sub code: 16SACAF2

Department of Apparel and Fashion Technology

Pattern Making Techniques

UNIT 1

PART A

1. Define grain

It refers to the direction of the yarns along the warp thread. This is the lengthwise grain. The weft thread is referred as the crosswise grainline.

2. What is a selvedge?

Selvedge is a "self-finished" edge of fabric, keeping it from unraveling and fraying.

3. List out the three grains.

They are straight grain, cross grain and bias grain.

4. Define layout.

A layout is a plan for the placement of pattern pieces on the fabric

5. What is stay stitch?

Staystitching is a row of machine stitching done on a single layer of fabric just inside the seam line. This kind of stitching is always done in a specific direction

6. What is ease stitch?

Easestitch is a stitch that is used to create a gather in your fabric in order to "ease" in two pieces of different sizes. Easestitching is most commonly used in fitted sleeves.

7. List points to be considered as lay planning.

Lay planning is the arrangement process of cutting room, table space and labor. Perfect fabric spreading and cutting schedules are depends on the table length, type of equipment, spread length, spreading time, cutting time and personnel.

8.Define balance

Balance refers to the "hang" of the garment. If a garment is balanced, it will hang straight, rather than twisting or having folds.

9. What is combination fold?

In combination fold the fabric is folded in lengthwise and crosswise grains together.

10. What is steam press method?

It is fastest way of transmitting the heat onto the fabric. Steam and heat are essential to ease the fabric from tension and make the fabric with adequate flexibility so that it can be moulded to get the required contour.

PART B

1. Write the importance of grain in fabric cutting

Grain is very important when constructing garments since it determines how a garment will hang, fit and appear. Garments that are not cut and sewn according to the fabric grain can stretch in places they should not, have sagging hems and be uncomfortable to wear.

The reason why these threads are important to the grainline is that they each react in different ways. For example, the warp thread is generally the stronger of the two and is the least likely to stretch out of shape.

2. Write short notes on grain and its types

Fabric grain refers to the direction of the warp and weft threads used in weaving the fabric. Straight grain is in the direction of the warp threads, which run parallel to the selvages, and cross grain runs in the direction of the weft threads, which run perpendicular to the selvage edges.

3. Explain the methods of pattern making

Drafting :

Drafting is a method in pattern making that involves the measurements taken directly from a person or a dress. It is a process used to create the basic foundation of design patterns.

Draping :

Draping is a method which involves a two-dimensional piece of fabric around a form, creating a three-dimensional fabric pattern. The muslin which is created this way is used to transfer the paper to be sued as the final pattern.

Flat Pattern Making:

The method of flat pattern making is involved with the development of a fitted basic pattern with the comfort to fit a person. A sloper is the starting point in a flat pattern method. If

4. Write short notes on pattern making tools

Straight pins:

Dress maker used it for draping and fitting.

Straight pin holder:

Pincushion or magnetic holder which is used for wrist and table.

Scissors:

There are different types of scissors such as paper scissor, fabric scissor etc.

Pencils and pens:

Mechanical pencil and sharpener which is used for pattern work.

Red and blue colored pencils are used to identify pattern changes. Black, green, red and blue felt tip pens for pattern information.

Rulers:

Tailors square (24 × 14) inch metal ruler with two arms forming a 90® angle that measures, rules and squares simultaneously.

Also used to triangle with the measurements to square lines.

Curve rules:

French curve is one of the several curves used for shaping arm hole and neck line.

Hanger hooks or ringers:

It is used to hold the patterns together for hanging on rods.

Push pins:

Push pins areused for pattern manipulation. It also prevents pattern slippage when cutting several plies of paper together.

Magic mend scotch tape:

It is used to mend pattern work.

Black twill tape:

Black twill tape is used for the placement of style lines on garments.

Notcher:

It is used to indicate seam allowance, center line and also to identify front and back of patterns.

5. What are the methods of straightening fabric grains?

Stretching method: The simplest method of making a fabric grain perfect is by stretching it. Open up the fabric, keep it near the corner of a table and pull it on the true bias. After pulling for some time, fold the fabric and check for grain perfectness. This process may have to be repeated several times.

Steam press method: If the above mentioned method does not work, clip the selvedges at intervals, sprinkle water on the fabric and press with a hot iron in the appropriate direction till the fabric become grain perfect.

Immersion method: This is the most effective method for straightening washable fabrics. The fabric is folded lengthwise and the selvedges are tacked together. It is then immersed in water until completely wet, and excess water is squeezed out. The fabric is hung up, till it is half dry. The half dry fabric is placed near the corner of a table and stretching process is carried out to make it grain perfect. After straightening, it is kept on a flat surface and dried. When dry, press with an iron, remove the tacking stitches along the edges.

PART C

1.Explain the steps involved in preparing fabric for cutting

Step 1 Wash and dry the fabric. You have to wash and dry your fabric the same way you will wash and dry the finished garment, and according to the care instruction for the fabric.

Step 2 Press the fabric. Iron out any wrinkles before cutting.

Step 3 Check if the fabric is on grain, and straighten it if it's not.

2. Explain in detail about types of layout

Based upon the placement of the patterns, the layouts are classified as

Open Layout

Open layout is the simplest layout. The fab-ric is spread on the table and the patterns are laid from left to right one after the other. This is easy for beginners. No fold is made in this method.

It can be used for all patterns. This is used especially for designs with dif-ferent left and right patterns.

Lengthwise Centre Fold

The fabric is folded in the lengthwise direction. The selvedges of both sides are placed one on top of the other and folded in the middle. The fabric forms a fold at the centre. All folded patterns are placed along this fold. This fold is also used for different type of frocks, shirts and blouses.

Off-Centre Lengthwise Fold

The required width needed for the pat-terns is taken on the fabric and folded in the lengthwise direction. This is com-monly seen when many small patterns are found in garments. The fold should be parallel to the selvedge. This is used for many garments from simple baby's panty to integrated men's coats.

Crosswise Outer Fold

Crosswise centre fold is similar to length-wise centre fold. In this fold, the fabric is folded in crosswise direction. It is best suited, when the patterns are too narrow to be fitted in the lengthwise fold. This fold can also be used when special effects are needed like having a dress with hori-zontal strips using a material with length-wise stripes.

Off Centre Crosswise Fold

The off centre crosswise fold is a layout when the fabric is folded in the cross grain. The fold is perpendicular to the selvedge. This fold is used when a part of garment is cut in cross wise grain for ease or spe-cial effects. Example when collars or yokes are cut on fabrics with horizontal strips or vertical strips.

Double Fold or Combination Fold

In combination fold the fabric is folded in lengthwise and crosswise grains together. This layout is used for sari petticoats and jablas.

UNIT 2

PART A

1. Define basic blocks

All pattern cutting should start with learning how to draft a basic block.

2. What are the two types of paper patterns?

(i) Standardised paper pattern

(ii) Individual paper pattern

(iii) Block paper pattern

(iv) Graded paper pattern

(v) Commercial paper pattern

3. Define drafting

Drafting is defined as a method of drawing patterns on paper with mechanical precision using body measurements

4. Define draping

Draping for fashion design is the process of positioning and pinning fabric on a dress form to develop the structure of a garment design.

5. What are the types of dress forms?

Display Dress Form

Professional Dress Form

Bifurcated dress form

Adjustable dress form

6. Write a note on body measurements

Body measurements were divided into four groups: stature, segment length, body breadth and circumference.

7. List two draping techniques

Draping technique is the technique which means the way of fabric hanging. The method of draping includes stitching the garment by the use of loosely hanging material to create o flowing effect.

PART B

1. Explain the advantages of paper pattern

A good pattern of the right size which has been adjusted to suit your individual requirements

A pattern prepared on thick paper or card board can be preserved for a long time

A paper pattern of a particular size can be used to make new patterns

Cutting with the help of a paper pattern is quicker and easier

Patterns can be modified according to latest fashion.

2. Write notes on drafting procedure of sleeve pattern

To start, draw a vertical line the same length as your sleeve measurement.

Take your ruler and line the 0 mark up at the top of the vertical line.

Next, measure your bicep length centered over the vertical line.

Divide each of the lines you made in the previous step into quarters and mark them.

3. Write notes on draping techniques

Draping at first started with a designer, taking a normal basic dress and putting it on a dressmaker's model. Already the garment was sewn before starting draping. While stitching the garment, core shape and fit should be maintained properly to dress-up the model perfect.

The next technique is, the designer takes pieces of fabric, pins and required material before starting draping. Pin them to the garment where the drape is preferred, which will provide the finished garment shape.

4. Explain the preparation of paper patterns.

a pattern is the template from which the parts of a garment are traced onto fabric before being cut out and assembled. Patterns are usually made of paper, and are sometimes made of sturdier materials like paperboard or cardboard if they need to be more robust to withstand repeated use

PART C

1. Explain in detail about principles of pattern drafting

Drafting can be done on ordinary brown paper which should not however be too thin.

To obtain an accurate draft, use a sharp pencil, and a ruler for, drawing straight lines. To get the corners at right angles, keep an 'L' scale or set squares ready. Before drafting, it is important to understand the procedures and instructions clearly, and to have practice in drawing a well balanced pattern with smooth curves and straight lines. You must understand the following principles before starting to attempt drafting.

Patterns must be made larger than body measurements to allow for freedom of movement, ease of action and comfort in wearing.

2. Describe in detail about the drafting procedure for basic bodice front and back pattern

Bodice pattern :front piece

1.Starting from the neckline. You can get the A-B distance from the back piece. The front neckline width is the same.

Add 1 cm to that to get the missing measurement from point A downwards. Now you can draw the front neckline.

2. Then we can tackle the bust dart. First mark point C. You can get the B-C measurement, too, from the back piece: it’s the distance between the base of neck and the little dart. The idea here is to have the two darts (front and back) match at the shoulder line.

Measure the bust level from point A downwards. Mark it at the c. front and then measure ½ distance between bustpoints to get the starting point for the bust dart. Unite it with point C.

Measure 7,5 cm from bust point upwards along the dart leg, then 2 cm* in a 90 degree angle and mark the point.

Depending on the difference between bust- and above the bust -measurements. If there is very little difference, you can reduce the value a couple of millimeters. In the opposite case, you might want to increase. The maximum amount I've ever had to increase has been 5 mm.

Draw the other dart leg from the bust point, passing through the previous guide mark.

3. Measure 6,5 cm downwards from the top and draw a short parallel line.

UNIT 3

PART A

1. What is Dart manipulation?

Dart manipulation in flat pattern making allows you to move a dart from its original location to a new location.

2. Define flat pattern designing

It is the art of manipulating and shaping a flat piece of fabric to conform to one or more curves of the human figure .

3. Define pivot method

The pivoting method involves tracing around part of the block, holding the block down at the Bust Point, pivoting the block, then tracing the remainder of the block.

4. Define slash and spread method

The slash method, both slash and spread and slash and close is a fundamental pattern making technique in which a pattern piece is cut or slashed and then spread apart to add fullness or closed to reduce fullness

PART B

1. How will you produce gathers at sleeve top and bottom by slash and spread method.

The idea behind all these sleeve patterns is adding volume with the slash and spread -method. The final look of the sleeve depends on where and how much you added the volume. Just cut the lines open and add as little or as much volume as you want.

2. How to relocate the dart

1. Trace off the front bodice; here the bodice block is made from card, making tracing easier and more accurate.

Cut up the front waist dart and the side seam dart.

 Above fig refers to different dart locations

PART C

1. Give a note on creating styles through Dart manipulation

Dart manipulation:

Dart Manipulation is one of the most important techniques when it comes to pattern drafting. Darts become princess seams, gathers, tucks or cowls. New style lines are added or moved, necklines are reshaped. Their are three dart manipulating techniques in flat patterns. These are suitable for manipulate dart to any location.

Pin and Pivotal dart rotation technique:

Pattern designers use pivoting methods to make fashion changes. They move darts or add fullness by anchoring the basic pattern with a pin and moving the pattern in, out, and around.

Slash-spread dart rotation and overlap technique:

Pattern graders use the slide motion to change pattern sizes. They slide patterns up, down, and to the side to gradually increase or decrease from one size to the next. Use this sliding motion to add or subtract length.

Dart equivalents technique:

Pleats or gathers in the fabric can be used as for the same purpose as a normal stitched dart. These are called dart equivalents. Darts can also be worked into style lines. The dart excess can be used to create a wide variety of other design features such as, tucks, gathers, pleats, and even cowls.

UNIT 4

PART A

1. What is computer grading?

Computer grading is the most recent development in grading technology. It is also the fastest method. Computer grading, however, is expensive and usually only large manufacturers can afford it. Computer grading takes the processes of the two former methods and digitizes them.

2. Write any two disadvantages of pattern grading

Time consuming process.

Expected accuracy may not be obtained.

3. Give any two points for selecting commercial patterns.

Selection of commercial patterns: Patterns for women's and children's garments are usually sized according to bust measurement. Pants and skirts are sized according to waist, hip and length measurements. Hence before selecting the pattern, you should take your body measurements accurately and buy the correct size.

4. What are the demerits of commercial patterns?

They are light and can tear easily.

They are pensive.

They are not easily or readily available.

They often require alteration or adjustments to fit the user's size.

5. Define grading

Pattern grading is the process of turning base size or sample size patterns into additional sizes using a size specification sheet or grading increments. This can be done manually or digitally using computerized pattern drafting software.

PART B

1. Write short notes on grading procedure.

Pattern Grading is the process whereby patterns of different sizes are produced from the original master pattern. This process can be performed manually or automatically by a computerized system. Patterns are graded according to size charts which present the sizes and the average measurements of the population group for which the garments are intended.

2. List the merits and demerits of commercial pattern.

Commercial patterns are usually done on tissue Paper. Since tissue paper is not bulky, it allows many piece of pattern to be packed compactly in an envelope. In commercial patterns seam allowances are included for safety. ·

Commercial patterns are expensive. Secondly patterns for different types of garments are not readily available in India.

3. How will you develop commercial pattern explain

Commercial patterns are usually done on tissue Paper. Since tissue paper is not bulky, it allows many piece of pattern to be packed compactly in an envelope. In commercial patterns seam allowances are included for safety. Patterns of established companies are usually printed and marked clearly with straight grain lines. Seam lines, cutting lines, darts, centre lines and all the necessary construction details. Good patterns are carefully labeled with the following information; the pattern size, name of each pattern (back, front, sleeve etc), number of pieces to cut horn each pattern piece etc. In addition some companies provide instruction sheets explaining the steps involved in using the pattern to cutout the garment, transferring pattern markings, and constructing the garment.

4. Explain about computer grading

The pattern maker guides a cursor around the edges of the sample pattern on a digitized table. At each of the key points, he or she pushes a button to record a grade point. Each point is cross referenced by a grade-rule table stored in the computer, which enlarges or reduces the pattern automatically according to the predetermined direction. If the pattern was originally made by computer, data are already in the computer and can be enlarged or reduced automatically.

PART C

1**. Give the method of grading done for front and back bodice.**

There are three basic methods of grading: cut and spread, pattern shifting, and computer grading.

1. Cut-and-spread method: The easiest method, which is the basis of the other two methods, is to cut the pattern and spread the pieces by a specific amount to grade up, or overlap them to grade down.

2. Pattern shifting: It is the process of increasing the overall dimensions of a pattern by moving it a measured distance up and down and left and right

3. Computer grading: This is the fastest method, but tends to be an investment only larger manufacturers can afford. However, sophisticated home computer software is becoming affordable.

UNIT 5

PART A

1. What is meant by garment fitting

The garment fitting refers to how well a garment confirms to the three dimensional human body figure. Good garment fit is crucial to ones the human body at most for its satisfaction.

2. Define pattern alteration

Pattern Alteration: A comfortable, attractive garment fitting properly. It is neither too large nor too small

3. Define line

The term Line has different aspects including direction, thickness, sharpness of edge and length. It provides the visual dimensions of length and width.

4. Define balance

Balance refers to the "hang" of the garment. If a garment is balanced, it will hang straight, rather than twisting or having folds

5. Write the importance of pattern alteration

To get a perfect fit on your figure, garment is cut after the pattern is altered.

PART B

1. Explain briefly the standards for a good fit

Standards for good fit : Ease, line, set, balance and grain. Ease is the difference between the circumference measurements of the figure and of the garment. The amount of ease should be sufficient for comfort and in keeping with fashion, the style and type of garment and fabric used.

2. Explain the common pattern alteration in a fitted bodice pattern.

By folding out excess fullness to make an area smaller.

By slashing and spreading or overlapping along pattern lines to increase or decrease dimensions.

By redrawing darts or seamlines

PART C

1. Discuss the general principles for pattern alteration

(1) A far as possible make changes within the pattern by slashing and spreading or slashing and lapping. Patterns can also be altered by redrawing the edges of the pattern.

2) To preserve the original grain line, make all slashes and folds parallel or perpendicular to the grain line

(3) Where there are darts, make changes between the tip of the dart and the outside edge.

(4) If an alteration in length is made along one edge of the pattern, take care to make an identical alteration in the adjoining edge. For example, if back shoulder seam is shortened

(5) When tucks or darts are used for making a pattern smaller, remember that the width of these should be just half the amount to be removed.

2. Explain solving fitting problems and remedies

Problems like shoulder fitting problem, neckline problem, armhole problem, waistline problem are few among the numerous problems which arise and have to be attended too. Well fitted garments are a source of satisfaction for the wearer and also appealing to the observer.

The sleeve cap falls of the top of the shoulder and the armscye appears to large. Diagonal wrinkles form from neck to the lower armhole

Shoulder Tip Fitting Problem: The shoulder seam on the fitting bodice is in front of or behind the shoulder tip. Front Chest or Back Shoulder Blades Too Tight Fitting Problem: Horizontal wrinkles pull across the front or back of the body from armscye to armscye.

3. What are the methods of identifying pattern alteration

(i) To lengthen blouse:

Draw a line across the front and back sections, half way between the underarm and waist line. Place a strip of thin paper under the pattern and pin just above the line. Slash and separate the pattern sections the needed length. Pin the lower sections to place on the paper. Keep the center front and back lines straight.

(ii) To shorten blouse:

Draw a line across the pattern sections as instructed above. Measure the amount to be taken out and draw a parallel line. Fold the pattern on the lower line and pin to the upper line. Pin a small piece of paper under the fold at the side edge and mark the cutting edge

(iii) To lengthen sleeve

Draw an extended line through the straight grain perforations and mark the position of the elbow opposition the center dart. Compare the individual measurements to those of the pattern from shoulder to elbow,

(iv) To shorten sleeve

Mark the position for alterations and compare individual measurements, to determine the amount of adjustment. Take stitches across the pattern, decreasing the sleeve the necessary amount.