/ponte-sheath-dress/>



Fig:2: Sheath Dress (Longer)

Source: <https://www.florydeal.com/>

2. A-Line Silhouette:

As the name suggest ‘A-line’, this silhouette looks like capital ‘A’ means narrow at the top and flare gradually widens towards the hem. This type of silhouette suits almost all body types. This design style is commonly found in skirts and dresses but can also be found in shirts and jackets. This silhouette is popular because of its flattering shape; the A-Line is also fairly easy to sew. (Fig: 3 & 4)



Fig: 3: A-Line dress

Source: <https://www.snapdeal.com/product/>



Fig: 4: A-Line dress

Source: <https://sewguide.com/>

3. Bell Silhouette:

Bell or Ball gown silhouette is fitted in the bodice till the waist and fully flared to the hem to make a bell shaped skirt. This silhouette is typically found in traditional dresses/ wedding dresses like ball gown. It is very popular choice for brides. The flare of the skirt in this silhouette is mostly achieved by layers of fine fabric. A petticoat with many frills of crinoline (stiffer version of petticoat) under the gown also helps to create this silhouette. This style suits on almost any body-type; but best suitable for short women or those with small waists. (Fig: 5 & 6)



Fig: 5: Bell shaped dress

Source: <https://njosephslookbook.wordpress.com/>



Fig: 6: Ball Gown

Source: <https://www.iklikphoto.com/>

4. Empire Silhouette:

The empire silhouette is starting from just below the chest or just above the waist line and gathered out under the chest line to the hem. This is a most suitable style for the figure with a thick waistline. Thus it has high waist appearance. Usually the effect is achieved by making the dress in two parts, the skirt part starting just under the chest. (Fig: 7)



Fig: 7: Empire shaped dress

Source: <https://vfanfoni.wixsite.com/>

5. Mermaid silhouette:

This silhouette which is also called the trumpet silhouette and very similar to the sheath silhouette, the only difference is that it flares generously from the knees like a ball gown. It is tight fitted at the knee and difficult for the movement but it looks beautiful. This silhouette emphasizes the leg and torso length. (Fig: 8)



Fig: 8: Mermaid shaped dress

Source:<https://www.google.com/2FExtreme-Mermaid-Silhouette-Style-MERMAID>

9.3 Body Types

Each figure is different from other. It means one size could not fit all the figure types. One dress is not suitable to all figures. Thus the dress is designed keeping in mind the various body types. Let us discuss about the different body types.

First the question comes that how to determine the body type. For this one need to take following body measurements appropriately.

- Shoulder
- Bust
- Waist
- Hip

Our body type is the outline of our structure. Thus, understanding the body type helps in selecting the suitable clothes, and altering it in such a way that it also matches the person's style. This is to make sure that the dresses we choose to wear –fit beautifully and proportionate to the body type as well as it enhances person's looks for an even better -looking silhouette. Short, tall, slender, curvy, etc., do not determine the body type, but the body parts determine the body type. We need to know in detail about the body type as each one of us has a distinct shape. The knowledge of body type will help in selecting better silhouette for a particular body type. There are five basic body types which cover almost all the body types and explained below.

1. Apple Body Shape

The figure fall under the apple-shaped body type have a heavier upper body in comparison to your lower part of the body. People with this body type usually have broad shoulders, bigger bust line, and that's why it feels like the weight gathers around the front middle part of the body (Fig: 9).

Dress to Wear

The most weight and concentration is above the hips, the upper front middle part appears heavier than the remaining body with a small waistline. So, the dresses with V or deep V necklines enhance the body and create and an elongated illusion of the torso.

A-line and empire silhouettes are ideal for this type of figures. Printed dresses, patterned jackets will shift the focus and enhance the looks. Neutral looks, dark colors, full or 3/4th sleeves dresses, and flowy tops will help to look better. Bottom wear like flared bottoms, palazzos, etc. can be worn to create a balance (Fig: 10).



Fig: 9: Apple shaped body type



Fig: 10: Dress suitable to apple shaped

Source: <https://www.stylecraze.com/articles/right-clothes-for-body-type/>

2. Hour-Glass Body Type

This body type is the most balanced amongst all body types. The top and bottom (i.e. bust and hips) part are well proportionate to each other and have a precise and clear waistline. This is a perfect body type. It is also called as 'a body to die for' (Fig: 11).

Dress to Wear

This is a perfect body type so the dress with right curves will enhance the looks. Dresses that are fitted at the waist will best fit to this figure type. V and sweetheart necklines will enhance the look of upper body. All body hugging dresses suits best on this figure type (Fig: 12).



Fig.: 11 Hour-Glass body type

Source: <https://www.stylecraze.com/articles/right-clothes-for-body-type/>



Fig.: 12 Dress to wear

As per the name suggests, the pear fruit is heavier at bottom, same as in this body type, the lower part of the body is heavier. The seat/hips and thighs are bigger than the upper body. The shoulders are narrow and the hips are wide (Fig: 13).

Dress to Wear:

The advantage of this body type is that one can create an illusion of an hourglass figure if styled correctly as shoulders are narrow, and hips are wide. One needs to wear the dress, which enhance the lower body. This will help to create balance and enhance looks.

A-line skirts or dresses with patterned or ruffled tops that add definition to the upper body look great. Skinny jeans with loose tops will help in creating an hourglass illusion. Crop tops, sweetheart, V or deep-V, scoop or boat necks will balance the bottom part (Fig: 14).



Fig.: 13 Pear shaped body type



Fig.: 14 Dress to wear

Source: <https://www.stylecraze.com/articles/right-clothes-for-body-type/>

4. Rectangle Body Type

There is not much difference in shoulder, bust, waist and hip. All looks straight just like a rectangle (Fig: 15).

Dress to Wear

There is need to enhance the arms and leg part as shoulder to hips is straight. A-line skirts ruffled or layered tops will fits best, Dresses that add focus on bottom and necklines that add some weight to the upper body. Sleeveless, strapless and sweetheart necklines suits well. Blazers, long jackets, caps also enhance the overall looks (Fig: 16).



Fig.: 15 Rectangle shaped body type

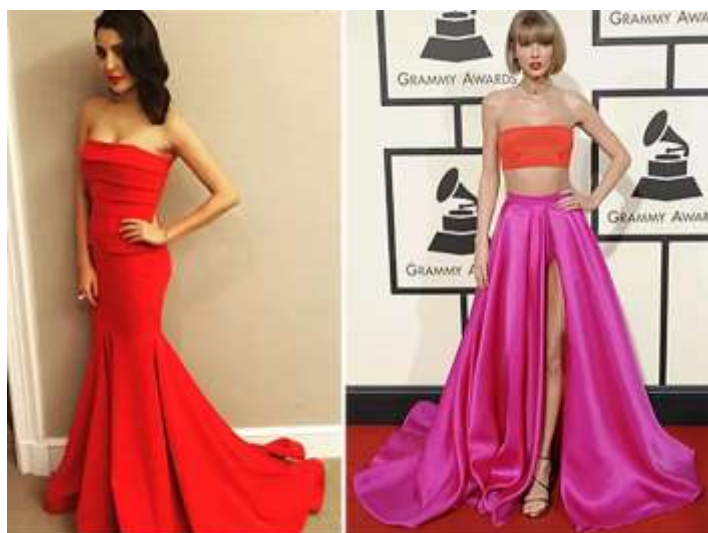


Fig.: 16 Dress to wear

Source: <https://www.stylecraze.com/articles/right-clothes-for-body-type/>

5. Inverted Triangle Body Type

The inverted triangle is similar to ‘V’ shaped figure or male figure. It is also known as the athletic looking body type. In such type of figure the shoulders are broader than your hips. So, the arms and shoulders need to be enhanced as much as one can to create balance (Fig: 17).

Dress to Wear

Straight-cut jeans and dresses that naturally have an inverted V-look to them are all clothes that will suit your body. The hips are narrower than shoulders so pencil cut skirt, skinny jeans, etc. with any tops will look great. Avoid much layering in upper body. V-neck lines work well and create an illusion of narrow shoulders (Fig: 18).

S



Fig.: 17 Inverted triangle body type
Source: <https://www.stylecraze.com/articles/right-clothes-for-body-type/>

Fig.: 18 Dress to wear
Source: <https://blog.petitedressing.com/inverted-triangle-body/>

9.4 Let Us Sum Up

We learned about the five basic silhouettes and five basic body types. The body type or body shape is determined by the body measurements like shoulder, bust, waist, hips, whereas the silhouette is a cut of the garment. One has to choose suitable silhouette according to the body type.

9.5 Check your progress

Q:1 What do you mean by silhouette? List the types of silhouettes.

.....
.....
.....

Q:2 Explain the sheath silhouette.

.....
.....
.....

Q:3 Explain the A-line silhouette.

.....
.....
.....

Q:4 State the difference between the A-line and Bell silhouette.

.....
.....
.....

Q:5 Explain the Empire silhouette.

.....
.....
.....

Q:6 Explain in detail the Mermaid silhouette.

.....
.....
.....

Q:7 How to determine the body type? Name the different body types.

.....
.....
.....

Q:8 Discuss about the 'pear shaped' and 'apple shaped' body type.

.....
.....
.....

Q:9 Which is the most perfect body type? Which dress suits this body type?

.....
.....
.....

Q:10 Explain the kind of dress to be worn by the inverted triangle body type.

.....
.....
.....

Multiple Choice Questions

1. means outline of the object.

- a) Silhouette
- b) Shape
- c) Design
- d) None of above

2. The dresses are close to body and the hemline is between mid-thighs to mid-calf

- a) Ball gown
- b) Mermaid
- c) Sheath
- d) A-line

3. The silhouette is easy to sew.

- a) A-line
- b) Mermaid
- c) Bell
- d) Empire

4. The silhouette typically found in traditional dresses/wedding dresses.

- a) Empire
- b) bell
- c) Mermaid
- d) None of above

5. The empire silhouette is starting just below the

- a) waist
- b) chest
- c) low waist
- d) thigh

6. The Silhouette is tight fitted at the knee and full flared till the hem.

- a) Mermaid
- b) A-line
- c) Sheath
- d) Empire

7. The silhouette is emphasize the leg and torso length.

- a) A-line
- b) Sheath
- c) Empire
- d) Mermaid

8. The silhouette is most suitable style for the figure with a thick waistline.

- a) Empire
- b) Bell
- c) Mermaid
- d) A-line)

9. The lower part of the body is heavier in shaped body type.

- a) Apple
- b) Pear
- c) Hour-glass
- d) Inverted triangle

10. The figure is referred as the perfect body type.

- a) Hour-glass
- b) Pear
- c) Apple
- d) Rectangle

9.6 Keywords.

Silhouette: The meaning of silhouette is ‘shape’ or outline of any object.

A-line: This silhouette looks like capital ‘A’ means narrow at the top and flare gradually widens towards the hem.

Empire: This silhouette is starting from just below the chest or just above the waist line and gathered out under the chest line to the hem.

Sheath: The sheath dresses are close to body and the hemline is between mid-thighs to mid-calf.

Mermaid: It is very similar to the sheath silhouette; the only difference is that it flares generously from the knees like a ball gown and tight fitted at the knee.

Bell: Bell or Ball gown silhouette is fitted in the bodice till the waist and fully flared to the hem to make a bell shaped skirt.

Body type: Each figure is different from other. It means one size could not fit all the figure types. The parts of the body are not proportionate in every figure types. The ratio differs and so as the body types are different.

Hour-glass: It is the most balanced amongst all body types. The top and bottom (i.e. bust and hips) part are well proportionate to each other and have a precise and clear waistline.

Apple: This body type has a heavier upper body in comparison to your lower part of the body.

Pear: This body type has heavier lower part than the upper body.

Rectangle: In this body type all the parts shoulder, chest, waist, hip all looks similar like rectangle.

Invertible triangle: It is similar to ‘V’ shaped figure or male figure. It is also known as the athletic looking body type. In such type of figure the shoulders are broader than hips.

9.7 Suggested Books

1. Caldarin J. & Volpintesta L., (2013), “The Fashion Design Reference & Specification Book: Everything Fashion Designers Need to Know Every Day”, Rockport Publishers, Inc., USA.

2. Khurana P. & Sethi M.,(2007), “ Introduction to Fashion Technology”,
Published by Firewall Media, Laxmi Publication Pvt. Ltd., New Delhi.

<https://www.liveabout.com/definition-of-a-sheath-dress>

<https://www.leaf.tv/articles/types-of-silhouettes/>

<https://sewguide.com/>

Answers

1. a) Silhouette
2. c) Sheath
3. a) A-line
4. b) bell
5. b) chest
6. a) Mermaid
7. d) Mermaid
8. a) Empire
9. b) Pear
10. a) hour-glass

UNIT – 10 PRINCIPLES OF DESIGN

STRUCTURE:

10.0 Objectives

10.1 Introduction

10.2 Principles of Design

10.2.1 Harmony

10.2.2 Proportion

10.2.3 Emphasis

10.2.4 Balance

10.2.5 Rhythm

Check Your Progress - I

10.2.6 Radiation

10.2.7 Gradation

10.2.8 Contrast

10.2.9 Repetition

Check Your Progress - II

Multiple Choice Questions

10.3 Let Us Sum Up

10.4 Keywords

10.5 Suggested Books

Answers

10.0 Objectives

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

- understand the importance and types of principles of design;
- identify the principles that affects clothing design development;
- recognise various principles that affect the design composition as a whole;
- understand the design that is build on principles;
- apply the relevant principles in dress designing aspects.

10.1 Introduction

Design is a visual language of communication. A soothing and eye-catching design can attract the viewer's attention. To create a good design it is necessary to use the principles and the elements of design too. These both are interrelated and work together perfectly.

The principles of design are the fundamental rules for the design. It is required to have basic knowledge of principles for the design development and implementation in a garment. The designer garments are designed and made specifically keeping in mind individual customers. The designer has to visualize the proper design that suits the customer. The set of principles helps the designer to create an innovative and creative design of a garment. The same thing applies to any design aspect.

The principles of design are the set of rules that should be followed by the designer to create a well-balanced design. The principles and the elements of design work together well. The elements are the tools and the principles are the guidelines that show how to utilize the elements. A beautiful design attracts the attention of the viewer, and it is possible only when the design is created with a set of principles. The principles of design are Harmony, Proportion, Emphasis, Balance, Rhythm, Radiation, Gradation, Contrast, and Repetition.

10.2 Principles of Design

The principles of design work as a guide for creating a design and applying it in a garment. It is the set of rules that states how to combine the elements of design and utilize them in accordance with the need of design.

The principles of design are flexible in nature and can be used as per the current trends and fashion requirements. It is useful to beautify the garment and present it in an artistic way.

Different types of principles of design are as below.

10.2.1 Harmony

Harmony is the synchronization of design elements. It is the proper arrangement of various elements in a garment. It is known as the sense of unity in any particular design. Harmony can be achieved through the use of proper elements of design in such a way that it creates an eye-catching design.

The design of any garment can attract and hold the viewer if all the parts of the garment are appropriately designed and executed. The harmony between various design elements like line, colour, texture, pattern, etc. should be well-balanced.

Harmony can be defined as a mixture of unity and variety. Unity in design is when everything works well together. A variety means the design is not boring; elements are properly used to hold the viewer's attention.

Harmony is achieved when all the elements of design work well together to create a sense of sameness. The harmonious design is the one which gives a feeling of oneness and pleasing look.

When a design has harmony it gives a nice overall impact and a well-balanced look to the garment.

In an effective application of the principle of harmony and unity, each element enhances the value of others rather than distracting from the design.



Fig. 1 Harmony

There is a direct relationship between the silhouette of the garment and the body shape. It should be designed accordingly to create an effect of harmony in design. The colour combinations, style lines of the garments, etc. should be designed in unity to create an effect of harmony.

10.2.2 Proportion

Proportion is one of the important principles of design. It is also known as scale. As the human figure is divided into different parts with various sizes,

like the head is small in comparison to other body parts. The garment should also be divided into various parts and different sizes as per the required proportion. For example, collars, pockets, cuff, sleeves, upper and lower part of the garment, etc.

Proportion refers to the relationship between the size of garment parts and the garment as a whole. It is the relationship between height, width, depth and available space for a design. When all the parts of garment synchronize with design and the garment as a whole it refers to a well proportionate design. To design a garment, there is a requirement of knowledge regarding the appropriate use of different elements and principles of design.



Fig. 2 Proportion

The proportion of garment parts can be designed with the help of deciding the basic shape of the garment and then divides and utilize available spaces. The proportion can be balanced or unbalanced; the unbalanced proportion of garment parts can create an interesting and attractive effect.

The flaws of the human body can be hid -through planning the appropriate proportion of garment parts. An optical illusion can be created by dividing garment parts in various proportions. An uneven proportion can create an illusion of added height. When the proportion is almost the same, it creates

a balanced look. The unbalanced proportion even if it is reversed, creates an interesting effect with the illusion of added height.

10.2.3 Emphasis

Emphasis refers to a particular placement of element that is embellished in a garment. It is the main focal point that creates the center of attraction and interest in the garment.

Emphasis can be created through exaggerating any single part of a garment through the use of line, shape, colour, texture, pattern, print, embroidery or any other types of surface ornamentation and decorative design. There should be only one dominant element that attracts the attention of the viewer towards that particular part of the garment.

Emphasis creates a dramatic look and makes the outfit more interesting and lively.

A designer can create an outfit for an individual customer with an emphasis. Here the designer knows about the body type of the customer with perfect measurements. So she/he can design the garment as per the requirement. But, in the case of the designers who usually design garments for mass, they have to be careful while designing and using the principle of emphasis. Because the wearers are many and with different body types, a particular emphasis may not be suitable for all. For example, an emphasis created by using a bold and large print may not be suitable to all.

Emphasis can be created through a bow, large belt, bold print, embroidery, patchwork, buttons, pockets, contrast colours, a particular pattern, asymmetrical hemline, etc. and many more.



Fig. 3 Emphasis at neck
by embroidery

Fig. 4 Emphasis at top

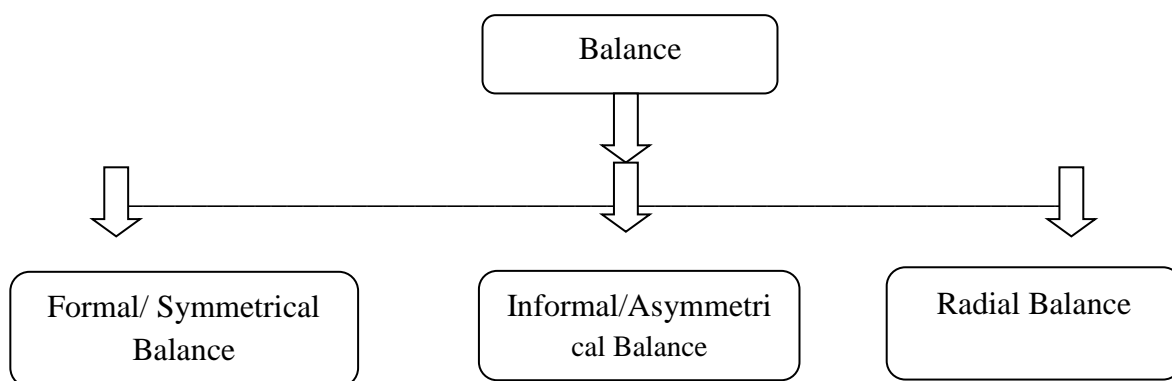
Fig. 5 Emphasis

10.2.4 Balance

Balance means equality, equilibrium, pose, stability and security. It is one of the important principles of design. The average human body is visually well-balanced we have two arms, two legs which create a symmetrical effect. Visually symmetrical means it looks the same on each side of a centerline. The garments should be designed considering the body shape to create an effect of balance.

Balance can be achieved when the elements are properly allocated similarly at both the sides of a garment. It can be achieved when the spaces of the shape work together in a garment. The balance in a garment can be achieved by the visual distribution of weight from a central area. It should create a pleasing harmony between other elements of design.

There are three types of balances which are as below.



Formal/ Symmetrical Balance –

A formal balance is also known as asymmetrical balance. It is the design that has equal weight on both sides of the garment from the centerline. It seems to be the same on both the sides as it gives a mirror effect.

A formal balance in a garment can be achieved through structural design or decorative designs too; such as darts, tucks, princess line, even hemline, buttons, pockets, prints, embroidery, etc. are used at both the sides to create a formal or symmetrical balance in a garment. It is easy to make a formal balanced garment with a pleasant appearance. Formal balanced garments are less expensive for mass production.

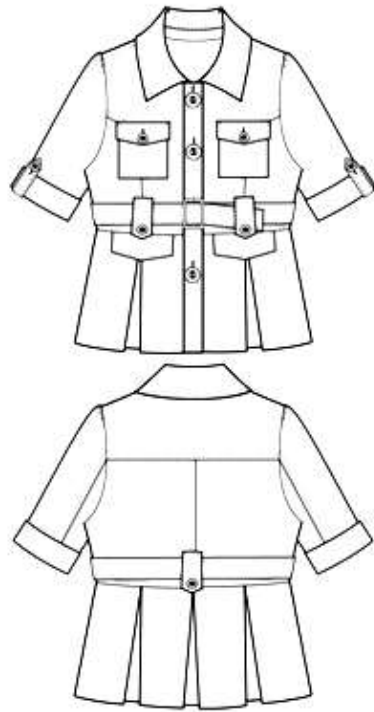


Fig. 6 Formal Balance



Fig. 7 Formal Balance

Informal/Asymmetrical Balance –

An informal balance is known as asymmetrical balance too. It is the design in which the elements are not equally distributed from the center of a garment. It creates a dramatic look in a garment. The designer can show more creativity at the time of using informal balance.

Informal balance can be created through uneven hemline, neckline, uneven or one-sided distribution of decorative or structural designs, etc. For example, one side pocket placement, one-sided off-shoulder, uneven layered hemline, one side print or embroidery, and many more things can be created.

It is comparatively difficult to create an asymmetrical garment than the symmetrical garment. It requires more effort, presence of mind and more attention at the time of designing an informal outfit. The elements are not equally distributed, yet it should be balanced and should create an interest in the garment.

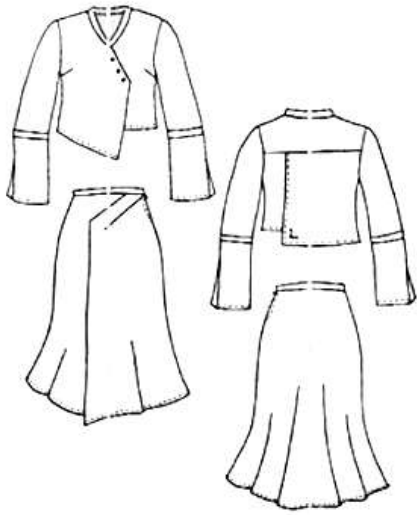


Fig. 8 Informal Balance



Fig. 9 Informal Balance

Radial Balance -

Radial balance occurs when the design details of an outfit radiate or emerge from a central focus point. The major part of the design elements radiate from the center point. It is usually seen in a neckline, in a skirt, gown, etc.

The construction of a radial balanced garment is complex and it is generally found in expensive garments. It is usually found in the evening gown to create an innovative effect.

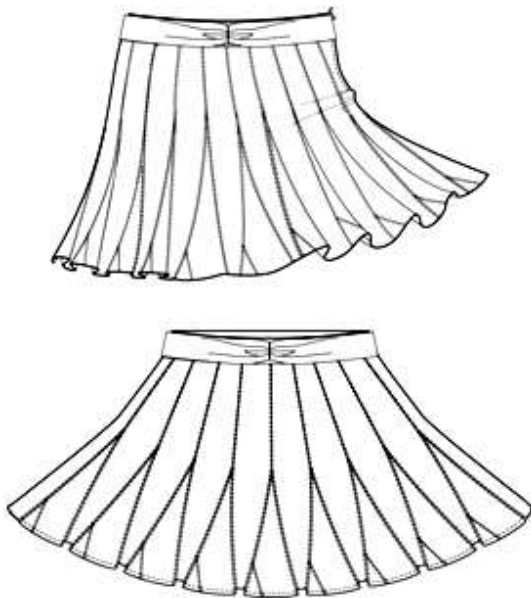


Fig. 10 Radial Balance



Fig. 11 Radial Balance

10.2.5 Rhythm

Rhythm is the repeated use of elements of design like lines, shape, colour, etc. to create a pattern. The elements should be used in an appropriate way to create a smooth and eye-catching effect. It gives a feeling of organized movement.

Rhythm is a flow of elements of design in a particular pattern. The movement of each element used in the garment should follow a harmonious pattern. The arrangement of elements should be in such a way that leads the eye of the viewer from one part to another part of the garment easily.

Rhythm can be created with the help of other principles of design like - gradation, repetition, radiation, etc. Different types of rhythms are - progressive rhythm, rhythm by gradation, rhythm by radiation, rhythm by repetition, rhythm by transition, rhythm by opposition or alternation.

The repeated use of lines, colours, texture, shapes, gradation should not be overloaded, it can distract the viewer and it might result in a design disaster.

A rhythm can be created through repeated use of motifs, prints, decorative designs, formal elements of design, etc. at a regular or irregular interval. It can create a smooth flow of pattern which leads to the viewer's eyes in a particular movement. A rhythmic design in a garment appears beautiful and noticeable. The overburdened repetition of elements can destroy the rhythm in the garment.



Check Your Progress - I

1. What is meant by radial balance?

2. What are the different types of rhythm that can be created in garments?

3. What are the different types of balance used in clothing?

4. What is the use of emphasis and how is it created in clothing designs?

5. What is proportion? Why is it important?

10.2.6 Radiation

Radiation is a process of movement steadily bursting outwards in all directions from a visible center point. It creates an effect of a circle like sun rays, petals of a flower or spokes of a wheel. It can be in a circular or semi-circular form.

The radiation effect can be created in any garment through print, pattern, line, ruffles, colours, etc. It gives a dramatic and bold look to the garment.



Fig. 13 Radiation

10.2.7 Gradation

Gradation is a process of gradual change in the design or element. The change is not sudden but gradual change takes place, step-by-step.

It is an art of combining various elements with gradual changes in those elements.

Gradation can be implemented in any garment design by using line, shape, space, colour, pattern, print, etc. There is a smooth shift in elements in every next step of the design. Gradation can be achieved through small to large shapes or dark to light value and vice-versa. In gradation, the change is happens in a consecutive series of differentiable increases or decreases.

For example, a garment with colour gradation, a multi-layered skirt, a garment with gradation in the size of the shapes in design, etc.



Fig. 14 Gradation



Fig. 15 Gradation

10.2.8 Contrast

Contrast is one of the most powerful and commanding visual design principles. It attracts the direct attention of people. It indicates the point where the difference occurs.

The purpose of using the principle of contrast is to show the unlikeliness and the opposition of the thing. It catches the viewer's attention at the distinguished point of the design which is highlighted.

The contrast can be highlighted through colours, shapes, prints, patterns, etc. The design may create a contrast effect, but it should be well-balanced and should give a pleasing visual effect rather than creating a feeling of boredom or inelegance.

10.2.9 Repetition

Repetition refers to the use of the same pattern, print, shape, colour, motifs, or other elements more than once. Repetition is the basic and most commonly used principle.

In any design, if the same thing is arranged at a different location, it is known as repetition. It is the simplest and most commonly used principle for fabric and garment designing.



Fig. 16 Repetition

Check Your Progress - II

6. Make a list of principles of design.

7. What is meant by contrast? How it can be used in a garment?

8. How gradation can be implemented in design?

9. What is repetition?

10. What is radiation? How it can be implemented in a garment?

Multiple Choice Questions

- Equality, equilibrium, pose, stability and security are the other names for _____.
 - Proportion
 - Balance
 - Harmony
 - Rhythm
- The principle which gives a feeling of organized movement is _____.
 - Balance
 - Rhythm
 - Emphasis
 - Scale

3. Formal balance is the least expensive to produce apparel in _____ production.
 - (a) Tailor Shop
 - (b) Small Scale
 - (c) Mass
 - (d) Boutique
4. The sunburst type effect is created in the principle named _____.
 - a) Gradation
 - b) Radiation
 - c) Repetition
 - d) Rhythm
5. _____ refers to the use of the same pattern, print, shape, colour, motifs, or other elements more than once.
 - a) Rhythm
 - b) Repetition
 - c) Harmony
 - d) Proportion
6. _____ is not a type of balance.
 - a) Formal
 - b) Asymmetrical
 - c) Radiation
 - d) Radial
7. The principle of _____ shows the unlikeliness and the opposition of a thing.
 - a) Contrast
 - b) Informal balance
 - c) Emphasis
 - d) Radiation
8. _____ is known as the sense of unity in any particular design.
 - a) Balance
 - b) Rhythm
 - c) Proportion
 - d) Harmony
9. A big bow in a simple garment creates the sense of _____.
 - a) Emphasis
 - b) Radial balance
 - c) Unity
 - d) Harmony
10. _____ refers to the relationship between the size of garment parts and the garment as a whole.
 - a) Harmony
 - b) Rhythm
 - c) Unity
 - d) Proportion
11. _____ is a flow of elements of design in a particular pattern.
 - a) Repetition
 - b) Radiation
 - c) Rhythm
 - d) Emphasis

10.3 Let Us Sum Up

The principles work as a guideline for applying the elements of design for garment designing and construction. The fashion designers, textile and fabric designers utilize these principles as a guideline and set of rules to create attractive and pleasing designs that consumers would like to buy.

The principles of design serve as a helpful tool for creating harmonious designs for the garment. The principles of design are Harmony, Proportion, Emphasis, Balance, Rhythm, Radiation, Gradation, Contrast, Repetition, etc. The appropriate use of elements and principles of design can lead the designer towards creating a well-balanced design of an outfit.

Each principle works with a combination of other principles and elements of design. Proper care should be taken at the time of selection and use of principles of design; it can give a fruitful result in terms of an interesting, attractive and visually harmonious design.

10.4 Keywords

Accordance – agreement or conformity

Align – give support to / place or arrange things in a straight line

Boredom – the state of feeling bored

Execute – to implement or put into effect

Flaw – fault / defect / mistake

Flexible – capable of adopting change or modification

Gradation – the feature does not changes as such but one aspect of the feature changes in next repeat

Harmonious – forming a pleasing or consistent whole

Illusion – it is visually perceived images and objects that differ from reality or a false impression

Implementation – a process of putting plan or decision into effect, execution

Inelegance – lacking elegance or grace

Interrelated – relate or connect to one another

Oneness – the quality of being one

Sameness – the quality of being the same

Soothing - making you feel calm

Synchronization – harmonization / coordination / bringing together

Transition – a shift/ changeover/ move in a design or pattern

Visual – optical / related to seeing

10.5 Suggested Books

Exploring the Elements of Design by Poppy Evans, Mark A. Thomas – Third edition 2013.

Inside Fashion Design by Sharon Lee Tate – Pearson Education – Third edition 2009.

Elements of Fashion and Apparel Design – G.J.Sumathi, 2002, New Age International (P) ltd. Publishers.

Answers –

Check Your Progress - I

1. Radial balance occurs when the design details of an outfit radiate or emerge from a central focus point. The major part of the design elements radiates from the center point. It is usually seen at the neckline, in a skirt, gown, etc.
2. Different types of rhythm are - progressive rhythm, rhythm by gradation, rhythm by radiation, rhythm by repetition, rhythm by transition, rhythm by opposition or alternation.
3. There are three types of balance that can be used in clothing which are as below.
 - Formal or Symmetrical balance
 - Informal or Asymmetrical balance
 - Radial balance
4. Emphasize refers to a particular placement of element that is embellished in a garment. It is the main focal point that creates the center of attraction and interest in the garment. The main use of emphasis is to draw the attention of viewer towards the main focal point. Emphasis can be created through a bow, large belt, bold print, embroidery, patchwork, buttons, pockets, contrast colours, a particular pattern, asymmetrical hemline, etc. and many more.
5. Proportion refers to the relationship between the size of garment parts and the garment as a whole. It is the relationship between height, width, depth and available space for a design. It can be beneficial to hide the flaws of figure, to create optical illusion for height, etc.

Check Your Progress – II

6. There are various principles of design. Which are as below.
 - Harmony,
 - Proportion
 - Emphasis
 - Balance
 - Rhythm
 - Radiation
 - Gradation
 - Contrast
 - Repetition etc.
7. Contrast shows the unlikeliness and the opposition of the thing. It catches the viewer's attention at the distinguished point of the design which is highlighted. It indicates the point where the difference occurs. The contrast can be highlighted through colours, shapes, prints, patterns, etc.
8. Gradation can be implemented in any garment design by using line, shape, space, colour, pattern, print, etc. There is a smooth shift in elements in every next step of the design. Gradation can be achieved through small to large shapes or dark to light value and vice-versa.
9. Repetition refers to the use of the same pattern, print, shape, colour, motifs, or other elements more than once. In any design, if the same thing is arranged at a different location, it is known as repetition.
10. Radiation is a process of movement steadily bursting outwards in all directions from a visible center point. The radiation effect can be created in any garment through print, pattern, line, ruffles, colours, etc. It gives a dramatic and bold look to the garment.

Multiple Choice Questions

1. b) Balance
2. b) Rhythm
3. c) Mass
4. b) Radiation
5. b) Repetition
6. c) Radiation
7. a) Contrast
8. d) Harmony
9. a) Emphasis
10. d) Proportion
11. c) Rhythm

References:

Fig. 1 - [GonChas](#)

Fig. 2 - [Modcloth](#)

- Fig. 3 - [Moonbaye](#)
- Fig. 4 - [youcandraw](#)
- Fig. 5 - [Luulla](#)
- Fig. 6 – [Introductiontodesignelements](#)
- Fig. 7 [shein](#)
- Fig. 8 - [Introductiontodesignelements](#)
- Fig. 9 - [Pinterest](#)
- Fig. 10 – [Introductiontodesignelements](#)
- Fig. 11 - [vogue](#)
- Fig. 12 - [pinterest](#)
- Fig. 13 - [Countingclothes](#)
- Fig. 14 - [Countingclothes](#)
- Fig. 15 - [Flaredboutiques](#)
- Fig. 16 - [Countingclothes](#)

UNIT – 11 TYPES OF DESIGN

STRUCTURE

11.0 Objectives

11.1 Introduction

11.2 What is Design?

Factors Affecting the Design

11.3 Types of Design

11.3.1 Structural Design

11.3.2 Requirement of Good Structural Design

11.3.3 Decorative Design

11.3.4 Requirement of Good Decorative Design

11.4 Let Us Sum Up

11.5 Check Your Progress

Multiple Choice Questions

11.6 Keywords

11.7 Suggested Books

Answers

11.0 Objectives

11.0.1 To impart knowledge of the different types designs

11.0.2 To develop an understanding of good design

11.1 Introduction

Design is a visual look or shape given to a particular object, to make it more attractive, more comfortable or to improve other characteristic. Design is a wide word. Design is applicable in every different field like textile, fashion, building and construction, automobile design and many more. Here we are going to study the types of design in terms of fashion design. It is very important to acquire knowledge about the design and its types. Because before making or constructing any design, one needs to draw a design or a plan on paper. The student or a designer can transfer or present his or her idea on paper in most suitable way after studying about the design. This unit is more towards practical exercise and less theory.

11.2 What is Design?

Different definitions of designs are given by different authors. The dictionary meaning of design given in Cambridge Dictionary is: ‘a pattern used to decorate something.’

Design is also defined as an arrangement of line, colour, space and texture of an object in a given space, or a drawing of it on a piece of paper. It includes the proper choice of materials, forms, colours in arranging them aesthetically by keeping in mind the elements of art and craft and the principles of design.

A design is an arrangement of elements and principles of design such as lines, shape, colours, form, fabric, texture, balance, proportion, rhythm and emphasis that create a visual image. For example, to create a new style of garment one needs to first draw a design of the garment on paper then according to the design, appropriate colour, suitable fabric, etc. has to be selected.

The knowledge of an appropriate colour is as much important as an appropriate design to understand the design properly. It is very important to understand and apply design appropriately on the given or selected textile material to become a confident and good fashion designer.

Designers should have knowledge about all the elements and principles of design before creating any design and then only he/she could apply his/her knowledgeable manipulation in clothing.

Thus in general, design is the arrangement of creative ideas on paper or any of the three dimensional-forms.

Author Archer wrote that:

“Design is that area of human experience, skill and knowledge which is concerned with man’s ability to mould his environment to suit his material and spiritual needs.”

Before designing a garment it is necessary to know, what is design? How to create a good design? Because we spending our lot of time, effort and money only for designing and decorating a garment. Every designer should know about designs to make clothing attractive and pleasing to the eye.

Factors affecting the Design

There are four factors that influence design. They are in below:

- Functions
- Materials
- Technology
- Style

11.3 Types of Design

Design is combination of tools and materials, methods of construction and ideas of the designer's personality and creativity. Sometimes the designers choose motifs which are also known as units of design.

The designers work with elements of art and design by selecting and arranging them to a purpose, which might be functional and ornamental or both.

Goldstein H. and Goldstein V. have classified designs under two categories.

11.3.1 Structural Design

11.3.2 Decorative Design

11.3.1 Structural Design

Here the word structure means a formation of an object like its dimension, shape, size and arrangement. As the word structure suggests any design which makes change in a structure of that object then it is called a structural design. It can be the change in size, form, colour and texture of an object.

A skirt with box pleat then it is an example of structural design. The dart, gathers, pin tuck, pleat, panels, yokes, layers, collars, pocket, bows, fasteners are the examples of structural design in garment. (Fig: 1 & 2).

Any change or modification made in the structure of an object then it is a structural design.



Fig: 1 Skirt with box pleat

Source: <https://sinclairpatterns.com>



ig: 2 Skirt with yoke

ource: <https://in.pinterest.com/https://in.pinterest.com/>

Structural design also provides a decorative quality when given emphasize on colour contrast or top stitching to outline the basic garment parts. In apparel, structural design is more important as it is the basic component of Design.

Elements of basic structural design are divided into four ways. They are as follow-

- Silhouette (Straight, Bell, Bustle Silhouette)

- Lines (Straight and Curved Lines)
- Colors (Warm And Cold Colors)
- Textures (Smooth, Stiff, Rough and Shiny)

In present times different structural fashion design styles are trending in the world. Most of the famous fashion designers are creating new structural fashion style for runway/ ramp to show their creativity.

The Requirements for a good structural design:

- The design must be simple
- It must be well proportionate and beautiful
- It should provide comfort to the wearer
- The elements used such as line, form and texture should merge with the body structure.
- The materials used must suit the purpose for which it is made and also suits the processes that will be followed in making it.

11.3.2 Decorative Design

The word decorative related with the surface ornamentation.

Decorative design is the surface enrichment of a structural design.

Any lines, colours or materials that have been applied to the object or structure that represent its decorative design.

When design is imparted after weaving, it becomes decorative design.



Fig: 3: Embroidery done on collar
Source: <https://www2.hm.com/>

Decorative design is drawn by the beginner fashion designer as well as the boutique designers on paper. These drawings will be draped over it. When the design is accepted by the management or senior designer, then the garment will be selected that is to be designed. For these designs the fabric style and color combinations are selected and sample made for approval. Structural designs are more permanent better quality and expensive; and more durable than decorative designs.

The structural design is the basic beauty. The decorative design only adds the luxury. The outer ornamentation is done to add or increase the luxury. Decorative designs include unusual buttons, a belt buckle, a constructing collar and cuffs. Example: Appliqué, printing, embroidery, quilting, painting and any kind of trimmings for clothing decoration.

Design should fulfill following considerations:

- The decoration must be placed at structural points and strengthen its shape
- The decoration must be used in moderation
- There must be enough background space

- The decoration material must be suitable to the material

The decorative design can be classified in different sections on the basis of variation of features, sources of beauty, senses, motive and personality. Here we are going to study in detail the classification of design on the basis of motif.

11.3.2.1 Types of Decorative design on the basis of motif:

- Naturalistic design
- Stylized design
- Abstract design
- Geometric design

a. Naturalistic design:

The natural motifs such as flowers, fruits, animals, birds, natural scenery are categorized as natural motifs. The design created using natural motif and reproduced exactly is called naturalistic decorative design. The bouquet of flowers embroidered on table cloth, leaves printed on bed sheet, floral print on kurta or skirt are all example of naturalistic decorative design (fig: 4).

b. Stylized design:

The stylized motifs do not look like natural objects (fig: 5). They are modified, simplified or sometimes distorted. The shape, form and colour of particular object / motif can also be conventionalized. Sometimes stylized designs are made with combining geometric motifs. The stylized designs of peacock, fish, human being, etc. are the examples of stylized design (fig: 5).

c. Abstract Design:

A combination of lines, squares, circles, etc. are classified as abstract design. Abstract means any shape or no shape or not compulsory to use accurate shapes or lines. In abstract design artist has a scope of utilizing any motif or object in any shape, form, colour. In modern art, the applications of abstract design are widely used (fig: 6).

d. Geometric Design

Geometric motifs are based on actual or pure forms of circle, rectangle, lines, checks, triangles, etc. with endless variations and combinations of them are used for designs (fig: 7).



Fig: 4 Natural Design

Source:

<https://indiansareejournal.blog/2018/05/16/floral-motifs-in-kanjivarams/>



Fig: 5 Stylized Design

Source: www.shutterstock.com

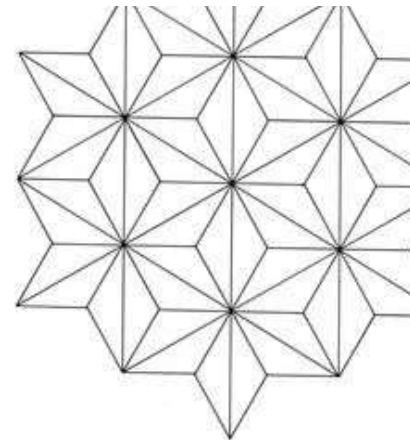


Fig:6 Abstract Design

Source: <https://www.wikihow.com/Create-a-Random-Abstract-Drawing>

Fig: 7 Geometric Design

Source: <https://www.pinterest.com/pin/30089681885>

11.4 Let Us Sum Up

Design is a wide term. Design means to decorate any object, to modify or create something new and it is an arrangement of different elements like line, space, shape, form and colour. Design is applicable in every field whether it is building construction, automobile, any kind of product design, textile, fashion, etc. So design comes everywhere. In the fashion and textile sector design is classified under two categories i.e. Structural Design and Decorative Design. Structural designs are the designs in which the changes are made in the structure of the design such as the pleated skirt, pin-tucked top, different types of collars and sleeves, etc. The designs which are done on the surface of any object are the decorative design. Such as embroidery, painting, printing to be done on the surface of the textile or garment.

11.5 Check Your Progress

Q: 1 What is a design?

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Q: 2 State the types of design. Explain in brief.

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Q: 3 Explain the structural design.

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Q: 4 Explain the decorative design.

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Q: 5 How many types of decorative designs are there? Name them.

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Q: 6 Discuss about the Natural design with example.

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Q: 7 Explain about the Abstract design.

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Q: 8 Explain the geometric design by giving examples.

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Q:9 Explain the stylized design with examples.

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11.5 Multiple Choice Questions

- is a visual look or shape given to a particular object.
a) Design
b) Fashion
c) Drawing
d) Sketching
- A skirt with box pleat is an example of design.
a) Decorative
b) Structural
c) Natural
d) Abstract
- design is the surface enrichment of a structural design.
a) Structural
b) Abstract
c) Decorative
d) None of above
- The design created using natural motif and reproduced exactly is called.....decorative design.
a) Naturalistic
b) Stylized
c) Abstract
d) Geometric
- In design artist has a scope of utilizing any motif or object in any shape, form, colour.
a) Abstract
b) Geometric
c) Stylized
d) Natural
- Decorative design adds.....to the garment.
a) luxury
b) modification
c) base
d) none of the above
- is not the example of surface ornamentation technique.
a) Embroidery
b) Painting
c) Printing
d) Weaving

11.6 Keywords

Design: an arrangement of line, colour, space and texture of an object in a given space, or a drawing of it on a piece of paper.

Structural: a formation of an object like its dimension, shape, size and arrangement. As the word structure suggests any design which makes change in a structure of that object then it is called a structural design.

Decorative: the surface enrichment of a structural design.

Naturalistic: The design created using natural motif and reproduced exactly is called naturalistic decorative design.

Geometric: Geometric motifs are based on actual or pure forms of circle, rectangle, lines, checks, triangles, etc with proper and accurate measurements.

Stylized: The stylized designs are modified version of naturalistic design.

Abstract: A combination of lines, squares, circles, etc. are classified as abstract design. Abstract means any shape or no shape or not compulsory to use accurate shapes or lines.

11.7 Suggested Books

1. Classification of Dress Design - Textiles and Dress Designing, Retrieved from http://www.brainkart.com/article/1--structural-designing--2--decorative-designing_1867/
2. Enam J., Classification of Design and Fashion Clothing, Retrieved from <https://fashion2apparel.blogspot.com/2018/05/classification-design-fashion-clothing.html>

Answers

1. a
2. b
3. c
4. a
5. a
6. a
7. d

Unit 12 Enlargement and Reduction of Design

STRUCTURE

12.0 Objectives

12.1 Introduction

12.2 Methods of Enlargement and Reduction

12.2.1 Manual Method

a. Enlargement

b. Reduction

12.2.2 Enlargement and Reduction of design using instrument

12.3 Let Us Sum Up

12.4 Check your progress

Multiple Choice Questions

12.5 Key words

12.6 Suggested Books

Answers

12.0 Objectives

12.0.1 To impart knowledge of importance of enlargement and reduction of design in the field of fashion design.

12.0.2 To enable students to learn about different method and process of enlargement and reduction.

12.1 Introduction

Enlargement and reduction are the two very basic treatments given to the motif or design in the field of textile design. We have to adjust or modify the size of the design or motif to make it fit in the given space. The enlargement and reduction is widely used in printing industry where they have to work with repeat pattern. The enlargement and reduction is a method of modifying the size of design without making any changes in it. Conventionally it was done manually by hand but at present due to the technological development it is easily done by using different instruments.

12.2 Methods of Enlargement and Reduction of Design

There are two methods used for enlargement and reduction of Design.

12.2.1 Mechanical - Using instrument

12.2.1 Enlargement and Reduction using Instrument

Due to technological development, in present times there are a number of instruments available for enlargement and reduction such as photocopier, computer, epidiascope, etc.

1) Epidiascope:

An epidiascope is an instrument (Fig.1) used generally for enlargement of design. The design to be enlarged is placed on the flat glass top of the instrument called the projection plate. The amount of enlargement is adjustable. The enlarged image is projected on the screen or on a white wall in front of the instrument.

An epidiascope helps in magnifying the design to very large sizes. Once the desired size is achieved, a sheet is placed on the screen and the outline of the design can be traced very easily. The epidiascopes are available in various capacities.

There is no need of using transparency,

in Epidiascope any

Opaque material can be used.

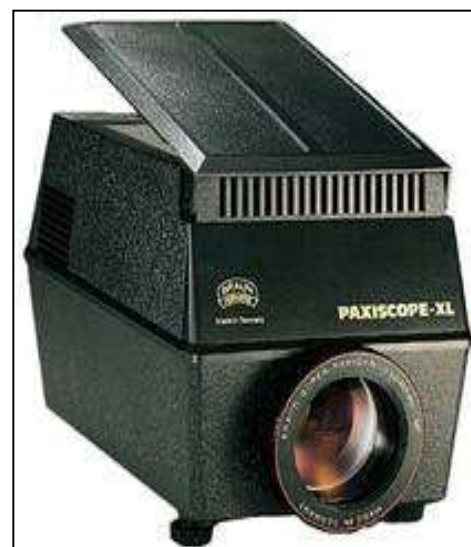


Fig: 1 Epidiascope

Source: <http://eacharya.inflibnet.ac.in>

It was developed in early 20th Century. It was widely used as teaching aid in schools and colleges.

2) Photocopier:

We are all very much aware of this instrument. It is widely used instrument for making a copy of any document easily. It is also known as Xerox machine/ Xeroxing locally. Actually Xerox is a name of the company which produces a photocopier.

Nowadays very advanced photocopying machines are available with latest features in it. Enlargement and reduction became very much easy and fast with the photocopier. One just has to press the number of percentage or size which we need to reduce or enlarge and within a fraction of time we get a copy of desired sizes.

3) Computer:

Computer is also widely used device for enlargement and reduction with different software and one can also do other changes like editing, formatting and many more. Photocopy is most commonly used than computer for this purpose as it is easily accessible.

12.2.2 Enlargement and Reduction of Design by Manual Method:

a. Enlargement

A motif or design is conventionally enlarged or reduced by drawing free hand. Freehand technique is not recommended much as it does not give exact proportion. Thus the design/motif to be enlarged double or four times using graph method. Following are the steps for enlargement of the design.

Step: 1 Select the motif or design which has to be enlarged (Fig.2). Then draw a box in such a way that exactly touches the outermost points of design. Thus we get an exact size of the design which has to be enlarged.



Fig.2: The design/ motif

Source: <http://eacharya.inflibnet.ac.in>



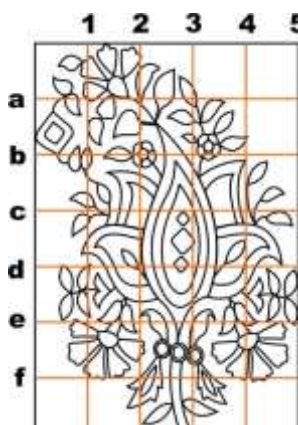
Fig.3: The design/ motif enclosed in a box

Source: <http://eacharya.inflibnet.ac.in>

(Fig.3)

Step: 2 Measure the length and width of the box. Now divide this with the number of parts into which the design is to be divided. For example: If the length of the design box measures 3.5 , and say if we want 7 divisions of the design length then we divide 3.5 inches by 7. This gives us 0.5 inch. Thus mark points at a distance of 0.5 inch each on the left and right line of the design box. So we get 7 equal divisions. Name the points as a, b, c, etc. and so on, as in Fig.4

Similarly, measure the width of the design and divide it into a convenient number of divisions. Suppose the breadth is 2.5 inches, and we decide to divide into 5 parts then we divide 2.5 inches by 5 which give us 0.5". So we mark points on the upper and lower sides of the box and number them as 1, 2, 3 etc. As far as possible, the division should give us a whole number so that marking the points becomes convenient.



Step 3: Now suppose we want to double the size of the design. For this make a new box of the size which is double the size of the original box measured in Step 2. For example, the size of the box was 3.5''x 2.5''. So now the box size will be 7'' x 5''. If the design has to be thrice its original size then the new box size would have been 10.5'' X 7.5'.

Fig.4: The divided design in graph
Source: <http://eacharya.inflibnet.ac.in>

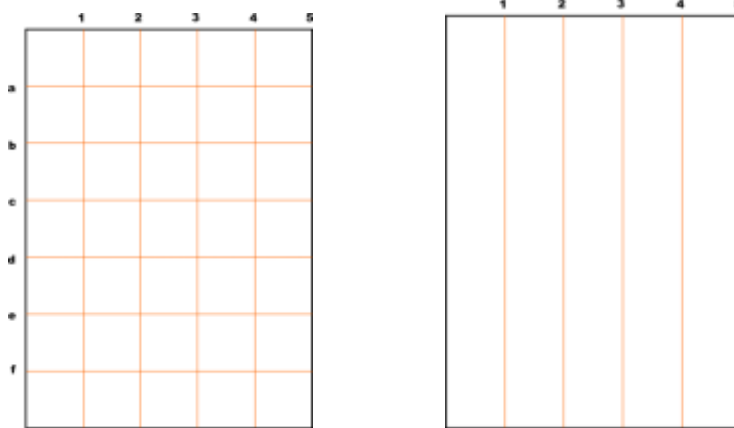
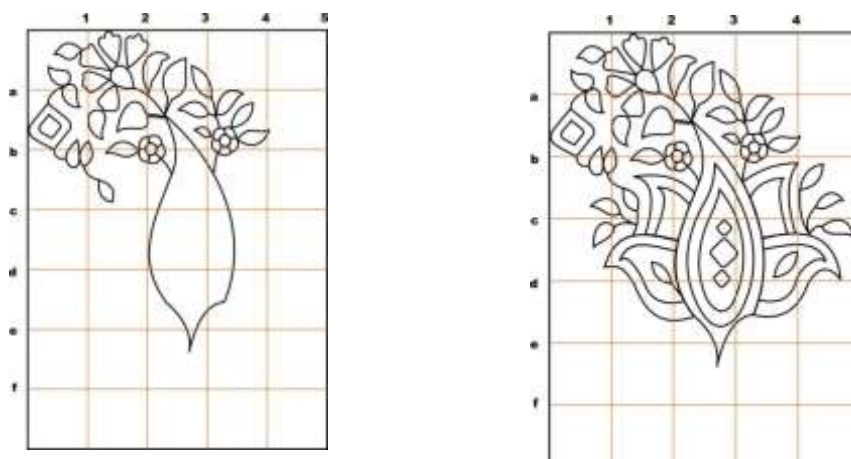
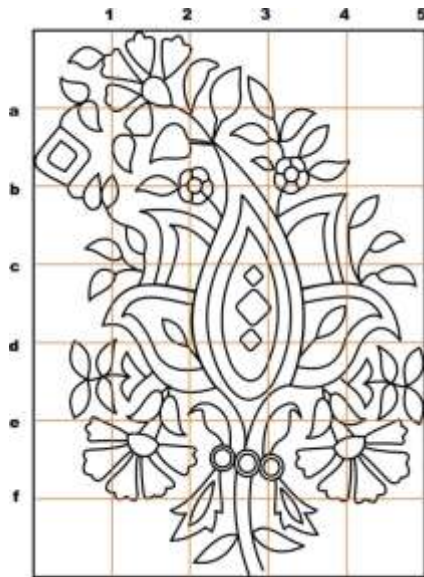


Fig. 5: Enlarged Graph -Double Size
Source: <http://eacharya.inflibnet.ac.in>

Now, once again we need to form the grid in the new big box. For this we have to continue with the same numbers of divisions as were made in the small box. We had 7 divisions, each of 0.5'' in the small box. So here we have to make 7 divisions of double size of the division in each box than original box. Thus the double of 0.5'' is 1''. So we again make 7 divisions in the length of the big box keeping the size of each box 1''. Similarly the size of each division width wise in the big box would be double the size of each division in the small box. Now number the points in the same way as in the small box (Fig.5).

Step 4: Once the new box is ready with the grid, start drawing from the first grid. The design part which is in the first grid of the small box has to be made in the consequent first grid of the bigger box. Continue to draw in the big box exactly the corresponding part which is in the small box (Fig.6).





ving the design in enlarged grid
<http://eacharya.inflibnet.ac.in>

Fig. 7: Enlarged design

Source: <http://eacharya.inflibnet.ac.in>

Step 5: Continue drawing the design as described and the enlarged design will be obtained which is exactly double the original design, as is shown in Fig.7 .

b. Reduction

A motif or a design can be reduced to the desired size, for example to half or one fourth the original size. One has to follow the same procedure as for enlargement with the difference that the second box, in which the final design, is to be made is smaller for reduction where as in enlargement it was bigger than the original design box. One has to select a design and follow the steps given below:

Step1: Enclose the design to be reduced in a box. The box should be made in such a way that the lines of the box touch the furthest points of the design (Fig. 8). It is same as we have followed for enlargement.

Step2: Measure the length and width of the box. Now divide it by the number of parts into which the design is to be divided. For example: Here the size of the motif taken is 7'' x 5''. The length of the design box measures 6 inches, and if we want 6 divisions of the design then we get 1'' division each ($6''/6 = 1''$). Thus mark points at a distance of 1'' each on the left and right lines of the design box. So we get 6 equal divisions. Name each points a, b, c, etc.

Same way measure the width of the design and divide it into a convenient number of divisions. The width is 5 inches, and we decide to divide into 5 parts then we divide 5 inches by 5 which gives us 1 inch. So we mark points on other side of the box and number them as

1, 2, 3, as shown in (Fig. 9).

While deciding upon the number of divisions to be made, it should give us a whole number so that marking the points becomes convenient and accuracy is maintained.

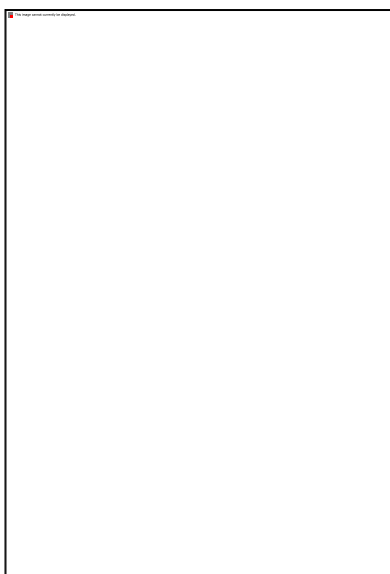


Fig. 8: Enclosed design for reduction
Source: <http://eacharya.inflibnet.ac.in>

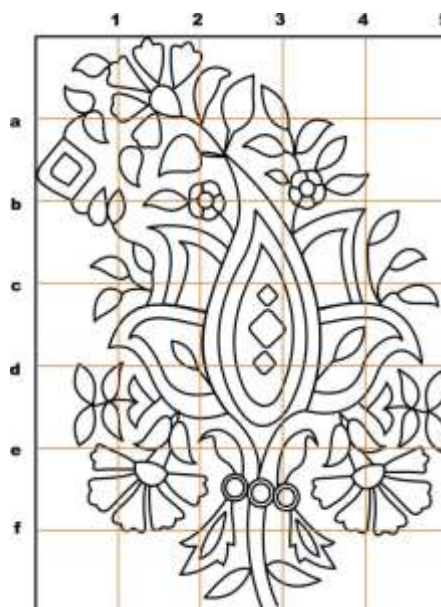


Fig. 9: Grid made for division
Source: <http://eacharya.inflibnet.ac.in>

Step 3: Now decide upon the scale to which the design has to be reduced. If we want to reduce the design to half of its original size, to achieve this make a new box of the size this is half the size of the original size. The original size of the box is 7''x 5'', now reduced size will be half of that which is 3.5''x 2.5''.

Now we have to form the grid in the new small box. For this we have to maintain the same number of divisions made in the original box. We had 7 divisions, each division of 1'' in the length of the small box. So we again make 7 divisions in the length of the small box, but now each division would be half the size of each division in the original box. So we get each division as 0.5'' for each box. Similarly the size of each division in the width of the small box would be half of the size of each division in the original box, i.e. 0.5''. Thus the division of each box is 0.5''.

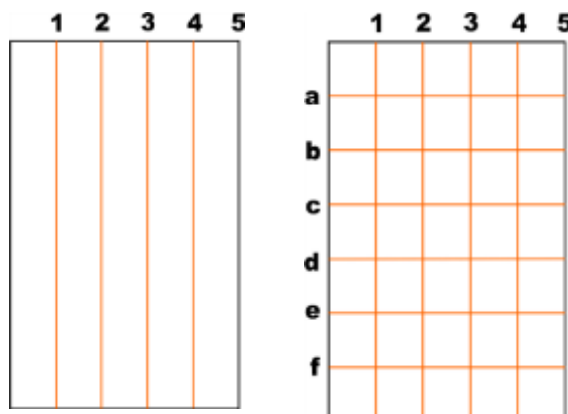


Fig. 10: Design divided in grid for reduction

Step4: Start drawing from the first grid. The design part which is in the first grid of the big box has to be made in the next first grid of the small box (Fig. 10). The grid lines will guide us to maintain the outline of the design. We continue to draw in the small box exactly the matching part which is in the big box till the whole design is complete.

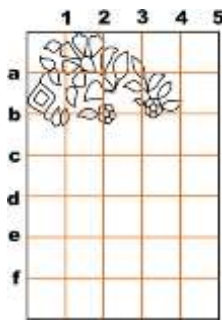


Fig. 11a: Drawing the design in reduced grid
Source: <http://eacharya.inflibnet.ac.in>

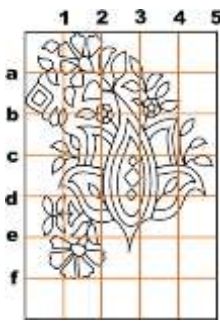


Fig. 11b: Reduced Design
Source: <http://eacharya.inflibnet.ac.in>

12.3 Let Us Sum Up

We have learned that the enlargement and reduction can be done manually as well as mechanically or by using instrument. Manual method is conventional method. At present time with technological development photocopying is most commonly used method for enlargement and reduction as it is economic and convenient. Enlargement and reduction is used widely in printing process, where printing the motif needs to be enlarged or reduced in desired size. Most of the time buyer or client sends the picture of motif for reference then one needs to resize the motif in particular size. It is applicable to almost every field such as embroidery, weaving, painting, printing, etc.

12.4 Check Your Progress

Q:1 Describe the different methods of reducing and enlarging.

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Q:2 Explain in detail the manual method for enlargement.

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Q:3 Explain the manual method for reducing design step by step.

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Q:4 Explain the use of Computer in reducing and enlarging of design.

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Q:5 Compare the manual method and use of instrument in enlargement and reduction of design.

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Multiple Choice Questions

1. Which instrument was developed in 20th Century for reducing and enlargement of design?

- a. Computer
- b. Photocopy
- c. Epidiascope
- d. Projector

2. Which is the first step of manual enlargement from the following?

- a. Draw a box for enclosed a design
- b. Draw grid
- c. Draw a design in grid
- d. None of this

3. The instrument is used widely today for enlargement and reduction of design.

- a. Computer
- b. Photocopy
- c. Printer
- d. Projector

4. If the size of the design is 4.5" x 2.5" and it is to be enlarged in double size then the size of grid required/ division is 0.5" of each box. So the required number of box length wise is and width wise is.....

- a. 5, 3
- b. 4, 2
- c. 9, 5
- d. 7, 9

5. technique is not recommended as it does not give exact proportion.

- a. Freehand
- b. Graph method

c. Photocopy

d. None of these

13.5 Key words

Enlargement: It is a method of increasing the size of motif.

Reduction: Decreasing the size of the motif

Manual: Enlarging or reducing a size of motif by hand (by graph)

Graph method: In this method grid or graph is prepared by calculating the length and width of motif.

Epidiascope: an instrument used generally for enlargement of design. The design to be enlarged is placed on the flat glass top of the instrument called the projection plate.

Photocopy: It is an electronic copy generated by Xerox machine which has made enlargement and reduction very easy and it is widely used today.

13.6 Suggested Books

1. Petersen G., (1973), "Borders of Embroidery", Published by Van Nostrand Reinhold, Pennsylvania.
2. Walner H., (2010), "Continuous- Lines Quilting Designs Download", C & T Publishing Inc.
3. Vidya-Mitra Integrated E-Content Portal, An MHRD Project retrieved from <http://eacharya.inflibnet.ac.in/>

Answers

1. c. Epidiascope
2. a. Draw a box for enclosed a design
3. b. Photocopy
4. c. 9, 5
5. a. Freehand

UNIT 13 STANDARD FIGURE SKETCHING

STRUCTURE

13.0 Objectives

13.1 Introduction

13.2 Eight Head Theory

13.2.1 Advantages of Eight Head Theory

13.3 Development of Croquis

13.4 Let Us Sum Up

13.5 Check Your Progress

Multiple Choice Questions

13.6 Key Words

13.7 Suggested Books

Answers

13.0 Objectives

13.0.1 To develop an understanding of standard figures in fashion.

13.0.2 To enable students to sketch a fashion figure.

13.1 Introduction

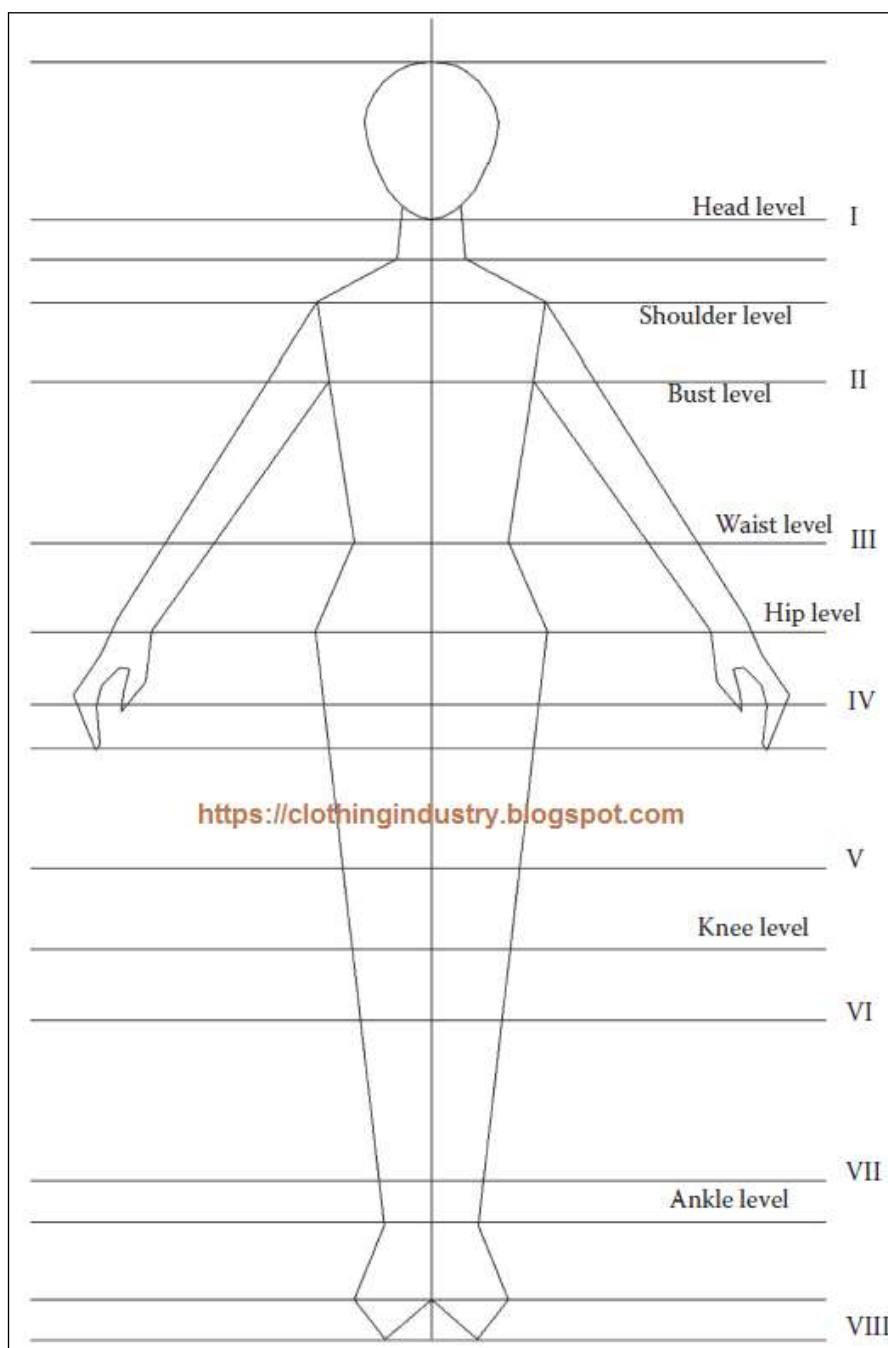
Fashion Illustration is considered as the most fundamental component of Fashion Design. It is used to present the design ideas; Fashion illustration can be presented through many forms and textures with plenty of creative themes and impressions. **Sketching** is the foundation of making original pieces of work in Fashion network. Fashion illustration begins with the sketching of a croquis, the extra notation of the garment, and also a technological representation of a garment before it is produced. Designers frequently sketch out their thoughts and impressions in notebooks before they create. Fashion performers have segregated a grown up human body into eight equivalent parts, which are identical in height to that of the head. Each part is known as 'head'.

We have learned types of design, principle and elements of design, different types of silhouettes in previous units. These are all fundamentals for fashion illustration. The most important thing is Fashion figure. The designers communicate her or his idea through fashion illustrations in best

way. It is important to get knowledge about the standard figure, step by step exercise of sketching fashion figure. Thus this unit includes the division of body in different heads and from that the development of fashion figures. The sketching of fashion figure becomes better by practicing. There are many templates available for different poses that can be traced and used.

13.2 The Eight Head Theory

According to this theory, the normal body structure is considered 5'4" height. In this body is divided into 8 parts in which each part is 1" in length. A development of this theory is the ten head theory, which is used for all fashion drawing. This figure is referred to as fashion model figure. In this system, the body structure is divided into ten equal parts or heads. The bottom part of the body is longer compared to the eight head figure. The ideal height for this theory is taken to be 5'8". The division of body structure in the eight head principle is shown in Figure-1.



1. **Hair to chin:** The garments are generally worn on the body through the head and hence hat or cap head measurements should be taken. The right place on the neck is the chin itself. Yoke measurements are taken 1" below the chin. The head is considered the first portion of the human body and the chin is considered a first imaginary line.
2. **Chin to nipple:** The upper body garments are prepared according to the size of the chest only. This is the second part and the second imaginary line passes through the nipples and the armscye. This line denotes the bust level.
3. **Nipple to navel:** The next imaginary line passes through the navel; shoulder to waist is measured up to the navel points. This level is the waist level. But for proper garment fitting, the waist measurement for ladies is taken 1" above the waist level and for men 1/2" below the line.
4. **Navel to pubic organs:** This part is most important for lower body garments. The lower body garments are cut based on the hip size. The hip level is usually 3–4" above this imaginary line. This is the most heavy or fat part of the body. This is also as important as the chest measurements.
5. **Pubic organ to mid thigh:** This part is important mainly for arm measurements. The fingertips normally end near about this line. The length of the arms is measured as 3 heads.
6. **Mid thigh to small:** The part below the knee is known as small. The knee level is about 2–3" above this imaginary line. Length of gowns is taken around this head.
7. **Small to ankle:** This head is important for full length garments like trousers. These garments usually end here. The calf level is above this head. House coats, nightgowns, etc. end at the calf level.
8. **Ankle to feet:** The eight heads are imagined on assuming a person standing on the toes. This is the last head and it comprises only the feet. This is necessary for tight fitting leggings and floor-length garments like evening gowns.

13.2.1 Advantages of Eight Head Theory:

- By the knowledge of eight head theory, the observation of the body structure becomes easy.
- It will help in drafting and fitting. If there happens to be any fault, then it shall be detected and rectified.
- Knowledge of body structure shall be helpful in taking correct measurement and this will result in correct cutting and the garment shall be stitched properly.
- Work shall be easily and speedily executed.

13.3 Development of Croquis:

13.3.1 What Is a Croquis?

The first step in fashion figure drawing is to create a fashion croquis. A croquis is a quick sketch outlining the proportions of the fashion figure. A croquis is almost like a paper doll—it is a template and can be placed under a piece of paper for drawing garments.

Croquis is an eight-headed figure outline which is the base of fashion illustration.

The method of creating Croquis is:

- Stick Figure
- Contour Figure
- Female or male Croquis.

There are also child figure for which croquis has been used. Here in this chapter we are only focusing on Female figure. The purpose of using “Eight head” theory for Fashion Illustrations are to identify the figure exactly.

The important components of Croquis are:

- Balance Line
- Hip Line
- Shoulder Line

13.3.2 Developing the figure or sketching the figure from the Croquis:

After finishing with the eight head geometric figure the next step is to draw the fashion figure with right and perfect body curves by following the eight head figure. This is a practical exercise and with practice it will improve. Now-a-days many books are available with different poses of fashion figures from where one can trace the figure and sketch the design onto it. But it is important to learn to draw a fashion figure by free hand for a designer.

Fashion figure sketching:

Drawing fashion figure is the first step in learning fashion designs to life. Fashion figures are the template for a fashion designer’s vision. It helps to bring the idea of a designer from paper to the cut and stitched in three dimensional forms.

What is a Fashion Figure Sketching?

Fashion designing begins with a fashion drawing. Fashion drawings are the base for a design, and can vary in style and amount of detail. Following are the three different types of fashion figure sketching.

- Flat sketch: It is usually used to outline the shape and silhouette of a garment.

- Fashion drawings: They can also be three-dimensional fashion figures with texture, shading, and movement lines for fabric draping.
- Fashion illustration: It is a more detailed type of fashion drawing that might include color and accessories—and the fashion figure might have a detailed face or hairstyle to showcase a head-to-toe look.

Importance of Fashion Figure Sketching

Fashion sketching helps to communicate the technical elements of a design, such as length and fit to pattern maker. Fashion sketching is the way of designer's expression to their client. Fashion designers can use drawings to convey their own style through different kinds of poses or drawing tools.

Tools Needed for Fashion Figure Sketching

If one would like to sketch one's own croquis, or fashion figure template, one will require following tools: Paper (8.5x11 inch)

- A hard pencil
- A ruler
- An eraser

The body proportions of a fashion figure are not proportional to the human body. The eight head theory is more realistic and similar to body proportion. Generally, a fashion figure follows the industry standard of the "nine head" length: this means the length of a fashion figure is approximately nine times the size of the drawing's head. These elongated fashion figures help to showcase garments, particularly dresses and skirts.

The steps are referred from an article of author Jacob M. Here is a step-by-step guide to completing a fashion drawing.

1. **Draw a vertical line down the center of the paper.** This line, which stretches from the head to the feet, will be the fashion figure's center of balance.
2. **Separate the paper into nine equal sections.** The nine sections will include the fashion figure's head, bust, waist, hips, thigh, calves, ankles, and feet. You can draw horizontal lines, approximately an inch and one-eighth each, to separate the nine sections.
3. **Draw the pelvic area.** In the middle of the balance line, draw a square for the fashion figure's pelvis. This can be angled in different directions to create different poses.
4. **Draw the torso and shoulders.** Draw two lines upward from the top of the pelvic square to create the torso. The lines curve inward and outward again to create the waist. The shoulders should be approximately the same width as the pelvis, but the shoulder lines can be angled to create a pose that is rounded forward.
5. **Draw the neck and head.** The neck should be one-third of the shoulder width, and half the length of the head. Draw a circle for the head in proportion to the body.

6. **Draw the legs.** The figure's legs should be approximately four times the length of the head drawn. The legs are portioned into two sections: the thighs and the calves. The top of the thighs should span the same length as the head. Taper the line down to the knee, and again to the ankle so that the ankles are approximately one fourth the size of the head.
7. **Draw the arms.** Create the arms with tapered lines to the elbow and then again to the wrist. The arms can be positioned alongside the figure's body, or posed on the hips. Finish with the hands and fingers.
8. **Draw the feet.** The feet should be approximately the length of the head.
9. **Create your fashion design.** Now that the fashion figure is sketched, you can begin to build your design creations on top of the figure.
10. **Illustrate your design.** Shade the design to show the movement of the fabric or to highlight where material gathers on the garment. Color in the fashion drawing to add dimension. Add embellishments to the fabric to demonstrate your own style. Add facial details or a hairstyle to complete the look.

13.4 Let Us Sum Up

Here to sum up we can say that a fashion figure is a way of communication of a designer's idea before the preparation of a garment. Fashion figures basically follow the nine head theory. The nine head theory gives us guideline or skeleton. Following these guidelines we can create a fashion figure by adding shape. The fashion figure sketching can be improved by repeated exercise. At present time fashion illustrations can also be done with the help of computer using different softwares such as Adobe Illustrator, Adobe Photoshop.

13.5 Check Your Progress

Q:1 What is eight head theory?

.....

Q:2 Explain in detail the eight head theory.

.....

Q:3 What are the advantages of eight head theory?

.....
.....
.....

Q:4 Write a note on development of croquis.

.....
.....
.....

Q:5 State the main components of croquis.

.....
.....
.....

Multiple Choice Questions

1. According to eight head theory, body is divided into parts.

- a) eight
- b) seven
- c) ten
- d) nine

2. The ideal height for this theory is taken to be

- a) 5'4"
- b) 5'8"
- c) 5'9"
- d) 5'10"

3. In ten head theory, thepart of the body is longer compared to the eight head figure.

- a) upper
- b) torso
- c) bottom
- d) middle

4. The second imaginary line passes through the nipples and the.....

- a) neck
- b) chest
- c) navels
- d) armscye

5. part is important mainly for arm measurements.

- a) Pubic organ to mid thigh
- b) Hair to chin
- c) Mid thigh to small
- d) none of above

6. The knee level is aboutabove this imaginary line.

- a) 3-4"
- b) 2-3"

- c) 1-2”
- d) 1.5”

7. House coats, nightgowns, etc. end at thelevel.

- a) ankle
- b) mid-thigh
- c) calf
- d) floor length

8. The last head comprises only the

- a) toe
- b) ankle
- c) leg
- d) feet

9. head is necessary for tight fitting leggings and floor-length garments like evening gowns.

- a) Ankle to feet
- b) Small to ankle
- c) Mid thigh to small
- d) knee to ankle

10. is an eight-headed figure outline which is the base of fashion illustration.

- a) mannequin
- b) Croquis
- c) fashion figure
- d) all of above

11. Yoke measurements are taken 1” below the.....

- a) neck
- b) bust
- c) chin
- d) head

12.part is most important for lower body garments.

- a) Ankle to feet
- b) Pubic organ to mid thigh
- c) Mid thigh to small
- d) Navel to pubic organs

13.6 Keywords

Eight head: The normal body structure is considered 5’4” height. In eight head theory the body is divided into 8 parts in which each part is 1” in length.

Ten head: A development of eight head theory is the ten head theory, which is used for all fashion drawing. This figure is referred to as fashion model figure. In this system, the body structure is divided into ten equal parts or heads.

Fashion illustration: It is a more detailed type of fashion drawing that might include color and accessories—and the fashion figure might have a detailed face or hairstyle to showcase a head-to-toe look. It is a voice of designer.

Standard figure: It is an ideal figure which used as template for fashion drawing or sketching.

Croquis: A croquis is a quick sketch outlining the proportions of the fashion figure.

13.7 Suggested Books

- How to take body measurements, retrieved from <https://clothingindustry.blogspot.com/>
- Kumar S., (2012), *Fashion Illustration – Head Theory, Croquis*, retrieved from <https://style2designer.com/>
- Jacob M., MasterClass, Design, photography, & fashion, “Step-by-Step fashion drawings: how to draw a fashion figure in 10 steps”, an article retrieved from <https://www.masterclass.com/articles/step-by-step-fashion-drawings-how-to-draw-a-fashion-figure-in-10-steps#learn-how-to-draw-fashion-figure-in-10-steps>

Answers

1. a
2. b
3. c
4. d
5. a
6. b
7. c
8. d
9. a
10. b
11. a
12. b

Unit 14 Basic Rendering Techniques

STRUCTURE

14.0 Objectives

14.1 Introduction

14.2 Basic Rendering Techniques

14.3 Rendering Different Fabrics

14.4 Use of Computer Application in Rendering

14.5 Let Us Sum Up

14.6 Check Your Progress

Multiple Choice Questions

14.7 Keywords

14.8 Suggested Books

Answers

14.0 Objectives

14.0.1 To enable students to identify different fabrics, its characteristics and textures

14.0.2 To get practical knowledge of different techniques of rendering

14.1 Introduction

Rendering is artist's way of explaining a fabric. Rendering is the means by which a designer conveys the information about the fabric. Fabric or textile is the main raw material of fashion design or fashion industry. After completing the fashion sketching it comes to the fabric rendering. The fabric rendering tells the client all about the type of fabric, its drape, how it looks on a particular silhouette and pattern or its overall look. Rendering improves by observation. It requires practice. There are some tips and techniques which would help a designer to improve the rendering skills. At present there are many graphic applications available for fabric rendering. In this unit we will discuss both the manual rendering techniques and the different software or graphic applications available.

14.2 Basic Rendering Techniques:

Fabrics come in a variety of textures. Think of fabrics like satin, velvet, tweed or lace. They all have their own distinctive look and feel because of their texture. This is an important element to focus on while drawing.

The best way to render textures in a realistic way is through observation. Look at the way that the light hits the fabric. Does it shine like satin? Is there a strong contrast between lights and shadows? Or does it look flat like tweed? Ask yourself questions to decide what shade of pencil to use, where to draw shadows and what to leave blank.

Rendering is more of practical than theory. Practical exercise is compulsory for better understanding.

Rendering Types and Techniques:

14.2.1 Stippling Technique

The play of light and shade is also shown with the use of dots. The sequined fabric is rendered through stippling technique. It is a process when small dots are used to render an object (Fig: 1).



Fig.1: Stippling technique

Source: <https://www.pinterest.com/pin/456271005993811348/>

14.2.2 Hatching Technique

In this process small cross lines are used to render an object. It can also create half tones. (Fig: 2)

14.2.3 Cross Hatching Technique

It is a process in which small criss-cross lines are used to render an object. (Fig: 2)

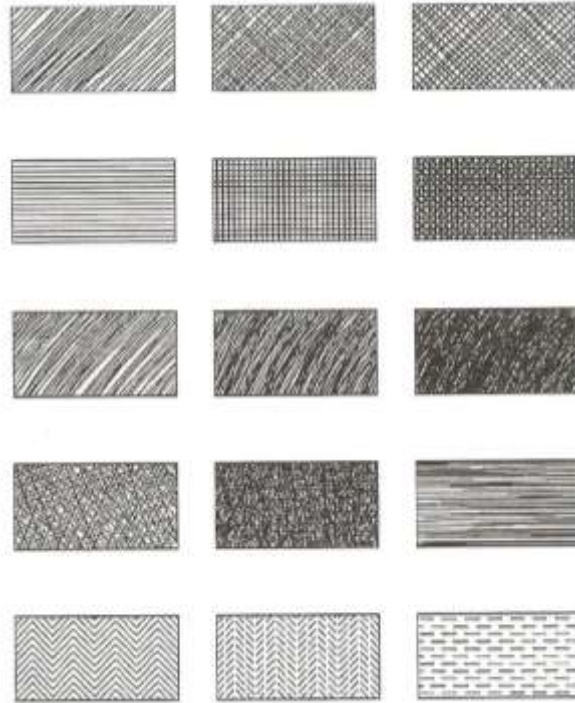


Fig.2: Hatching and cross hatching technique
Source: <https://in.pinterest.com/pin/1263823332>

14.2.4 Shading Technique

It is a process when pencil is used to show the play of light on an object. The same effect can be created with the use of colors. (Fig: 3)



Fig.3: Shading technique

Source: <https://in.pinterest.com/pin/126382333270897863/>

14.2.5 Texturing

Apart from the basic techniques, various textures can be created to depict a particular object.



Fig.4: Different texturing method

Source: <https://in.pinterest.com/pin/540220917798007212>

Figure 4 shows the various fabric represented by rendering such as woven, checked, stripped, woolen, denim, printed, leather, satin etc.

14.3 Rendering Different Fabrics (Example):

a. Rendering Plaids: (Fig. 5a)

- Indicate grain line direction of plaid
- Apply the background colour with marker
- Indicate the vertical bars with a soft coloured pencil
- Indicate the horizontal bars with a soft coloured pencil. Darken the area where the horizontal and vertical lines cross

b. Rendering Leather: (Fig. 5b)

- Think of shiny cylinder wrapped around body
- Notice the light source
- The lightest value is on the right side
- The darker value is farther back
- The middle value is in the front
- Follow above steps to colour the base
- outline the soft edge with a soft white coloured pencil

c. Rendering Lace fabric: (Fig. 5c)

- Render the fabric over the skin tone
- The net can be lightly sketched in with cross hatching or rubbing over net with pencil over the skin tone
- Then work on motif
- First work the skin tone and then render the lace, keeping a rhythm to the line

d. Rendering Chiffon fabric: (Fig. 5d)

- Colour all the skin tones not covered with fabric, with a marker
- Indicate the chiffon lightly with a soft coloured pencil
- Indicate the shadows and folds with a darker shade of soft coloured pencil
- Indicate the skin tone under the chiffon with a soft skin tone coloured pencil

e. Rendering Fur fabric: (Fig. 5e)

- Colour the background with a marker
- Randomly work irregular ovals with dark brown coloured pencil
- Draw a broken outline around the brown with soft coloured pencil

We can use different material or object for rendering. For example sand paper, canvas, net, bubble wrap, cardboard, using glue, etc. We can also rub

the sheet of paper on the fabric itself and create textures. There are endless options to create textures. There is no limit.

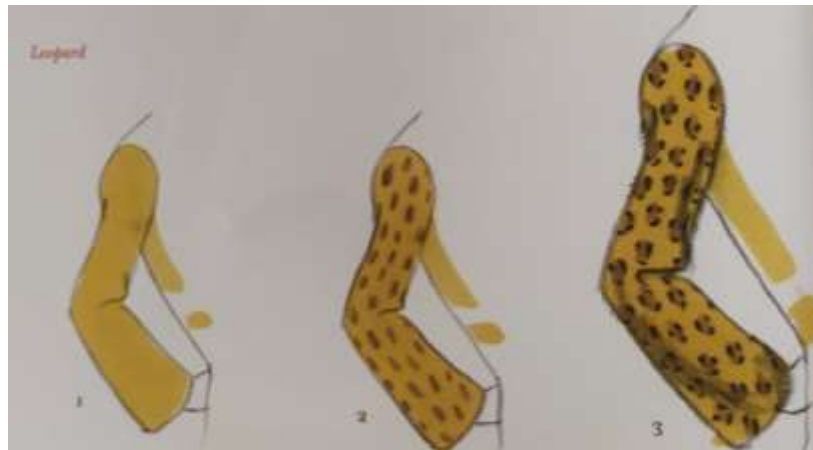


5b. Leather

5c. Lace



5a. Plaids



5e. Fur

5d. Chiffon

Fig.5: Various fabric rendering techniques
Image Source: Captured from the book by Steven S.

14.3 Use of computer application in rendering

There are various software and applications available for fabric rendering. Adobe Illustrator and Adobe Photoshop are two of the most commonly used CAD (Computer Aided Design) software programs in the fashion industry due to their versatility and affordability. In fact, it's rare to encounter classifieds for fashion designer jobs that don't list Adobe Illustrator and Photoshop as requirements. When used in combination with one another, these two programs provide just about all the tools an apparel designer needs to draw fashion design sketches, technical flat sketches, CAD presentations (rendered flat sketches), create and modify textile designs, repeats and colorways, design embroidery, graphic artwork, and more!

When combined with Illustrator, Adobe Photoshop adds to the versatility of the fashion designing, allowing working with various bitmap images as well as imported Illustrator images. You can easily perform color changes in fabric textures such as denim, twill, or sweater stitches, and add realistic shadows and highlights to presentations without losing texture detail. Complex patterns can be scanned to make simple color modifications, and more realistic plaid repeats and colorways can be created from scratch. Fashion designers can create original graphic artwork either through freehand drawing, or by applying various techniques like watercolor, airbrushing, charcoal and other artistic effects to existing images.

Using such software makes the work faster; you can tryout many options at a time and person with average drawing skill can also make it possible.

14.4 Let Us Sum Up

Rendering is a way of communication about the fabric. After sketching the design rendering has been done to check the overall look of the particular type of fabric. We have studied five basic techniques which are stippling, hatching, texturing, shading, etc. Rendering is improved by practicing and observation. It is important to have basic knowledge of light theory, shading, basic textures. It is important for a designer to first be able to identify the fabric, and then observe the surface of the fabric. After this apply the suitable basic rendering techniques to get the perfect fabric rendering. More practice gives better rendering and it also develops more creative ways of rendering.

14.5 Check Your Progress

Q:1 Which are the basic rendering techniques? Explain all four techniques.

.....
.....
.....

Q:2 Practical Exercise: Render the following fabric (any two)

- Leather
- Plaid
- Chiffon
- Fur

Q:3 Which two softwares are most commonly used in fashion design?
Discuss about their role.

.....
.....
.....

Multiple Choice Questions

1. Rendering is the means by which a designer conveys information about the

- a) fabric
- b) pattern
- c) design
- d) sketch

2. is the main raw material of fashion design or fashion industry.

- a) Design
- b) Pattern
- c) Textile
- d) All of above

3. Which of the following is a rendering technique?

- a) Hatching
- b) Shading
- c) Stippling
- d) All of above

4..... is a process in which small criss-cross lines are used to render an object.

- a) Cross Hatching
- b) Stippling
- c) Hatching
- d) Texturing

5. is a process when small dots are used to render an object.

- a) Cross Hatching
- b) Stippling
- c) Hatching
- d) Texturing

6. Adobe Illustrator andare two of the most commonly used CAD (Computer Aided Design) software programs in the fashion industry.

- a) Microsoft publisher b) in design
- c) Adobe Photoshop d) none of above

14.6 Keywords

Rendering: Rendering is artist's way of explaining a fabric. Rendering is the means by which a designer conveys the information about the fabric.

Stippling: The play of light and shade is also shown with the use of dots. The sequined fabric is rendered through stippling technique. It is a process when small dots are used to render an object

Shading: It is a process when pencil is used to show the play of light on an object. The same effect can be created with the use of colors.

Hatching and cross hatching: Small cross lines are used to render an object in hatching. In the cross hatching technique small criss-cross lines are used to render an object.

Texturing: It is a process to render the particular fabric using basic rendering techniques and other materials such as markers, colours, paints, brush etc.

Computer aided design programme: There are various software and applications available for fabric rendering. Adobe Illustrator and Adobe Photoshop are two of the most commonly used CAD (Computer Aided Design) software programs in the fashion industry due to their versatility and affordability.

14.7 Suggested Books:

- Stipelman S., "*Illustrating fashion: Concept to Creation*", 3rd Edition, 2011, Bloomsbury publishing Inc, China.
- <https://www.designersnexus.com/fashion-design-industry-information/adobe-illustrator-photoshop-fashion-design/>
- <https://www.ladyfashiondesign.com/rendering-tools-for-fashion-design/>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=114170>

Answers

1. a
2. c

3. d

4. a

5. b

6. c

યુનિવર્સિટી ગીત

સ્વાધ્યાય: પરમં તપ:

સ્વાધ્યાય: પરમં તપ:

સ્વાધ્યાય: પરમં તપ:

શિક્ષણ, સંસ્કૃતિ, સદ્ભાવ, દિવ્યબોધનું ધામ
ડૉ. બાબાસાહેબ આંબેડકર ઓપન યુનિવર્સિટી નામ;
સૌને સૌની પાંખ મળે, ને સૌને સૌનું આભ,
દશે દિશામાં સ્મિત વહે હો દશે દિશે શુભ-લાભ.

અભણ રહી અજ્ઞાનના શાને, અંધકારને પીવો ?
કહે બુદ્ધ આંબેડકર કહે, તું થા તારો દીવો;
શારદીય અજવાળા પહોંચ્યાં ગુર્જર ગામે ગામ
ધ્રુવ તારકની જેમ ઝળહળે એકલવ્યની શાન.

સરસ્વતીના મયૂર તમારે ફળિયે આવી ગહેકે
અંધકારને હડસેલીને ઉજાસના ફૂલ મહેંકે;
બંધન નહીં કો સ્થાન સમયના જવું ન ઘરથી દૂર
ઘર આવી મા હરે શારદા દૈન્ય તિમિરના પૂર.

સંસ્કારોની સુગંધ મહેંકે, મન મંદિરને ધામે
સુખની ટપાલ પહોંચે સૌને પોતાને સરનામે;
સમાજ કેરે દરિયે હાંકી શિક્ષણ કેરું વહાણ,
આવો કરીયે આપણ સૌ
ભવ્ય રાષ્ટ્ર નિર્માણ...
દિવ્ય રાષ્ટ્ર નિર્માણ...
ભવ્ય રાષ્ટ્ર નિર્માણ