VOCATIONAL CURRICULUM-2005

(With effect from the Academic Year 2005-2006)

Curriculum of Intermediate Vocational Course

in

GARMENT CONSTRUCTION

I Year Paper III

STATE INSTITUTE OF VOCATIONAL EDUCATION &
BOARD OF INTERMEDIATE EDUCATION
Nampally, Hyderabad

GARMENT CONSTRUCTION

I Year Vocational

Paper III

COMMERCIAL GARMENT DESIGNING & MAKING

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Ist YEAR

PAPER III (THEORY)

GARMENT CONSTRUCTION

Total No.of Periods : 160

Marks : 50

Course Content :

1. Paper patterns-Types-uses of paper patterns-contents
2. Selection of material for various garments - same petticoat - Jhangia -Jabla-Romper-A-line frock-Baby frock with bib
3. Drafting, cutting, and stitching, fabric estimation-Jangia-Jabla-Romper-A-Line frock-Baby frock, bib.
4. Drafting basic bodice block and sleeve block for a child
5. Collection of commercial sewing machine pictures and pasted in the record book
6. Characteristics of well finished garments-ease-line-grain-set-balance
7. Collecting materials for production-laying-making-cutting-stitching-finishing-checking-laundering-pressing-packaging
8. Commercial sewing machines-single needle lock stitch-double needle lock stitch-button-Button hole machine-cutting machine-overlock-machine

CHAPTER - I

1.0.PAPER PATTERNS

1.1. Pattern making is a highly skilled technique which calls for technical ability, and a sensitivity to interpret a design with a practical understanding of garment construction. For successful dress designing pattermaking forms the fundamental step. This function connects design to production by producing paper templates for all components such as cloth, hemming, fusibles etc. which have to be cut for completing a specific garment.

1.2. There are three methods of preparing patterns :

1. Drafting
2. Draping
3. Bought or commercial pattern

1.2.1.Drafting : Is a two dimensional basic method of preparing a paper pattern. The pattern is prepared on brown paper using personal measurements of the wearer. The garment prepared by this method fits exactly to the satisfaction of the wearer.

It is economical to draft one's own pattern. Also changes in style can be made adopting the basic pattern.

This type of pattern can be constructed by drafting manually or produced by a computer which has been programmed to construct basic patterns according to given measurements and proportions.

1.2.2. Draping : Draping can be treated as one involving a detailed survey and study of the figure to build up a reliable fitting experience. Draping originally was called modelling. This was the original method of constructing garment patterns and is still widely used in the clothing design houses in Paris Draping is a free approach and is always to a

certain extent experimental and cannot be described as a precise technique.

Modelling is done in a fitting room on a dressform with a stand. Dressforms vary in size. Generally an average sized dress form of bust 88 cms or 92 cms is selected for this purpose.

The designer works from a sketch or a mental picture and gives a 3-dimension form to an idea of a garment. The wrong side of the fabric is draped on the dressform or a figure. The effect of the fabric as it flows and drapes is readily visible on the dress form. Muslin cloth is used for draping. As the fabric is draped on the dress form pin, and mark the stitching line with a pencil. The muslin pattern which is the end product of draping is removed from the stand and each component is copied on to the paper pattern and necessary allowances are then added to give the design effect as planned by the designer.

12

1.2.3.Bought or Commercial Patterns :

These patterns provide fashions in current trend designed to fit certain sizes. It is available in tissue paper. These patterns indicate neck sizes for garments such as shirts, chest or bust measurements for children and women; waist, hip and length measurements for pants and skirts. Even to those with the ability and desire to design their own clothing, a commercial pattern makes a good starting point.

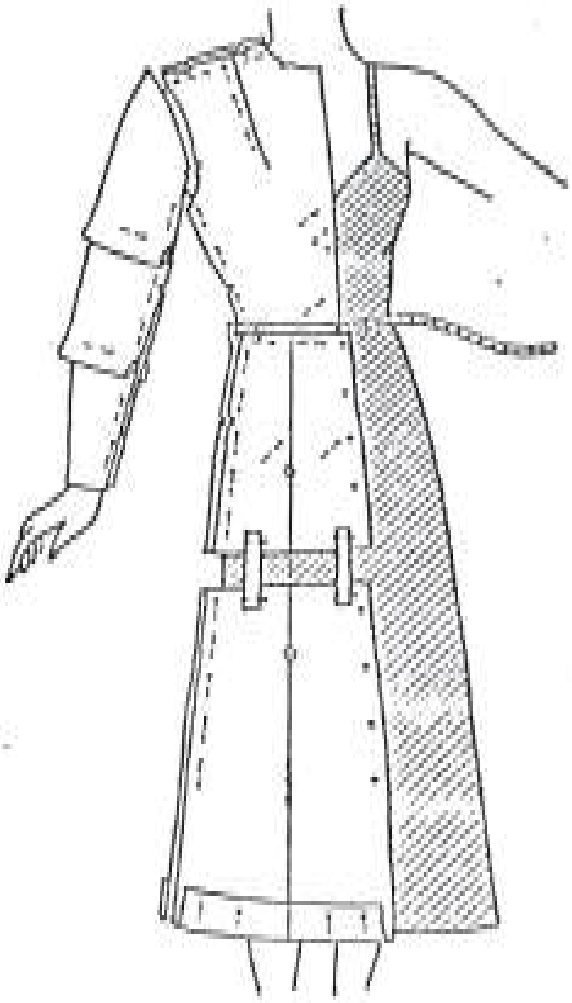
These patterns explain the steps in using the pattern and are mostly used by dress manufacturing companies. It also gives information on suitable fabrics, quantity of material required, pattern layouts etc.

Most figures differ considerably from the average.

Uses of Paper Patterns :

1. Paper patterns are useful not only to the beginner but also to the expert as there is no risk of the material being wrongly cut.
2. It is particularly useful to the beginner as it is a better method of learning than cutting the material directly.
3. Paper patterns can be preserved and used whenever required and is therefore time and labour saving.
4. Adjustment in paper patterns can be done to ensure perfect fitting.
5. By using the basic paper pattern it is possible to bring changes in the design. For example the basic sleeve can be adopted to puff or bell sleeve.
6. The use of paper pattern will enable one to cut a garment with a minimum amount of fabric because it is possible for the dress designer to try out the placement of pattern pieces in an economical way.

Figure showing the Draping Technique



Pin fitting paper pattern on model: Fig.1.2.2.0

Contents of Paper Patterns

1. **Margin :** Extra safety margins are cut beyand the actual cutting line to make adjustments while stitching. Margins are generally allowed on upholstry items such as sofa slip covers.
2. **Cutting line :** This is the actual line on which garments are cut.
3. **Stitching line :** Paper pattern shows the exact stitching line so that the person stitching the garment will identify where exactly the actual stitching has to be done.
4. **Fold line :** When there are two sides to a pattern such as back & front side then the fold line on the pattern has to be clearly indicated marking it as Fold Line.
5. **Grain line :** Every pattern piece has an arrow indicating the grainline - whether the fabric has to be cut on straight or cross grain, Collars, cuffs and other trimmings are cut on the cross grain to give a better finish to the garment.
6. **Construction details :** Tucks, darts, button holes, centre front, centre back, pocket markings, buttons, style features of the garment are all shown on the paper pattern'
7. Graceful curves and shapes wherever required on the paper pattern are also clearly indicated.
8. Pattern size and particulars like front, back, sleeve, collar, cuff etc are shown.
9. If necessary the pattern can also suggest and explain the steps in preparing the garment like marking, cutting and stitching the garment. This is generally done in a commercial pattern to enable the sewer to use the pattern correctly.

Short Questions :

1. Name the types of Paper Patterns.
2. State the uses of paper patterns.
3. Draw a pattern and list its contents.

Essay questions :

1. Discuss about the types of paper patterns.
2. Explain in detail the contents of a paper pattern.

CHAPTER - II

2.0. SELECTION OF MATERIAL FOR VARIOUS GARMENTS

2.1.

Sl.No.	Name of the Garment	Material suitable
1.	Jhangia	Thin cotton material, thin poplin, thin handloom cotton,cottonprinted, mull, thin long cloth, knitted material, cambric etc.
2.	Jabla	Printed cotton, Handloom cotton, thin poplin, Rayon, Khadi(soft), material, thin long cloth, small floral cotton material, cambric
3.	Romper	Checked material, cotton material, thin knicker material
4.	Aline Frock	Thin cotton material, printed cotton khadi, handloom,terrycot, rayon, poplin printed,
5.	Baby Frock with bib	For frock Thin cotton material, printed cotton, khadi,handloom, terricot, rayon, poplin printed, Knitted fabric
6.	Bib	For bib any absorbent cotton material, turkish material, uncut pile fabric
7.	Petticoat	long cloth poplin

2.0. Clothing refers to the various articles used to cover the body. Apponel may be divided into two classes. First one the desire for warmth and for protection against elements,

Secondly the desire for satisfaction we receive from wearing clothing that makes us appear to advantage.

Baby's cloths need not be full of frills or elaborate, since the baby's comfort should be the main criterion. Their clothes are meant to protect them from colds and chills, while allowing enough freedom of movement for the limbs. Clothes should not be tight as they will hamper the circulation and breathing.

The appearance of a garment is greatly influenced by the fabric used for construction, not all fabrics are suitable for all garments. To choose a suitable fabric for a specific end use calls for basic knowledge in fabric construction and types of fabrics available in the market.

Fabrics are produced mostly from yarns. Few fabrics are directly produced from fabrics. Fabrics are made from yarns and are constructed mostly either by weaving or knitting. In Indian market, seventy percent of the fabrics are produced by weaving. Among the other fabric constructions, lace making is worth mentioning. Felts are fabrics made directly from fibers without making yarns.

2.3. Woven Fabrics

Woven fabrics are made by using two or more sets of yarn interlaced at right angles to each other. Much variety is produced by weaving. Woven fabrics are generally more durable. They can be easily cut into different shapes and are excellent for producing styles in garments. However the raw edges ravel or fray easily and need to be protected. Fabrics having more fabric count (number of wrap and weft yearns present) keep the shape well. Low count fabrics are less durable and may snag or stretch.

Woven fabrics are manufactured in different widths depending on the end use. The fabrics used for apparels usually contain 90 cms width. The Sheeting materials are generally made having a width of 160 cm/140cms and 150cms/180 cms.

2.4. Knitted Fabrics

Knitting is the construction of an elastic, porous fabric, created by interlocking yarns by means of needles. Knitted fabrics can be made much more quickly and easily than woven fabrics at comparatively less cost. Knitted fabrics are generally light in weight, comfortable in wear even during travel, but yet require little care to keep their neat appearance. The tendency of knits to resist wrinkling is another factor to boost up their popularity. Knitted fabrics are used for designing active clothing such as sports clothing. Their elastic nature permits for abundant physical activity. Knitted fabrics are produced by two general methods. Warp knitting and weft knitting. They are made as flat or tubular fabrics depending on the end use. Tubular fabrics may not have any seams at the sides where as flat fabrics are treted just like woven fabrics.

2.5. Laced Fabrics

Lace is an open work fabric consisting of a network of threads or yarns formed into intricate designs. Laces are developed for beauty and adornment. Lace which looks so delicate is made out of strong yarns looped or twisted together in a more complicated manner than any other methods of construction. Thus they are expensive too. They are manufactured in many widths, shapes and in limitless variety of patterns.

Hand made laces are more expensive than machine made laces. As expensive goods are preferred only by few, the machine made laces are more popular among consumers. Laces are produced either in the form of a fabric or in a shape suited for a particular end use. They are mostly used as trimmings, on apparels and home furnishings.

2.6. Blended Fabrics

It is important to observe that production of staple yarn is not limited to composition from one kind of fiber the stapele of two or more kinds of fibers may be combined for blended at different stages. When different types of fibers are blended, the properties of these fibers are also combined in the blended yarns.

2.7. Types of Woven Knitted, Lace Blended Fabrics

A wide variety of woven fabrics ae available in today's market.

An average consumer is unware of many fabrics and their suitability for a specific end use. It is essential on the part of a student who wants to step into the career of a dress designer to possess knowledge in types of woven fabrics and their suitability, so that she can be successful in her endeavour. A brief description of the fabrics available in the market and their suitability to garments for the benefit of the student is suggested below.

2.8. Woven Fabrics

Buckram

It is a stiff coated fabric made from a light weight loosely woven fabric, impregnated with adhesives and fillers. This fabric is used as interfacing so as to provide support and shape rentention to necklines, collars, belts, cuffs, waist bands, button closures etc in garments. They are also used as reinforcements for hand bags and other articles.

Cambric

Cambric a light weight fabric woven in plain weave and produced with a stiff finish. It is suitable for women's dresses and children's dresses that require crispness.

Casement

Casement is a medium weight cotton fabric made of closesly packed thick warp yarns. Generally it is used for curtains, tablelinen, upholstery and rarely used for dresses.

Cheese Cloth

It is popular light weight sheer fabric having open weave. It has a low count fabric consisting of carded yarns. Originally it was used for wrapping cheese or meat and hence the name. It is neither strong nor durable. It is finished in a variety of ways that attract the consumer. It is used not only for women's and children's dresses but also for drapery fabrics. Due to its open structure, it does not require much ironing.

Chiffon

Chiffon fabrics are sheer, light weight fabrics made of hard twisted yarns. Originally these are made in silk fabrics but today they are made from rayon or polyester. They are used for sarees and women's evening wear. The fabrics encounter with the problem of shrinkage.

Chintz

Chintz is a medium weight, plain woven cotton yarn. It is often given a glazed finish which may be temporary or semi permanent glazed chintz are available in solid colour as well as printed with floral prints. These are often made from blends of cotton and polyester or rayon. They are used for skits, dresses, blouses, pyjamas, aprons and draperies.

Corduroy

It is a cut pile fabric available in solid colours. The cut pile fibres are seen in the form of ribs on the surface. It is mainly used for pants, jeans and shirts.

Crepe

A silk fabric is originally characterised by a crinkle, puckered surface formed by highly twisted yarns in the warp or weft or both. By using ordinary yarns similar crepe effects can also be produced. Synthetic fabrics also impart crepe effect finish. It is used for sarees, shirts, women and children's dresses.

Denim

It was traditionally a yarn dyed, warp faced cotton twill fabric. Warp is usually coloured (mostly blue, maroon, green and brown) and weft is white. This fabric is made of two weights for sports wear and overalls. It's use as jeans has made it very popular and so the nature of denim is also changed to suit the trend. It is often napped, printed and made with stretch yarn.

Drill

It is a warp faced twill woven fabric. It has a stiff finish. Originally it was produced in white and now it is available in solid colours. It is mairly used for pants, knickers and uniforms.

Flannel

Flannel is a woollen fabric woven in plain or twill weave having characteristic soft handle. It looks like a bulky fabric due to the milling that is usually done to this fabric. Flannel fabric is used for suits and pants and infacnt's clothing.

This fabric is popular as cleaning fabric due to its extreme softness. This is also used to protect children from cold atmosphere.

Gabardine

Gabardine is a closely woven, clear finished warp faced twill fabric. It contains more number of warp yarns than weft yearns and also more durable. It is usually woven in 2/1 or 2/2 twill and has a raised diagonal twill effect on the right side. It largely used for rain coats, suitings and sports wear.

Georgette

Georgette is a sheer light weight fabric, woven in plain weave. It has a characteristic rough texture produced by hard twisted ply, yarns both in warp and weft. Originally it was made in silk, but today it is produced in rayon and polyester too.

It's mainly suitable for women's evening wear.

Kashmir Silk

Kashmir silk is a silk fabric produced in plain weave and is either embroidered or printed. The motifs used are characteristic of Kashmir. It is used for shirts, women's wear and sarees. Kashmir shawls are woven in twill weave and is usually embroidered with traditional Kashmiri embroidery.

Khadi

Khadi is a term used to a wide variety of fabics that are hand spun and hand woven. They are produced in mainly one cotton fibre, blends of two or more fibres. They are known for durability, and simplicity. The fabrics can be suitings dhoties overalls and household textiles.

Lawn

Lawn is a fine sheet, light weight, crisp fabric either made in cotton or linen. Various finishes are given to this fabric, in which the fabric is called by the name of the finish. It is mainly used as lining in dress.

Mulmul

It is an Indian term generally applied to fine cotton fabric slightly heavier, than muslin. These are often printed fabrics. They find use as sarees.

Muslin

Muslin is a light weight open cloth of plain weave. It may be used as grey or bleached and dyed. It is used as household textiles and dress materials.

Organdy

Originally it is a lawn fabric which is given a stiff finish. Acid is used for this finish to make the fabric transparent and stiff. It is mainly used for women's wear.

Poplin

Poplin is a medium weight, cotton fabric hving a fine weft rib. it is generally used for shirting, dresses and upholstery.

Sheeting

These are primarily used for bed coverings. They are medium weight, closely woven fabrics woven eigther in plain or twin weave. Sheeting fabrics are made in different widths. High quality cotton sheetings are made in plain weve with a width of 64" x 58" and in twill weave with a width of 60" x72".

Taffeta

Taffeta is a smooth, crisp, transparent fabric having a fine rib. Originally it is made with silk fibres but now it is also made in rayon. It has a characteristic finish which produces crispness. It is used as women's evening wear.

Tissue

It is a fine fabric either made in silk or man made fibre. They are characteristically interwoven with gold or silver threads. It is produced in rich colours and they are used as women's dress material, sarees etc.

Velvet

It is a warp cut pile fabric, originally made from silk. It is also produced in Rayon. The dense cut pile makes it very soft and lustrous. It is used as dress materials for women and children.

It is also produced with special high twisted yarns which are single or ply yarns. Based on the yarns used and twist given, they are named as semi violes (single yarns1x1) full voiles. (ply yarns 2x2) or half voile (double in warp and single in weft 2x1).

2.9. Woollen fabrics

Woollen fabrics are made from woollen yarn over wide range. These are generally made in plain weave and sometimes in twill weave. They are loosely woven fabrics. They are characerized by extreme softness and not very durable when compared to worsteds. These fabrics are used for coats and for other household purposes.

Worsted fabrics

Worsteds are woven from long tightly twisted fibres of 2-8" in length these fibres are usually woven in to a design or in twill weave, and are given a smooth finish which brings out the luster of the fabric and the design of the weave. Bread cloth and light weighted flannels are examples of fabrics made with worsted yarns for warp and woollen yarns for filling.

2.10. Knitted Fabrics : Varieties of Knitted Fabrics are Suggested below

Jersey Knit

These fabrics are weft knitted and are characterised by distinct but flat vertical lines on the face and dominant horizontal ribs on the reverse side. Fancy varieties are also produced. They are used in making hoisery sweaters, sports wear etc.

Rib knits

These fabrics are made by using rib stitch with two sets of needles. These fabrics are used where stretch is desired as they show excellent degree of elasticity. Rib knits are warm to wear. They are used as apparels such as shirts, blouses, body stockings etc.

Dou ble knit

Double knits are produced by the interlock stitch. The fabrics is riblike in appearance on both the sides. Decorative fabrics are also

produced by jacquard attachment. These fabrics show good dimensional stability and are easy to cut and sew. They do not require any seam finishes as the fabric does not ravel. They are firm, heavier, less stretchable and more resilient. Double knits are commonly made from polyester, cetate or wool fibres. They find use as every durable apparels.

Knitted fur fabrics

A wide range of knitted fur fabrics are available in the market. The fabrics are produced by pile knitting. The extra set of soft filament yarns used form the pile on the surface of the fabric. The pile is cut and the fabric are finished similar to the original fur. These fabrics are mainly used for coats and trimmings for other dresses.

2.11. Laced Fabrics and their Types

Trimming Laces

A wide variety of patterns are available in laces used for trimmings. They are produced having narrow width ranging from 1 cm or less width. They are available at various costs and certainly with in the range of average consumer. They are used as decorative materials, apparels and other household materials.

Nylon Net Laces

Generally these fabrics contains a net back ground on which patterns are made. These fabrics are machine made less expensive and are mostly used as curtains.

2.12. Blended Fabrics

The variety of natural and man made fabrics available today, offers a wide selection of fibres for use. But all fabrics are not perfect in one way or other. They all have some good, fair and poor charcteristics. Man's desire, to produce perfect fabrics resulted in the production of blended fabrics. An intimate mixture of two or more fibres spun together is a blend. The individual yarns contain two or more different fibres.

Blending of cellulosic fibres with man made fibres to produce fabrics with improved characteristics has long been accepted throughout the world. The use of blended fabrics have been tremendously increased even in India. The price structure and multi fibre policy of government have increased the use of cellulosic blended fabrics.

The properties of the fibres blended are combined and made into a modified state in blended fabric. If blending is done carefully the good qualities of the fibres are emphasized minimising the poor qualities. Blending requires knowledge of both fibre sciene and art. It enables the technician to produce a perfect fabric for perfect use.

The various reasons for blending are

1) The important reason for blending fibres is to produce better performance. By blending we can improve the characteristics that are poor in one fibre, by blending it with another type of fabrics that excel in those characteristics For example polyester when blended with cotton, the resultant fabric has moderate absorbancy which is almost nil in polyester.

2) To improve the texture, hand or feel and appearace of fabrics blending of wool fibres with polyester produces the desired texture for suiting materials. Viscose when blended with cotton improves it's lusture and softness and there by enhances it's appearance.

3) To reduce the cost

This is sometimes one of the important reasons for blending of fibres. The cost of a very expensive fabric can often be reduced by blending with another cheap fibre. For example expensive wool is blended with cheaper polyester to reduce the cost.

4) To produce cross dyed efffects

Fibres with unlike dye affinity are combined and dyed together so that it produce interesting cross dyes effects as one fibres take up the colour and the other retains its original colour.

5) To improve the spinning, weaving and finishing efficiency

for example the spinning efficiency of polyester is improved by blending with cotton to produce spun yarns.

Blending may be done before or during spinning. It can be done at the opening and blending stage. though it facilitates perfect blending it poses problems and so it is not in much use. Even at the sliver stage over drawing or roving or spinning frames blending can be done. Blending over drawing frame is most commonly used today. slivers of different fibres are combined over drawing frame depending on blend ratio. They are drawn to get a single silver which is later processed into yarn.

2.13. Types of Blended Fabrics :

Among the various tyes of blends available today, the most popular fabrics are terry cotton, terry wool, polyester viscose. Polyester cotton viscose blends are most common. Various effects and combinations of properties are produced from these blends depending on the fibres used and the percentage of these fibres used in each blend.

Terry Cotton

Fabrics of various blend ratios are available in the market today. A blend of 65% polyster and 35% cotton is common. The other blend ratios are 67/33, 70/30, 50/50, 45/55, 52/48, 80/20 polyester and cotton respectively are also available.

A blend of 65/35 polyester and cotton produces satisfactorily a fabric for daily wear. 59/50 blend produces more softer and more absorbent fabric. Polyester when blended with cotton contributes more strength wrinkle resistance and shape; retention, cotton produces comfort as it provides absorbency and heat conduction. The polyeste r cotton blend is most suited for not only India but also for other tropical countries.

Terry-wool Suiting Fabrics

The excellend shape retention of polyster is the foremost contribution to worsted fabrics which show poor shape retention. Polyester provides excellent wrinkle resistance and crease retention that contributes to shape retention whether wet or dry. Depending on the blend ration polyester increases the strength of wool fabrics. Wool provides warmth resiliency, drapability and absorbency depending on the blend ratio.

Blends of polyester and wool are available in ranges from 65% polyster and 35% wool to 60/50, 55/45, 5/50 respectively. A blend of 65/35 will be suitable to produce a light weight, all season suiting. for medium worsteds 60/40 blend is suitable. When more warmth is required 50/50 blends should be opted.

Polyster Viscose Rayon :

The blend of polyester with viscose contributes durability, resiliency and shape retention. The wet strength of the resultant fabric is also improved, viscose provides absorbency, soft texture and variety of colour. Blend of polyester and viscose generally ranges from 65% of polyester and 35% viscose to 55/45, 45/55, 48/52 respectively. Among these blend levels 48/52 and 65/35 are commonly used for school uniforms and suiting materials.

SELECTION AND CLOTHING NEEDS FOR CHILDREN

2.14.Age	Garments	Clothing Needs
Infants birth to 9 months	Jabla Jhangia	Soft, absorbent, light weight fabrics for comfort. Easy to hlandling ironing is not necessary. Easy to put on & to take off garment, simple design. The garments should have ample place for growth movements.
		Simple style, loosegarments, easy to put and to take off, reinforcement of strain in garment study garments
Toddler 1 to 2 Years	Romper	Study, self help featured garments, warm, water proof outer garments durable, fit and stylised garments garments should not hinder activities
Pre School children	A-line Frock Babyfrock	They should have dress satisfaction play, self help features, durable clothing which will with stand movements of the child. The garments should be safe,easy to care, and should have growth allowance.

Short Questions :

1. List the types of fabrics?
2. What is a woven fabric?
3. Write a note on laced fabrics.
4. What are the characteristics of knitted fabrics?
5. List the types of knitted fabrics.
6. What is buckram?
7. Give two examples of blended fabrics
8. What is corduroy?
9. Write about Khadi.
10. Write the use of drill cloth.
11. What is organdy?
12. Types of materials suitable for infants.
13. Listout the types of material needed for a frock

Essary Questions :

1. List out any five farbics that are suitable for making children's clothing bringingout their characteristics
2. What are the characteristics of knitted and laced fabrics.
3. Write short notes on the following

   a) Cambric b) Flannel c) Voile
4. What are blended fabrics? Explain any two blends.
5. Write about the garments and clothing needs for infants.
6. Write the details about selection and material requirements for a preschools child.

CHAPTER III

3.0. DRAFTING CUTTING & STITCHING

DRAFTOMG JHANGIA

(For one to two years old child)

JHANGIA

3.1. Measurements Required

Length from waist to crotch : 20 cms.

Witdth of the Jhangia : 35 Cms

Drafting take a piece of paper of length 40 cms (double the length) width 35 cms. Fold the length into half, keep the fold to the left, name the corners 1,2,3,4. Divide the width into two equal parts and lengths into three equal parts, as shown in fig.3.1.1.

1-5 =1 cms on 1-3

2-6 = 2 cms towards 1.

7 is one block from 4 towards 2

8 is one block & $2^{1}/_{2}$ cms towards 3.

Join 5-6 with a curved line that will be the waistline.

Join 6-7 that will be the side seam

Join 8 to 7 with a straight-line mark the centre of 7&8 as 9

From 9 take 1 cms just above and name it as 10.

Draw a curve from 8 to 7 through 10. This will be the leg curve.

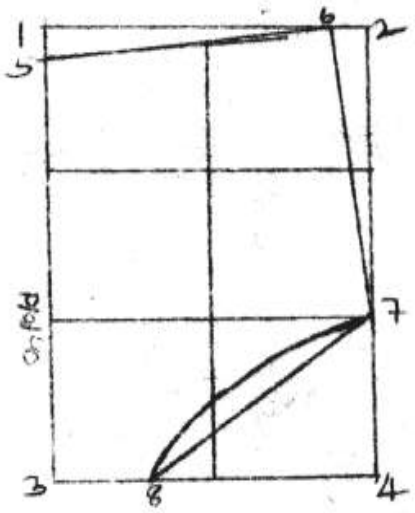


Fig.3.1.0.

3.2. Drafting of Jabla (For an Infant)

Measurements require

Length = 45 ms

Width = entire fabric = 90 cms

Take material of 45 cms+5cms for hem and width 90 cms. Fold in such a way that both the selvedges come together in the centre and fold once again width wise in such a way selvedges and one fold come to the left side, the two folds to right side. Mark the corners 1,2,3,4 as showing in **fig.3.2.0.**

2-5 is 10 cms from 2 towards 4.

5-6 is 5 cms

7 is 1 cm above 6

Join 7-5 with a smooth curve which

forms the arm hole.

Seam allowances are included

in the drafting of Jabla

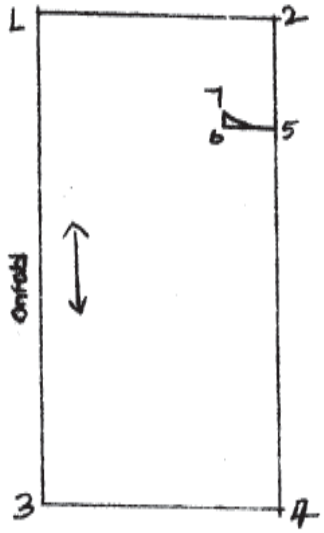


Fig.3.2.0.

3.3. Drafting of Romper

Drafting of Knicker.

Measurements required :

Length : from waist to a little above the knee = 25 cms.

Width : $1^{1}/_{3}$ length of 10 cms = 43.3 cms

Drafting : Fig 3.3.1 cut out a piece of 25 cms long & 43.3 cms wide. Fold the width into 1/2 (half) and keep the fold to the left. Name the corners 1,2,3,4. Divide length and width into four equal parts or blocks. As shown in **fig 3.3.0.**

1-5 = 1/2 block towards 3.

2-6 = 1 block towards 1.

Join 5-6 with a straight line which is back waist line

5-7 is 3 $^{1}/_{2}$ blocks. join 5-7 with a straight line which is front waist line.

8 is one block towards 2 from 4

From 4 take one block towards 3 and mark it as 9

Join 9-8 with a straight line.

Mark the Centre of 9-8 and mark it as 10.

10-11 is 1 cm

Join 9-11-8 with a curve which forms the leg curve.

Join 7-5 with a straight line. This is a centre front seam.

Join 6 & 8 as centre back seam.

3-9 is leg hem line

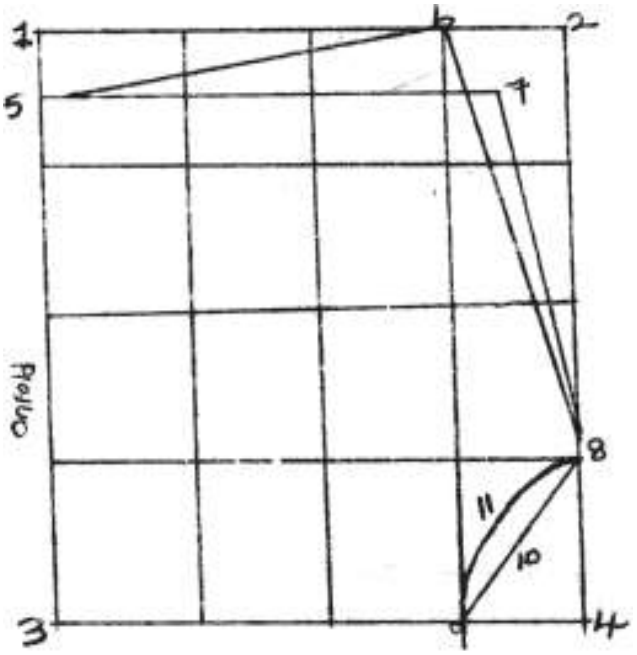


Fig 3.3.0.

Bib : Cut out bib according to shape keeping 15 cms length and width. As shown in **fig 3.3.1.**

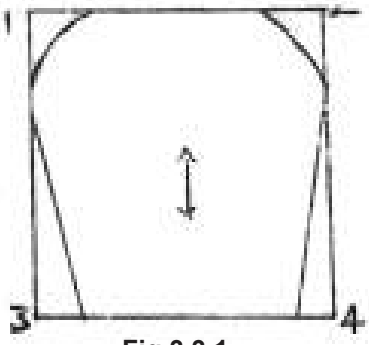


Fig 3.3.1.

Shoulder Straps : Cut two straps of 35 cms long and 8 cms wide. as showin in **Fig.3.3.2.**

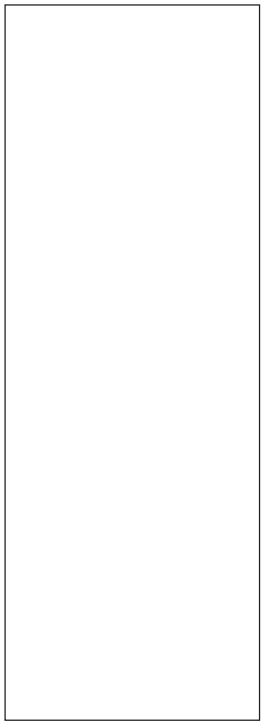


Fig 3.3.2

A LINE FROCK

Measures :

50 cm chest, 10 cm shoulder, 40 cm full length

Front Part :

1-0 = Full length = 40 cm

2-0 = one fourth chest =12.5 cm

square out lines from 0,2,1.

3-2 = One fourth chestt + 4 cm = 16.5. cm

4-0 =shoulder + $^{3}/_{4}$ cm

5 is squared from 2 and 4

6-4 = 2 cm

7-0 = one twelfth chest = 4.5. cm

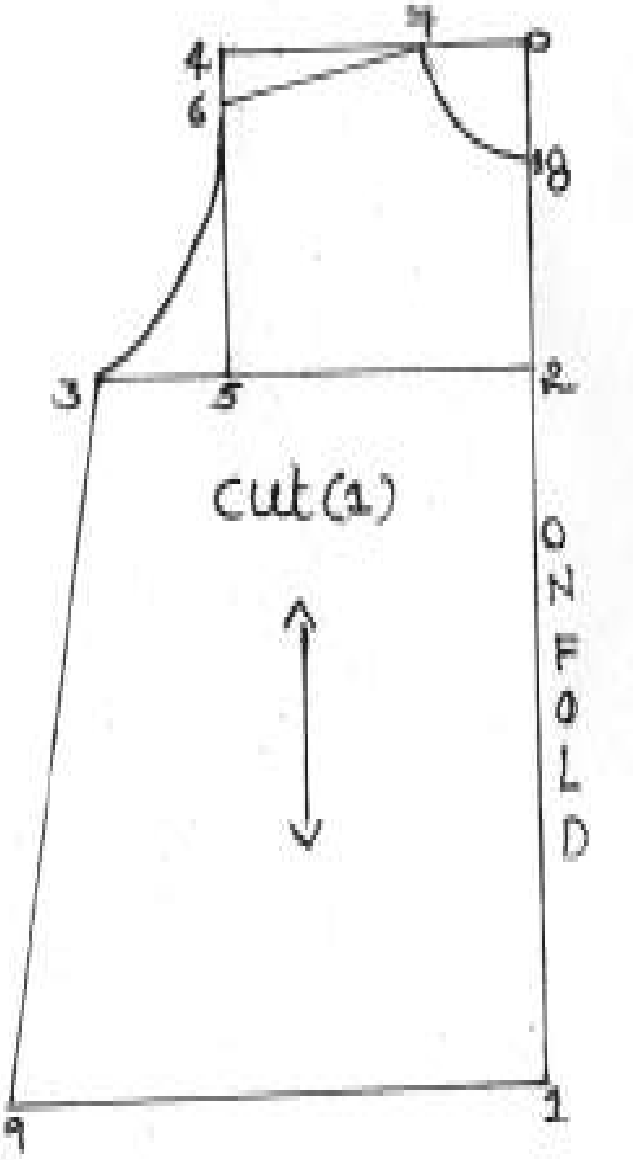
8-0 = one twelfth chest = 4.5. cm

Draw the line 6-7 for the side shoulder seam

Shape the neck 7-8

9-1 = one fourth bust + 10 cms.

Draw a line 3-9 for side seam. Draw the line 1-9 for bottom.



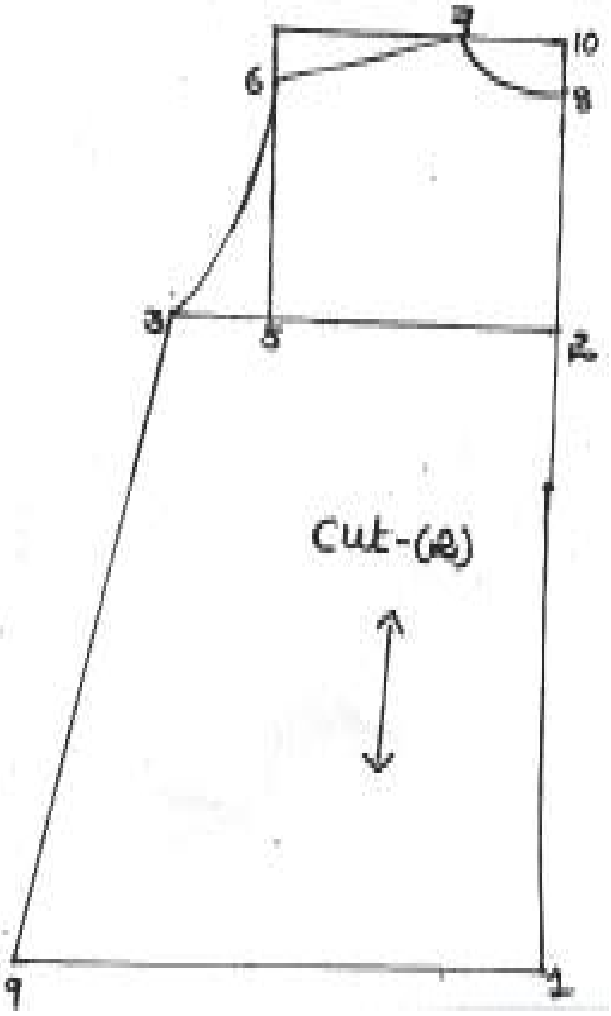
3.4.1.Front Part

Back Part :

10-0 = 2 cm

Shape the neck 7-10.

All the other points as for the front part.



3.4.2. Back Part

Layout :

Width of cloth 90 cm, length 61 cm.

Keep the fold of the cloth are required to get the opening either at the front back.

3.5. BABY FROCK

Thin frock is used for babies upto 2 years. It has upper pant bodice and lower shirt. The frock can be decorated with lace, frills, embroidary, appliance also smaking.

Measurements :

1. Chest...50 cm (20")
2. Bodice length 10 cm (4")
3. Frock length 45 cm (18")
4. Shoulder ... 11.5 cm (4 $^1/_2$")
5. Sleeve with shoulder...23 cm (9")
6. Sleeve-round...16.5 cm(6/2")
7. Sleeve length ... 12 cms

Bodice-length=One fourth chest less 2.5 cm (1")

Instructions for Drafting

Front (bodice) is square lines from 0, on a four layer fold, with folds at 1-0 and 4-0.

1-0 = bodice length plus 1 cm ($^1/_4$")

2-0 = One twelfth chest

3-0 = One twelth chest plus 1 cm ($^1/_4$")

Shape front neck 3-2

4-0 = shoulder plus 1 cm ($^1/_4$")

Square down from 4 to 5

6-4 = 1.5 cm ($^1/_2$"). Join 2-6

Shape Scye 6-5

7-1 = 1.5 cm ($^1/_2$") shape 7-5

Portion 1-7-5 is only for the front

Back is 8-0 = 1.5 cm ($^1/_2$")

Shape neck 8-2

9-5 = 1.5 cm ($^1/_2$")

Shape scye 6-9

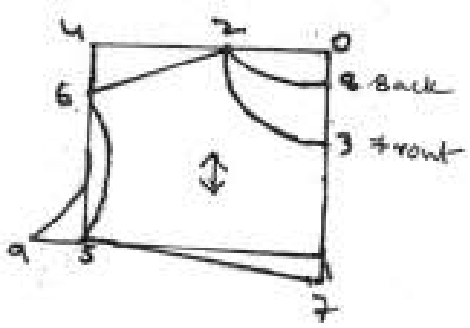


Fig 3.5.1.

Full length of frock less bodice length = skirt length

The bottom round of skirt is generally kept double the chest measure plus about 25 cm (10")

Full length of frock minus bodice = skirt length

11-10 = Skirt length plus 1.5 cm

12-10 and 13-11=one fourth chest, extra material for gathers on pleats 10 to 15 cms extra

14-12 = one fourth chest plus 4 cm

15-13 = One fourth chest plus 6-5 cm ($2^{1}/^{2}$") or

15-11 = one fourth bottom round plus 1 cm

Join 14-15; 16-15 = 1.5 cms

Shape bottom 13-16; 17-14 2.5 cm

18-12 = (i.e. shoulder+ 1 cms) same as 5 to 1 of bodice shape front scye 18-17

19-18 = 1.5 cm ($^{1}/_{2}$"). Shape back scye 19-17

Keep 5 t0 10 cm (2 t0 4")

below 11-13-16 for inturns.

The unfolded parts in

1 = back skirt,

2 = front skirt,

3= front bodice;

4 = back bodice,
5 and 6 = sleeves

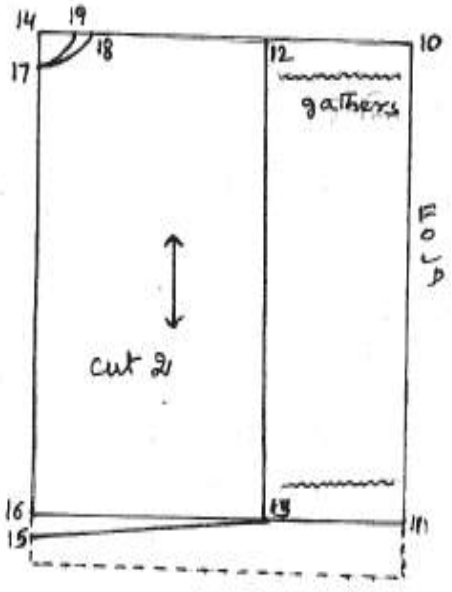


Fig.3.5.2.

Puffed Sleeve

There are gathers at the armhole as well as at sleeve bottom. For this, it is necessary to fix the proportion of gathers, before cutting the sleeve.

Instruction for drafting :

1 to 2 = sleeve length + 61/2 cms.

1 to 3 = 1/4 chest + 3.75 cms.

3 to 4 = half of 1 to 2 minus 0.75 cms (3/4 cms)

Join 4 and 2 with a straight line

4 to 5 = 1/3 of 4 and 2

For front armholecurve join 4,5 2 as shown in figure

For back armhole join 4 to 2 as shown in figure

3 to 6 = 2.5 cms

Join the 6 with a slight curve line as shown in figure

The wrinklesline denote area for gathern finish the lower round arm as for the fashion desires.

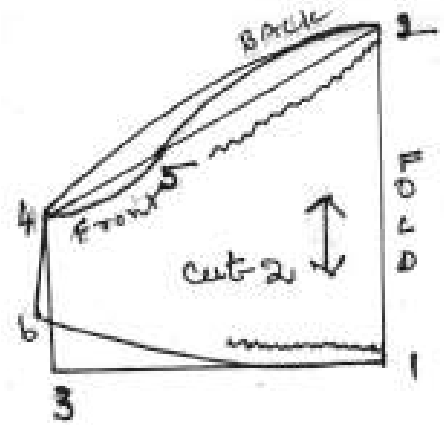


Fig.3.5.3.

3.6. Bib :

Bibs are worn by infants & small children to prevent soiling of the dress. Bib should be absorbent and easily washable. Generally cotton material, pileweave turkish towel materials are used for bibs or un cutpile materials.

Material required :

Fabric length = 25 cms

Width of the material 18 to 20 cms

Drafting of bib

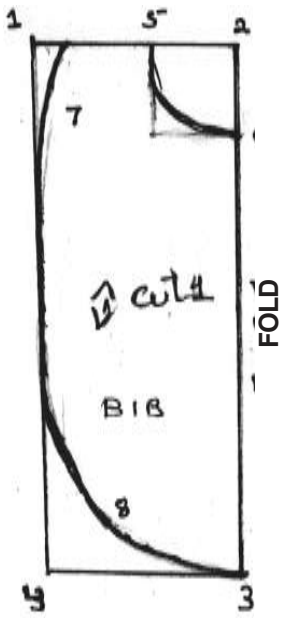


Fig.3.6.1.

1 to 2 = $^1/_2$ width of bib = 9 to 10 cms.

2 to 3 and 1 to 4 = length of the bib = 25 cms

(on 2 and 3 fabric is kepton fold)

2 to 5 = 4.5 cms

2 to 6 = 4.5 cms

Join 5 and 6 with a curve line for neck

From 4 measure 4 to 8 = 4 cms, inside bib

From 1 measure 7 = 2 cms

Join 3,8 and 7 for bib curve

It can be also curved as shown in figure by joining = 3,8,7 and 9 for round design or join 3,8 to 1 as desired design.

3.7. Calculating Fabric Requirement (Fabric estimation)

Before purchasing fabric, it is necessary to estimate the length of fabric required.

Fabric requirement can be calculated as twice the dress length plus one sleeve length, allowing extra fabric for seam and hem. In the case of infants, one dress length is sufficient

An extra length of fabric is required for designs such as pleated shirts, wrap-over skirts and double breasted garment. Extra fabric is also required to match checks and stripes and for uni-directional prints.

While buying expensive fabric, place your patterns cutting on a paper or any length of fabric having the same width of the fabric you wish to you, then measure the required length.

Short Questions :

1. List out the measurements required for drafting a Babyfrock?
2. How do you calculate the amount of material to be taken for drafting Jabla?
3. How do you calculate the length and width of material to be taken for Romper?
4. List out the number of pieces required to complete Romper and name them?
5. How do you calculate length and width of Jhangia?
6. How do you decorate a baby frock.

Essary Questions :

Write in detail :

1. Drafting and stitching Jhabla 1/4th scale with the help.
2. Draft a knicker and modify to Romper?
3. Draft A-line frock and write the method of stitching?
4. Draft A easy frock with proportionate diagram and write the method of stitching.
5. Draft Jhangia to 1/4th scale and write the method of stitching?

CHAPTER IV

4.0. Drafting basic bodice block & sleeve block for a child

This frock is drafted for the age group of 2 to 2 1/2 years old child. The length of the frock is till the knees with short sleeve.

Measurement required :

Round Chest = 50 cms; Round waist = 50 cms;

Waist length = 20 cms - shoulder to waist

Back width = 20 cms; sleeve length = 10 cms (as required)

Full length of the frock = 40 cms; R, lower arm = 18 cms

4.1. Drafting Method

Drafting of child's bodice block : Back &front are drafted in same rectangle. As shown in fig. 4.1.1.

Draw a rectangle 1,2,3,4.

1-2 = $^1/_4$ bust + 3 cms.

1-3 = 2 = 4 =back waist length + $1^1/_2$ cms

Mark 1-8 = $^1/_2$ back width = 10cms

1-6 = $1^1/_{12}$ chest

1-5 = 2.5 cms

1-7 = $^1/_{12}$ chest + $^1/_2$ cms

8-9 = 2 cms

Connect 5-6 with a curved line, this is the back neck line.

Connect 7-6 with dotted line for front neck line

Join 6-9 with straight line which is shoulder seam 2-11 = $^1/_4$ chest.

Draw 8-10 parallel line to 2-11 and Join 10-11

Join 9-11. This is back armscye line

4-14 = 1 cms. Join 11-14. This is the side seam

Mark 9-13 = 1/3 or 9-10

13-12 = 1.3 cm connect 9-13-11 this is back arm scye, line connect 9-12-11 for front armscye line

4-14 = 1.5 cm

11-14=side seam line (Fig.4.1.1.)

Seam allowances : Shoulder = 1 cms.

Neckline = $^{1}/_{2}$ cms; side seam = 2.5 cms.

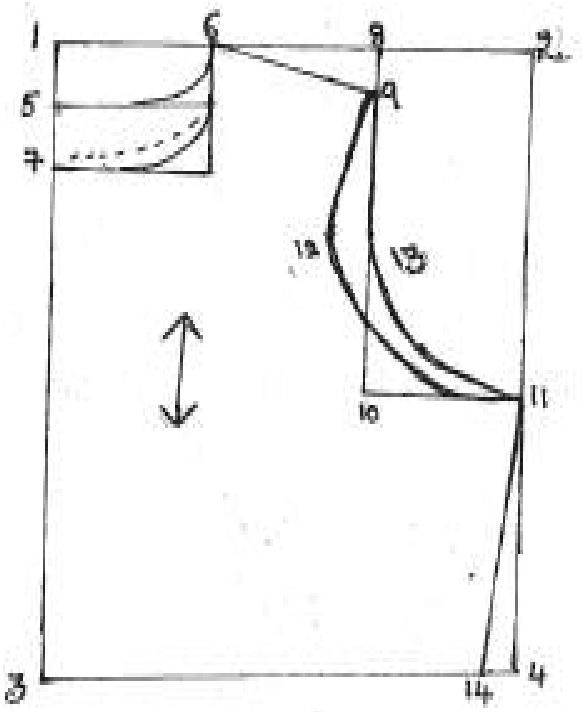


Fig. 4.1.1.

4.2. Sleeve Drafting :

To draft a sleeve, draw rectangle and name 1,2,3,4 as shown in **fig 4.2.1**m 7,8,9.

Mark 7-10 = $^1/_2$ cm

8-11 = $^1/_2$ cm

9-12 = $^1/_2$ cm

9-13 = 1cm (Fig.4.2.1.)

Connect 1-10-11-12 to 5 for back armhole curve

Connect 1-10-8-13 to 5 for front armhole curve

Seam allowances.

Sleeve cap = 1 cms

Under arm = 1 to 2.5 cms

Sleeve hem = 2.5 cm.

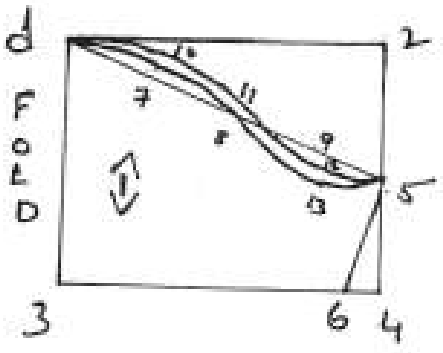


Fig. 4.2.1.

Short Questions :

1. How do you calculate length & width to be taken to draft a bodice block.
2. How do you calculate the length & width of the sleeve.
3. What is the difference between front and back bodice block.

Essay Questions :

1. Draft a bodice block front and back and write the method of drafting.
2. Draft a sleeve block to 1/4 scale for child's measurement and write the method of drafting.

CHAPTER V

5.0.COLLECTION OF COMMERCIAL SEWING MACHINES - PICTURES

1. Single Needle Lock Stitch
2. Double Needle Overlock Stitch
3. Over Lock Machines
4. Button Sewing Machine
5. Button Hole Machine
6. Fusing Machine

Note : Details of Commercial Sewing Machines Are elaborated in Chap VIII and pictures will be collected and pasted in Practical Record.

CHAPTER VI

6.0. CHARACTERISTICS OF WELL FINISHED GARMENTS

6.1. Good fit in relation to ease, line, grain, set and balance :

Techniques of good dressmaking are essential to good fitting and good designing. Some of the skills are to be mastered are placing patterns, true with the grain, cutting accurately along lines, stitching and pressing darts, basting by hand and by machine accurately, stay-stitching with the grain, ease in fullness, shrinking out fullness, tailor pressing, machine stitching exactly on the proposed line and corner, invisible hemming, making, piped buttonholes and slide fastener plackets, applying facing and interfacing, and setting a sleeve smoothly in the armhole. These construction skills are certainly fundamental.

A well-fitted garment feels comfortable, adjusts naturally to the activities of the wearer, is becoming in line and amount of ease and consistent with current fashions.

Five basic factors present in every fitting decides whether a garment fits well or not. There are ease, line, grain, set, and balance. These five are interrelated.

The straight material should be folded into darts or cut into seams to allow enough ease over the curves. Wide darts are stitched to control the excess material to give good.

A well-fitted garment is a source of satisfaction and looks nice. A well-fitted garment has optimum amount of ease and its seam lines follow the general silhouette of the body. Any fitted garment is judged by its appearance on the wearer and its success depends a great deal in its fitting. Fitted garments are comfortable and allow the wearer to perform normal activites. They also fit snugly on the body of the wearer. It drapes neatly and sets without any wrinkles with out sagging or projecting out and will also be well balanced.

To get a good fitted garment the patterns which are selected should be checked properly and they should posses a good shape and

proportion. While cutting the garments, it is necessary to follow certain accurates steps. Most of the human figures might not be perfect or porportionate and therefore alterations and corrections are to be made. It is essential that after drafting a particular garment it should be tried on a body so that the necessary alterations of the patterns are done. Apart from the major defects of the body there may also be certain minor defects, which should be taken care of while drafting the garment.

To get a good fit, the planning of patterns along the side of the grain, cutting accurately, stitching and pressing of darts and ease in fullness and machine stitching should be done exactly on the proposed line. The sleeves should be fixed smoothly and evenly in the armhole.

The factors, which determine whether a garment has a good fit or not are ease, line, grain, set and balance. They are a referred to as the standards for a good fit and they are also interrelated to one another.

6.2. Ease :

The garment, which seems to be right size is neither too loose not too tight. Ease is also the difference between the actual body measurements and the garment measurements. This amount varies with the fashion, type of garment and personal taste. A garment constructed with optimum ease would be the right size. Pulling and drawing across the bust, shoulders or hiplines show that the ease is insufficient. Excess ease causes folds across the loose areas giving a baggy appearance to the garment. Too much ease will be seen in too long shoulder seams, many folds across the neck and chest and waistline being too loose. If a garment is of a good fit then it should fit without any wrinkles or strain.

Back shoulder seam eased on to front about $^{1}/_{2}$".

Ease around bustline about 4".

Ease across back 1/2 " to 3/4"

Ease across chest $^{1}/_{4}$" to -$^{3}/_{8}$".

Ease through hips, standing $1^{1}/_{2}$".

Ease of skirt at waistline to fit on to belt – 1" or $^1/_4$" on each quarter.

Ease at back of sleeve cap 2" to 3" (1" to 11/2 inch)

Ease at elbow 1" (1/2" inch) to be able to bend elbow comfortably

6.3. Line :

The basic silhouette shows the lines in a garment. The circumference lines include neckline, armhole, waistline and wrist line. Lines should be smooth without folds and neat. There should be smoothly graded curves in back and front. Armhole should be oval, but not pointed or round in shape. It follows natural creases made where the arm joins the body. The curve lines should not be too low which will hinder the movements of the hand.

In set in sleeves the side seam line should be straight from armhole to the hem or lengthwise line. Front darts should end at the top of the bust and darts at side to hands, bust should be in the line with top. Round waistline should be as far as possible parallel with the floor but sligthly lower at the back and slightly lower and round in the front to fit at front waistline. Waistlines and hemlines should be parallel to the floor.

The lines obtained by darts, pleats and yokes are with in the garment and they should be graceful and smooth. Design lines with in the silhouette such as pleats, darts and seams should be graceful, direct and smooth.

Lines to observe in fitting are the basic silhouette seams, the circumference seams, then style or design lines. The circumference lines include neckline, armholes, waistline, wristline and hem line. They should be smoothly graded curves following the natural body curves.

Such design lines within the silhouette as pleats, darts, gores should appear to hang perpendicular to the floor generally at right angles to the circumstance lines they enter, or to radiate from the circumference

they enter. Curved lines like yokes, should be direct, smooth, graceful and exactly alike in symmetrical effects.

6.4. Grain:

The placement of warp and weft yarns form grain. It denotes the direction of the threads. Usually the length wise or warp threads are heavier than cross wise or filling threads. Heavier threads tend to drape well on the figure with graceful folds, when gathers, pleats and ruffles occur on the straight grain. Length wise grain should be perpendicular at the floor, at the centre front and centre back, unless, off grain seams are present. The crosswise yarns are parallel to the floor at centre front and centre back. On the bust and hiplines, the grain on the right half of the garment should match that on the left half except in the case of asymmetric draping. If the cross wise grain covers up or down where it should be parallel with the floor it is because of some bulge or hollow in the body directly above the curve. If the grain line is not corrected, wrinkles or sagging occur. Some times the grain line is off, when the material is not cut carefully.

Threads or yarns, the units that make cloth, are called, "the grain". Be careful to say "crosswise grain" or "lengthwise grain" for clearness. Graceful folds in gathers, pleats, ruffles, and skirts occur if they follow the heavy threads.

In the standard basic pattern at center front and back at both bust and hip, the lenthwise grain is perpendicular to the floor (unless bias seams are in the design) and the crosswise grain is horizontal or parallel with the floor from the grain on the right half of the garment should match that on the left half, except in asymmetrical designs as in a side draped skirt. In a plain sleeve, the lengthwise threads should lie vertically from top of shoulder to the elbow and crosswise threads in the upper sleeve should be parallel with the floor.

If the crosswise grain curves up or down where it should be parallel with the floor, it is because of some body bulge or hollow directly above the curve.

6.5. Set :

A well-fitted garment has a smooth set without any wrinkles. The slanting wrinkles are caused by the garment being strained over some curves or bulges of the body. Slanting wrinkles in sleeves and near the shoulder are unbecoming and uncomfortable.

Crosswise wrinkles occur, because the circumference below them is fitted too tight.

The wrinkles point towards the shoulder blade is caused by protruding shoulders. To remove them, extra length and width should be provided for the garment.

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

6. 6. Balance :

The garment should look balanced from left to right and front to back. The skirt should hang so that it extends the same distance from the center to the right and left sides.

The necklines should fit neck snugly at all points. If the shoulder seam stands away from shoulder at neck point and fits tightly at armhole point, the garment will look out of balance.

The standard skirt should hang so that it extends the same distance from the legs from right to left and from front to back. The shoulder seam should rest evenly on the shoulder. Diagonal wrinkles point away from the bulge.

6.7. Reasons for poor fitting :

When the garments are carelessly cut and if stitching is not done properly then the garment will have poor fitting.

Badly fitted under garments such as knicker, saree petticoats and petticoats ofter give the impression of a poor fit.

If the basic patterns are not of the right size or if they are not altered according to the body measurement then poor fitting occurs. Poor posture might be the reason for differences in the bodice blocks. Such a style of the garment is not suitable to the wearer.

The human body has numerous curves of which the basic ones are bust, end of shoulder, shoulder blade, elbow, abdomen, side and hip. The garment should be cut and stitched accurately to fit on the curves of the body.

The straight material should be folded into darts are cut into seam to allow enough ease over the curves. Wide earts are stitch to control the excess material to give good fitting.

6.8. Solving fitting problems :

Each garment should be checked for ease, comfort, line, grain, set and balance. If wrinkles or diagonal folds are observed then the stitching should be released at the bulge areas. It is easier to correct the neckline than to correct the sleeve and the armhole. The material from the seam allowances can be used to increase or decrease the fullness at the bust line. While cutting, the patterns should be placed parallel to the selvedge so that the length of the garment will be along the selvedge side.

While stitching the armhole and neckline should be taken care of. To get a good fitting in the garment it is better to keep 2.5 cms to 2 cms extra material at the back, shoulder seam, under arm and side seam. While stitching the armhole & neck line should be taken care of while stitching for a good fit accurate pinning, marking, tacking and stitching should be done. The bust lines darts should not have pouches or creases at the end.

Fullness should be evenly distributed with out irregular or puckering pleats Facings and hems should be finished smoothly. To neaten the seam edges ironing should be done after every shape. The garments should not be too tight as the figure defects will be more noticeable.

To get good fitting in a garment accurate measurement should be taken and patterns are drafted on brown papers.

6.9. To see the fitting of a garment :

The garment should be tacked without sleeves, collars or facings and tried on.

The openings are pinned together accurately, properly and securely. The basting line that marks centre front, and back helps in giving a good fitting.

The garment should be worn right side out to check the fitting on the body. The garment is thoroughly inspected and carefully analysed for fitting. It should be comfortable while walking or working. If any alterations or corrections are to be made on the garment then it is done either by cutting, tacking, pinning or marking on the garment.

Mark the correct line with tailors chalk and tack the corrected seam line or dart line from the inside of the garment.

Fitting should take care of the major alterations in the bodice. The left and right side patterns should be the same. The paper patterns should also be altered on the basis of changes made in the garment. Until a satisfactory fitting is achieved, repinning and alterations for fitting is done.

In the second round of checking the fitting, concentration must be on the sleeves and armscye. Necklines, waistlines should be curved to fit comfortably and naturally.

The patterns which are altered for good fitting should be preserved. Constantly compare the drafted pattern with the body measurement for accurate fitting before cutting any garment, as there may be changes in the body measurement.

A dress should look nice from the back as it is from the front. The back should be more carefully fitted since there is a strain. A dress with a back too wide, too narrow or too short can be uncomfortable and it is unbecoming.

Good fitting is achieved by doing the work with care, patience and practice.

Short questions :

1. What is balance?
2. How do you say a garment is at ease
3. What is grain?
4. What is ease?
5. List the factors which contribute to good fit.
6. State the reasons for poor fitting.

Essay questions :

1. Write about the following :
   Balance, Ease in a garment
2. Write in detail about line in a garment.
3. Write briefly about the characteristics of a well finished garment.

CHAPTER - VII

7.0. PREPARATION OF MATERIAL FOR PRODUCTION

7.1. Production is an organised activity consisting of sequencial processes such as laying, marking, cutting, stitching, checking, finishing, pressing and packaging. This is a process of converting raw materials into finished products. It will be difficult to maintain the industry if production is not, up to the mark if the preproduction phase of preparation of material is not properly carried out.

7.2. Steps in preparation of material for production:

Laying : Laying of paper pattern helps one to plan the placement of the pattern pieces in a tentative manner.

- Lay large pieces first and then fit in the smaller ones
- It is very economical in laying the pattern and cutting. Even a small amount of material saved in a single lay will help to bring about a large saving of money as hundred's of layers of fabric will be laid and cut simenltaneously.
- When laying, the length of the garment should be parallel to the selvedge of the material. Be sure the pattern is placed in the correct grain. Fabrics drape and fall better on the lengthwise grain and also last longer.
- Parts that have to be placed on the fold should be exactly on the edge of the fold.
- All laying should be done on the wrongside of the material.
- When laying the paper pattern, consider the design of the fabric. Care should be taken to see that the design runs in the same direction throught out the garment. All checks and strips should match the seams both lengthwise and across.

7.3. Marking : This can be a manual or a computerised technique

- The marker planner uses full size patterns and arranges them in an economical manner on marker paper.
- This is a specially printed paper having symbols on it which enable the marker planner to visually control the positioning of components according to specified grain lines.
- Markers produced on paper are fixed to fabric with pins, staples or on an adhesive paper which is heat sealed to the top layer of the fabric.
- Marker planning provides details of the spreads. In the cutting room the fabric is laid manually or a spreading machine is used to arrange fabric in lays 100 (layers) and markers for the production, any in orders planned. Here planning is done also for fusibles, linings, trims, pocketing etc.
- The supervisors of marker planner plan and allocates the cut orders to various operations to be carried out in the cutting room.

7.4. Cutting : This is the major operation of the cutting room when they spread and cut into garments. Of all the operations in the cutting room this is the most decisive, because once the fabric has been cut, very little can be done to rectify serious defects.

- A first planning consideration is whether the totals arrived at in the cutting room are the same as those required to maintain full production in the sewing room and subsequently the planned delivery schedule. Any cloth problems created in the cutting room can affect the output in the sewing room. Assuming all components of fabric, design and trims are acceptable and correctly planned and cut, the next stage is to extend the cutting room programme to the sewing room.
- All cutting operations are carried out by straight knife cutting machines.

7.5. Stitching : Is done after the cut pieces are bundled according to size, colour and quantities determined by the sewing room.

- The central process in the manufacture of clothing is the joining together of components.
- Stitching is done as per the specification given by the buyer.
- High power single needle or computerised sewing machines are used to complete the sewing operation. Fusing machines for fusing collar components, button and buttonhole, sewing machines for sewing button and buttonholes are specifically employed.

7.6. Checking : It is realistic to assume that however well checking or quality control procedures operate within a factory there will always be a certain percentage of garments rejected for some reason or other. The best way to carryout quality checks is by

a) establishing a standard as a criteria for measuring quality achievement.

b) Production results can be measured and compared to the planned quality standard.

c) Corrective measures to be carried out if there are any deviations in the plan's.

Ideally any system should detect possible deviations before they occur through forecasting. Work produced with minus defects wil produce quality products, enhance economy and productivity.

7.7. Fusing and Pressing :

- Finishing and pressing are two processes which have the greatest influence on the finished look of a garment. Fusing creates the foundation and pressing puts the final seal of quality on the garment.

The basic components of presseing are :

1. Steam and heat are necessary to relax the fabric and make it pliable enough to be moulded by manipulation.
2. Pressure; when the cloth has been relaxed by steam, pressure is applied which sets the fibres into their new positions.
3. Drying : After the application of steam and pressure, the component or garment must be dried and cooled so that cloth can revert to its normal condition. This is done by a vaccume action which removes surplus water in the fabric and at the same time cools it. For some pressure operations hot air or infra red heating is used instead of vacume for drying;

7.8 Machinery used for pressing and finishing are

a) Hand irons with a vaccume press table

b) scissors press

c) Carousal machines

4) Steam dolly

7.9. Packing : Most garments are packed in plastic bags, either at the end of production or when they enter the finished goods store. Products like shirts and underwears are usually bagged and boxed directly after final inspection and enter the stores in prepacked form. For these and similar types of products many automatic machines are used.

Other hanging garments such as Jackets, dresses & skirts are usually bagged by manual machines, semi atuomatic machines and fully automatic machines. Some of these automatic machines bag, seal and transport in trolly; some 500 garments per hour.

When boxed or hanging garment have to be transported in bulk the garment or boxes are packed into cartons which can be sealed by adhesive paper or plastic Manual and automatic machines are available for both.

7.10 Laundering : is done by highly sophisticated washing machines, if any articles are soiled during the manufacturing process. How ever this step is required only if garments are soiled.

Short Questions :

1. State the importance of preparation of material for production.
2. List the steps in preparation of material for production.
3. Write about stitching.
4. Write about the importance of checking.
5. List the machinery used for pressing.
6. Write about packing.

Essay Questions :

1. Write in detail about laying of paper patterns.
2. Discuss about marking and cutting steps as steps in preparation of material for producton.
3. Write in detail about fusing and pressing.
4. Discuss about machinery used for pressing and fusing.

CHAPTER VIII

8.0.COMMERCIAL SEWING MACHINES

8.1. The Clothing Industry, through out its long history - has always been charecterised by change and variety, but never so much as today. Until recently, changes in styles of dress were very gradual and a popular fashion could last a long time. Also, the variety of clothes produced were limited to life styles and conventions of the day. This situation has undergone a rapid change and the reverse in true today !!

Due to the conflicting demands of the present market the clothing manufactures felt the need to increase performance levels and their productivity by use of highly sophisticated machinery. The apparel industry uses specialised industrial machinery suitable for cutting fabric, sewing machines such as single needle lock stitch machine, double needle lock stitch machine, button hole machine, fusing machine, storage and packing equipment. The aim of using these machinery is to reduce handling time produce quality products in less time.

8.2. Cutting Machine :

An effective cutting room with good cutting machines is the best foundation in any production unit. The major operation is the cutting room is to cut the spread out fabric. This is the most decisive function - because once the fabric has been cut, very little can be done to correct serious mistakes.

8.2.1. Some of the main features of a Cutting Machine :

Power Session : Is often used in the sample room and is used to cut one or two layers of fabric.

Round Knife : Is a very fast machine. It is excellent for cutting straight and curved line. Blade size ranges from 4 cm to 20 cms is diameter and the cutting height is aboout 40% of blade diameter.

Straight Knife : Commmonly used for cutting and if corretly used is best and accurate for most cutting rooms.

Band Knife : The narrow blades allows finest of shapes to be cut very accurately. Some band knife machines have air flotation tables which support the block of work a fine air cushion which helps the worker to cut fabric with minimum disturbance to the layers of cloth.

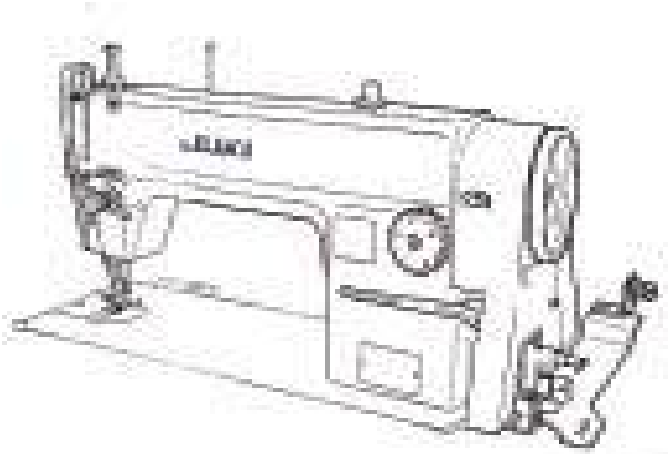
Computer Controlled Cutting : The marker data it transferred to the cutting unit by means of tapes, floppy discs or directly from the marker planning system itself. This is 6-8 times faster and produces accurate cut component. Although costly intially it is the best investment for large scale production.

8.3. Sewing Machine :

The clothing industry requires special sewing machines for sewing a wide variety of garments. Specialised sewing equipment for their own particular requirement is a basic necessity in the garment manufacturing unit.

8.3.1.Single Needle Lock Stich Machine

- V Works with electronic controls
- V Functions at a high speed of 6000 rpm.
- V Automatic clipping of top and bottom threads
- V Has several special sewing machine attachments which can be used to help the operator maintain consistent standard of quality particularly when stitching collars, cuffts, yokes etc.



SINGLE NEEDLE LOCK STITCH MACHINE

SINGLE NEEDLE LOCK STITCH MACHINE

8.3.2. Double Needle Overlock Stitch

- Works with electronic controls at a high speed of 6000 RPM.
- Machine consists of two needles which function together. You get double rows of stitching in a single operation.
- Used particularly for sewing jeans, safari suits etc, where double seams are required.
- Produces quick and uniform stitches and thus saves production time.

DOUBLE NEEDLE LOCK STITCH MACHINE

8. 4. Over Lock Machine : This could be a three or five thread overlock machine

- V This name is given to the this machine as it stitches the edges of a garment to be finished.
- V It covers rough edges of fabric in order to present a clear and neat appearance where seam edges are visible.
- V It speeds up to 8500 rpm and does automatic edge trimming and thread clipping.
- V It is also used for assembling knited articles such as T-Shirts.

OVERLOCK MACHINE- 3 THREADS

5 THREAD OVER LOCK MACHINE

8. 5. Button Sewing Machine :

- V This is also a high speed electronic machine.
- V Buttons with 2,4 holes or shanks can be sewn on the same machine by simple adjustments to the button clamp and spacing mechanism.
- V The needls has a vertical movement only and the button is moved from side to side by the button clamp.
- V Each machine has maximum number of stiches i.e.16, 24 or 32 and can be adjusted to to sew the few or half the stiches i.e. 8 or 16, 12 or 24, and 16 or 32.
- V Generally decorative buttons can be sewn with half the number of stitches used for functional buttons.

BUTTON SEWING MACHINE

8. 6. Button Hole Machine :

- V This is a very expensive machine.
- V The machine automatically slits through the garments and sews round its edges to prevent fraying and stretching.
- V The number of threads used depend on the garment type and quality.
- V In standard types of garments such as shirts the operator simply positions the work in the machines wherever button holes at predetermined distances which the machine automatically stitches and trims the thread ends.

BUTTON HOLE MACHINE

8.7. Fusing Machines :

There are several kinds of fusing machines ranging from small table models to large floor standing machines. Basically this type of press consists of padded top and bottom bucks with heating elements in one or both of the bucks. The bottom buck is static with the top buck raised or lowered to open or close the press.

Relatively speaking, fusible interlinks are precision products and it is essential that they are fused on correct equipment. Under strict temperature control. The duration of time required is also programmed.

During fusing it is necessary to apply equal pressure over the component to ensure the following factors.

- V Intimate contact between top cloth and interlianing.
- V Heat transfer is correct.
- V There is even transfer of the resine into the fibre of the top cloth

SING MACHINE

Short Questions :

1. Name the sewing Machines used for garment construction.
2. What is computer controlled cutting machine.

Essay Questions :

1. Write about cutting machine and its features.
2. Write about the following

   a. Fusing machine b) Button hole machine

   c) Single needle lock stitch machines

ANNEXURE I

SEWING TERMS

A-line	:	A garment with sloping sides, the widest partbeing at the hemline
Alter	:	To change a patterns so that it corresponds to body measurements
Allowance	:	Extra fabric outside the seamline or within the garment to accommodate gathers, ease, tucks and pleats.
Applique	:	Ecorative pieces of fabric applied by hand or machine
Armhole	:	The opening in a garment for the arm
Armscye	:	It is commonly known as Armhole
Back stitch	:	A small hand stitch that looks like machine stitching on the right side, but with stitches over lapping on the wrong side
Bands	:	Strips of fabric, ribbon or bias applied to edges or set into garments to finish or decorate.
Bar	:	A group of cross threads used to stay the ends of a button hole
Basque	:	A woma's tight fitting dress-waist made separate from the skirt and having the waistline finish attached to the waist portion
Basting	:	A long, loose temporary stitch made by hand or machine
Bell sleeve	:	A straight sleeve flaring at the bottom
Bias	:	Any direction in the fabric which does not follow exactly the selvedge or weft yarns. A true bias makes and angle of 45^0 across the lengthwise and widthwise grain. It has maximum stretch.

Binding	:	A bias strip of material used to enclose a raw edge as a finish or trim
Bishop's sleeve	:	A long, full sleeve gathered onto a narrow cuff
Blend	:	A mixture of different fibres in one yarn or different yams in one fabric, each lending its own characteristics to the fabric
Blind stitch	:	A form of hemming made by catching only one thread of the outer fabric
Braid	:	A woven novelty trim, finished at both edges
Brides	:	The threads of warp or weft connecting parts of the pattern in lace
Buckram	:	A stiff fabric made by impregnating a light-weight open cloth with adhesives and fillers
Cap	:	The top part of a sleeve which is curved to fit the armhole
Capsleeve	:	Extension of the shoulder and upper armhole to cover the top of the arm
Casing	:	A hem with an opening so that ribbon or elastic may be drawn through
Centre front	:	The position of the pattern or garment at the exact centre of the front section of the garment.
Clip	:	A small cut in the seam allowance of a garment which allows a comer or curved area to turn and lie flat.
Closing	:	A placket or any garment opening.
Construction lines	:	Basic seams that give shape to flat cloth.
Co-ordinates	:	A number of garments which match and can be worn together in different combinations.
Cord piping	:	A cord which is encased in bias fabric and used to finish and decorate edges, waistlines, button holes and furnishings.

Cord seam	:	A seam with a corded effect which is produced by turning both seam edges to one side and then stiching through the three thicknesses of material.
Costume	:	Dress belonging to a given country, time and class.
Count of Yarn	:	A number indicating the mass per unit length or the length per unit mass of a yam.
Dart	:	A fold of fabric stitched to a point at one end. Used to fit to body curves.
Design lines	:	Lines or seams that add design and make the garment different.
Drape	:	Soft folds of fabr 7ic controlled by pleats or gathers.
Draped	:	A style in which the fabric is gathered or folded into unpressed pleats to create a soft effect and provide shaping.
Dressform	:	A duplicate of the human form which is useful for fitting or draping a garment.
Ease	:	(a) Extra measurement allowed for comfort. It is the difference between actual body measurement and the size of the garment. (b) To work in excess material that has been allowed for comfort.
Edge stitch	:	A line of stitching placed along an edge, usually decorative finish.
Edging	:	Narrow lace having one finished edge and the other. usually scalloped or indented. Used for trimmings.
End	:	An individual strand of yarn.
Extension	:	Additional fabric jutting out beyond a seam or a centre line.
Eyelet	:	A small hole in a garment finished by hand or a metalring to hold the prong of a buckle. Also for lacing with ribbon and cord.
Facing	:	A shaped or bias piece of self fabric applied to a garment edge as a finish.

Fastenighs	:	Hooks and eyes, press buttons, and zippers used to fasten garments.
Fittings	:	Adjusting the pattern or garment-to fit the individual figure.
Flared	:	A style which is much wider around the lower edge.
Flounce	:	Flared bands of fabric, sometimes gathered and used to decorate edges of garments or used in tiers to make a skirt.
Fly front	:	A colsing which conceals buttons or zippers of trousers.
Fray	:	The threads which come out during the handling of fabric.
Gathering	:	One or two rows of stitching, either by hands or machine, that are drawn up to form even fullness.
Gingham	:	Plain weave fabric constructed with coloured woven check pattern.
Godets	:	A shaped or pleated section of material inserted into garments.
Gore	:	A skirt section that is shaped upto the hip level and then flared out to the hemline.
Grain	:	The direction of threads in a woven fabric. The lengthwise grain runs parallel to the selvedge and the cross-wise grain from selvedge to selvedge.
Grey goods	:	Woven fabrics as they leave the loom before being bleached dyed or finished.
Gusset	:	A shaped piece of fabric inserted usually at the underarm of the garment to provide comfort.
Hand finishing	:	The details sewn by hand to finish the garment.
Hem	:	The finish formed by folding back the raw edge of a garment to the wrong side.
Hemline	:	The line designating the finished length of a garment.

Knife pleats	:	Series of-pleats that turn in the same direction. They are usually equal in width and are pressed straight down to the hem.
Layout	:	The arrangement of pattern pieces on the material so as to ensure economical cutting.
Lining	:	A fabric used inside garments. Its edges may be attached to the garment at the seams with slip stitch or it may hang loose from the neck or from the waist in the case of skirts.
Loop	:	A fastening which extends beyond the finished edge, used on closings with no overlap. Can be made with thread, cord or fabric.
Machine basting:		A temporary machine stitching using the longest machine stitch.
Marking	:	Transferring all necessiary pattern lines or markings to the wrong side of the fabric.
Nap	:	The word means "pile" Pile fabrics should always be cut in one direction only.
Notch	:	A small V-shaped mark or cut, on seam allowance of the pattern pieces.
Opening	:	Term used interchangeably with closing.
Pile	:	Weave of a fabric with upright surface yams such as velvet or velveteen.
Pin tucks	:	Tucks as fine as the width of a pin.
Pinking	:	Jagged cut finish for a raw edge.
Placket	:	A closing or opening in a garment.
Pleats	:	Folds of fabric used to control fullness.
Princess line	:	Seam lines running from shoulder or armhole to the hem with no waist seam.
Pucker	:	To draw up into folds and wrinkles.
Puffsleeves	:	Short sleeves having fullness gathered into the

armhole, and into a band or binding at the lower edge.

Raglan	:	A style in which the armhole seams run upto the neckline giving a loose and comforeable fit.
Ravel	:	Yams drawn out along the edge of the fabric.
Ribbon	:	An attractive woven fabric with a lustrous appearance, used for trimming and adornment.
Ricrac	:	A flat, woven braid made in zigzag form
Rip	:	To open a seam by pulling out or cutting the stitching
Rolled hem	:	A kind of hem used on sheer fabrics. The edge is rolled tightly between the thum and forefigers of the left hand and hemming is done to hold the roll in placle
Ruffle	:	A band of fabric that is gathered or pleated and applied to an edge as a trimming
Sag	:	The stretch-that occurs in the bias grain of a garment after hanging or as the effect of strain on any part of a garment
Scallop	:	An edge finish made up of a series of semicircles
Smock	:	A straight garment with a gathered or smocked yoke
Stay	:	A reinforcement in fabric or tape, to hold a part of a garment securely in position
Stay binding	:	A narrow, woven fabric generally used for the covering of seams and the strengthening of garments
Stay stitching	:	A row of stitching worked just inside, the seam allowance and close to the stitching line in order to prevent areas on the bias or curve from stretching
Straight of goods:		A term used to designate the length-wise in a fabric
Tack	:	To fasten two fabric surfaces together loosely by running stitches

Tailor's tack	:	A stitch used to trarnsfer pattern markings to the fabric
Taper	:	To decrease width gradually and bring to a point
Thread count	:	The number of threads in a square inch of fabric
Top Stitching	:	A line of stitching along the seam line on the right side of a garment, to add strength or design
Trim	:	To cut off ragged edges or a part of a seam allowance to prevent it from being bulky and to give the seam a neat edge
Trimming	:	An ornamental addition used on garments
Tubing	:	A hollow cylinder of fabric used for button loops and decorative trim
Tucks	:	Straight folds of fullness, evenly stitched
Underlap	:	A part of a garment that extends or laps under another part
Underlay	:	An additional piece of fabric placed under a section for the purpose of joiningl, as in a pleat or slot seam
Weave	:	The pattern of interlacing of warp and weft yams in a wove fabric
Wrap	:	The upper part of an opening which overlaps the under layer
Yardage	:	The amount of fabric needed to make a particular garment
Yoke	:	Separately made shoulder piece of bodiece or the top of a skirt

PRACTICAL MANUAL

GARMENT CONSTRUCTION
PAPER III - I YEAR (VOC)

COMMERCIAL GARMENT
DESIGNING & MAKING

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GARMENT CONSTRUCTION

Ist YEAR

PAPER III - PRACTICAL

Chapter I :

Paper patterns-Types-uses of paper patterns-contents

Chapter II :

Selection of material - Jhangia -Jabla-Romper-A-line frock-Baby frock with bib

Chapter III :

Drafting, cutting, and stitching, fabric estimation-Jangia-Jabala-Romper-A-Line frock-Baby frock bib

Chapter IV :

Drafting basic bodic block, sleeve block for child

Chapter V :

Collection of commercial sewing machine pictures and pasted in the record

I[st] YEAR PAPER - III

COMMERCIAL GARMENT DESIGNING & MAKING

GARMENT CONSTRUCTION (PRACTICALS)

Hours : 160 **Max.Marks : 50**

Course Content :

1. Paper patterns-types-uses of paper patterns-contents
2. Selection petticoat-Jhangia-Jabla-Romper-A-Line frock-Baby Frock with bib
3. Drafting, cutting and stitching fabric estimation - Jhangia-Jabla-Romper-A-Line frock Baby frock
4. Drafting basic bodice block and sleeve block for a child
5. Collection of commercial sewing machine pictures and pasted in the record book

CHAPTER - I

(PRACTICALS)

1.0. Paper Patterns :

1.1. Exercise - I

Aim : to prepare patterns - types and uses of patterns

Methods of pattern making :

A basic pattern can be prepared by

1. Drafting
2. Draping
3. Flat pattern technique

1.2. Drafting :

This method is very useful for beginnes as well as experts as it helps in acquireing profeciency in dress designing. Also it eliminates the risk of material being wested due to errers in cutting. In this technique of drawing a paper pattern with mechanical precision using accurate body measurements.

Drafting should be done on brown paper. To obtain accurate draft, use sharp pencil, a ruler for drawing straight lines - to get corners at right angles, keep on L scale or get squares.

The primary basic patterns - plain bodice plain sleeve, plain skirt, without scam allowance. (While laying pattern on fabric before cutting seam allowance should be included.)

The following details should be mentioned on pattern :

1) Name each piece
2) Number of pieces to be cut
3) Seam allowance to be mentioned
4) Lengthwise grain
5) Providing matching notches
6) Center front and center back should be marked
7) Fold lines should be clearly shown; fold for hem allowances should be mentioned
8) Darts, pleats making should be marked on paper pattern

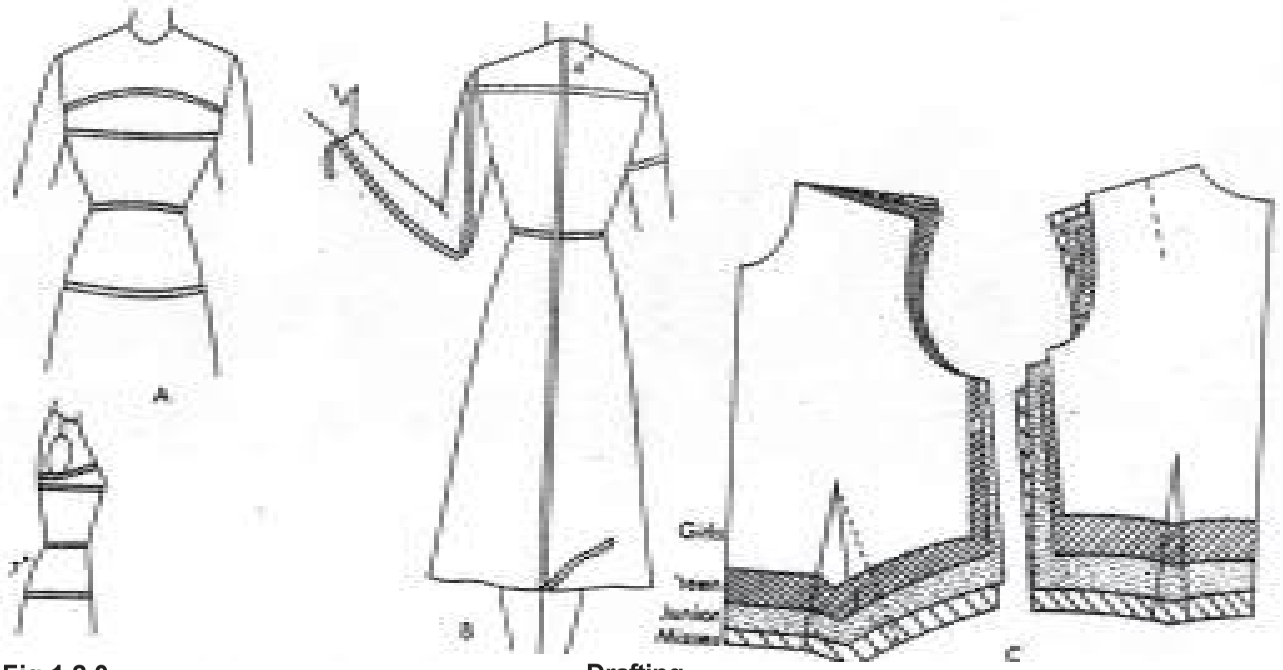


Fig.1.2.0. **Drafting**

A. Method of taking measurements of bust, high bust, waist and hip as basis for selecting correct size.

B. Additional measurements for checking pattern before alterations. C.Comparision of recent attempts by one pattern marker to fit more people.

Exercise :

1. Illustrate method of taking body measurements.
2. Record your body measurements as suggested in Fig.1.2.0.

Exercise - 2

1.3. Draping :

Several dress styles are created by modelling special style line may also be introduced in garment to achieve artistic effects which generally can not be got by the drafting technique.

Draping is generally carried out in materials such as mull, muslin. Original dress designers with an artistic trend prefer this technique and is used by leading dress designer. This method consisted of cutting material into pieces of appropriate lengths and width for the various parts of the patterns to be made and then of modeling or draping these on figure or dress stand and then pinning them together to assemble a garment. It is a costly method.

Fig:1.3.0.

Draping cloth over a model to fit by control of fundamental dart.

Exercise :

1. To learn draping method
2. Uses of draping

Exercise - 3

1.4. Flat Pattern Designing :

In this technique the style is created from basic bodice block.

This basic block is the foundation pattern and provide the biass of subsequent patterns.

The basic pattern may be modified to develop patterns of varied styles by a technique called Flat Pattern Designing.

Basic pattern should have minimum dart and seam and must fit comfortably. It is simple, practical & economical.

Fig : 1.4.0; 1.4.1.; 1.4.2; 1.4.3; 1.4.4;

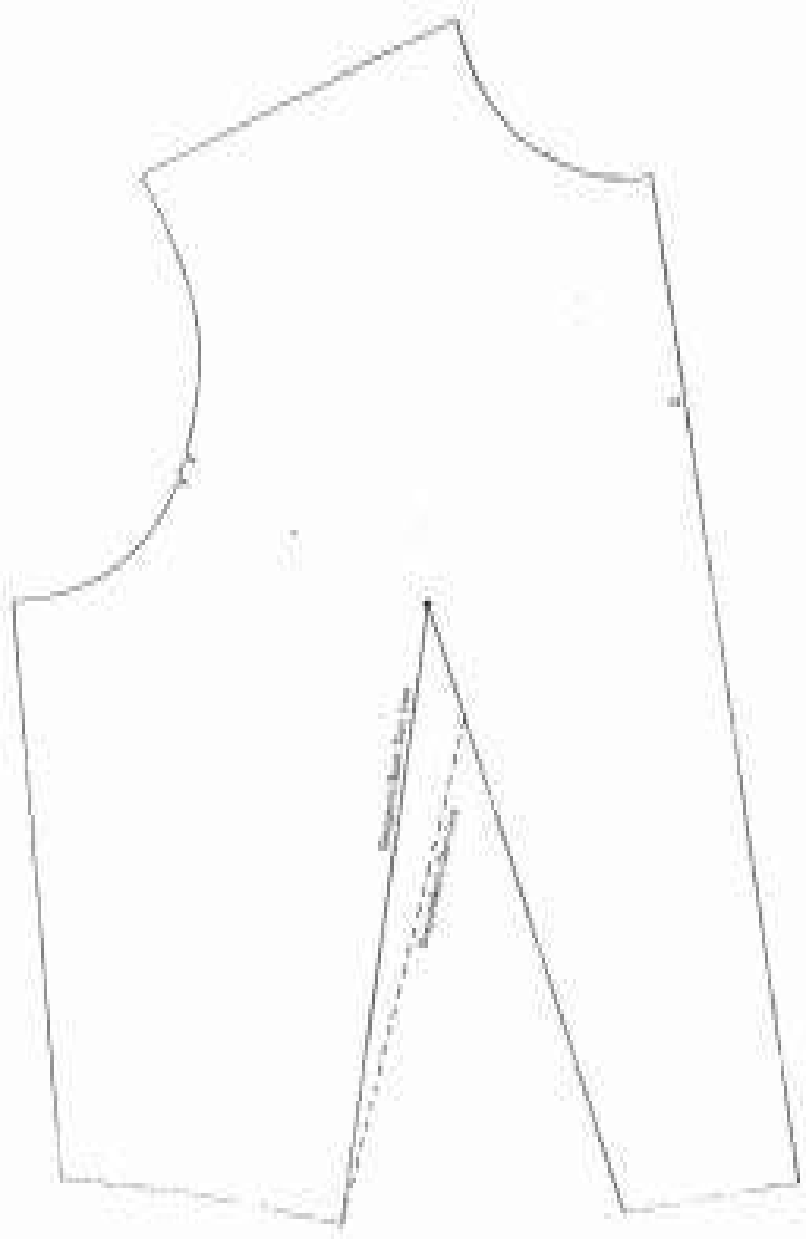


Fig : 1.4.0

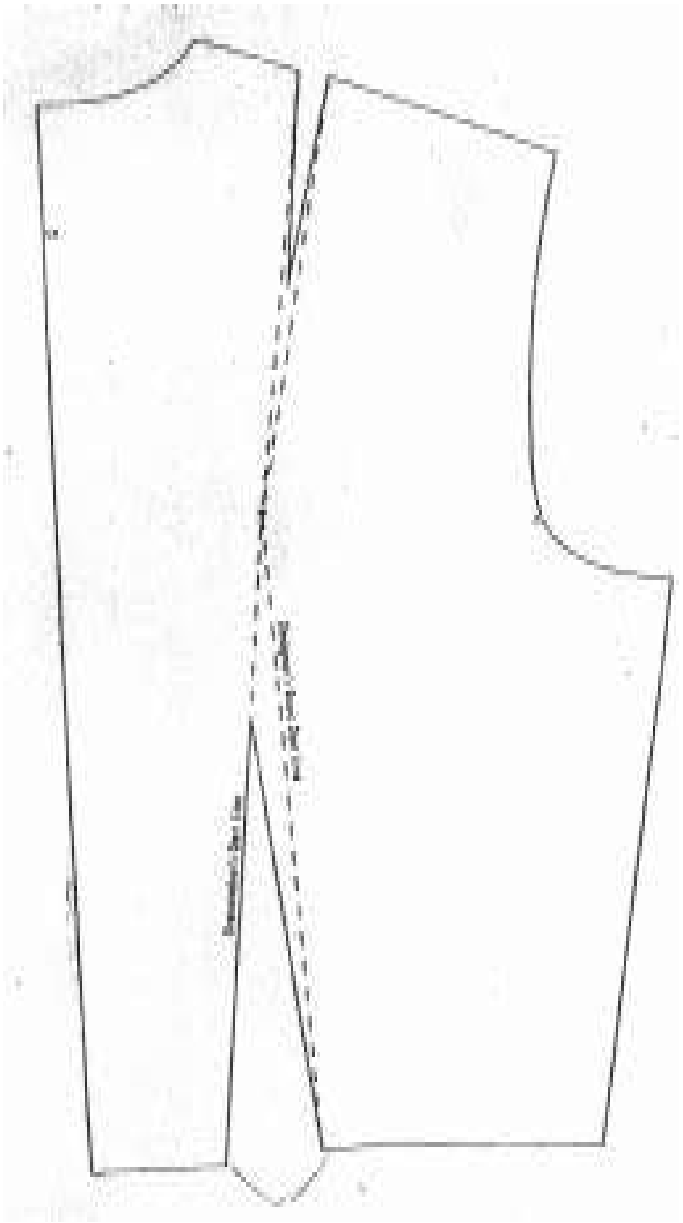


Fig : 1.4.1.

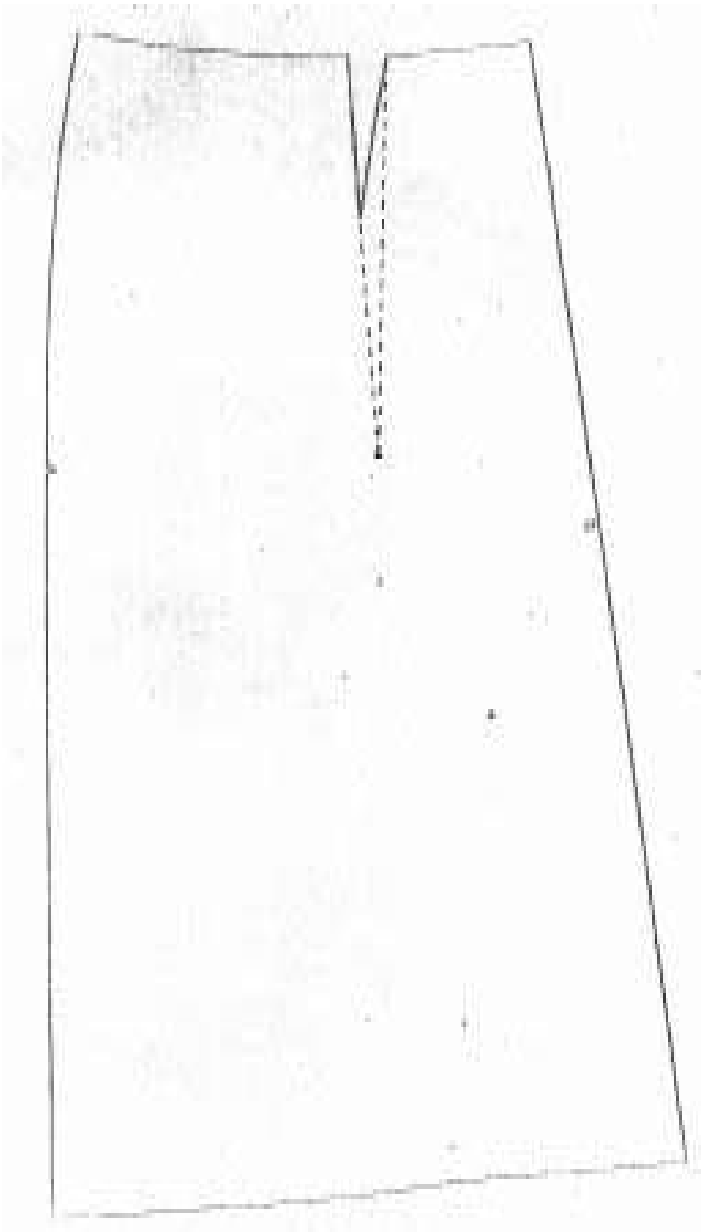


Fig :1.4.2.

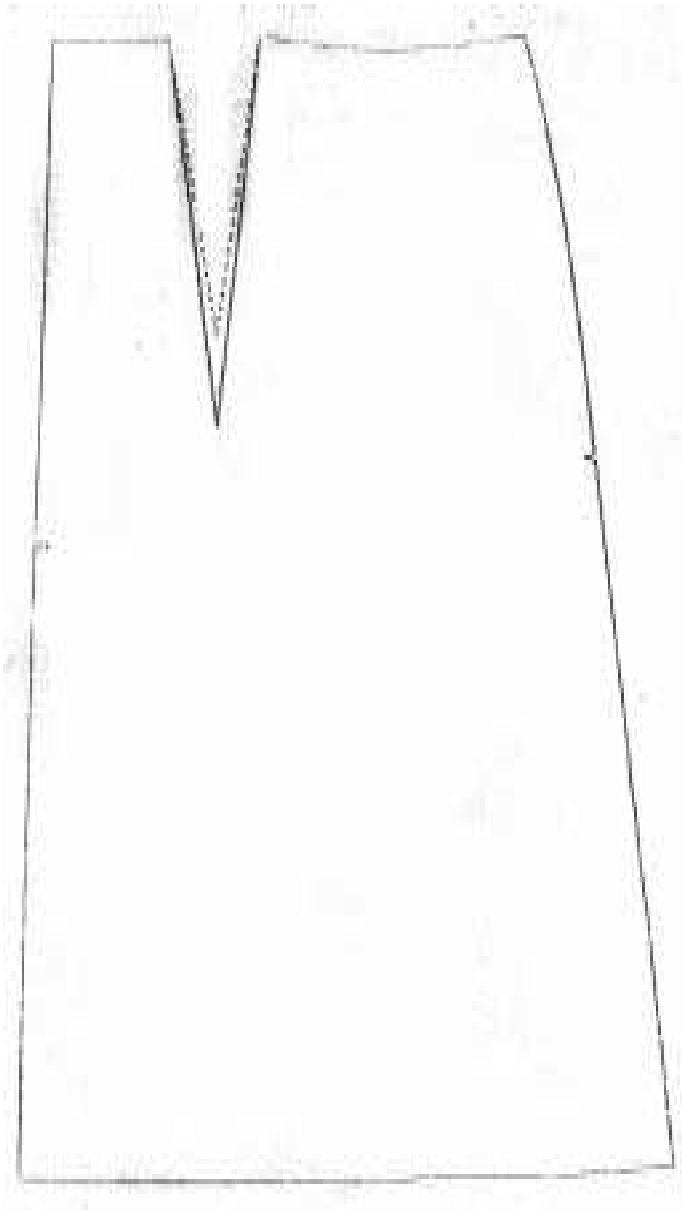


Fig.1.4.3.

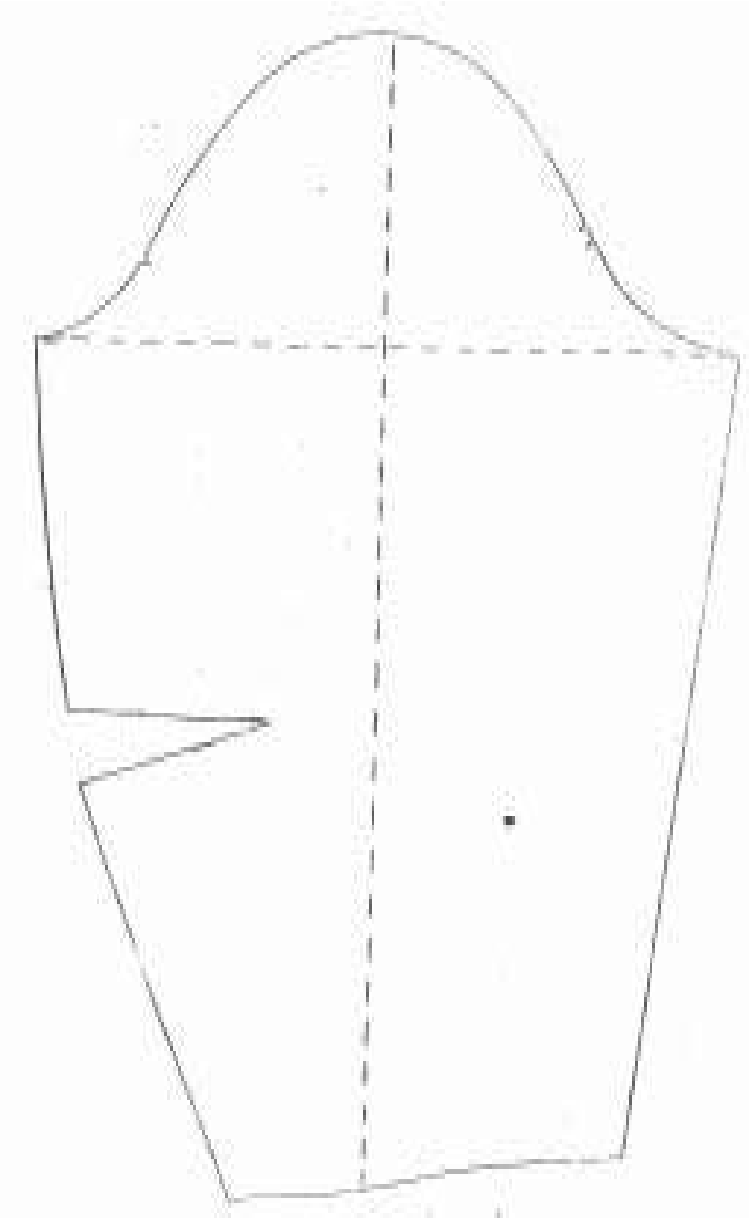


Fig.1.4.4.

Exercise :

1. To prepare paper patterns with the help of basic blocks - five-front bodice block, back bodice block, sleeve, front skirt block, back skirt block.
2. Uses of flat pattern technique

CHAPTER II

2.0 Selection of material for various garments

2.1. Selection of Material :

In dress making and designing, fabric selection is vital important and integral part.

The best fabric for children's clothes are those that are soft, pliable and absorbnt. They should washable, colourfast and pre shrunk.

Drip dry cottons and appropriate no irning semicot can be selected. A wide range of solids and even wider range of pattterned fabrics. Narro stripes, small dots, tiny checkes and plaids give charm to children.

2.2. Infant Clothing :

Baby skin is very sensitive. Clothes must be soft and pliable to be really comfortable. Hence soft, knitted, fabrics are popular.

Cotton fabrics are suited for babies.

Synthetic are not absorbent and cause irritation for summer, simple cotton dresses are suitable in the winter, a cotton dress is worn and on over it woolen garment can be worn for comfort.

2.3. Toddler :

The clothes for a toddler should be designed so that it gives mainly protection and comfort. A toddler learns to stands, sit, creep, crawl, walk and climb. The clothes toddler wear should allow them to move freely and comfortable.

The clothes should be light in weight but should give warmth.

Soft, smooth, fabric which do not collect soil and dirt would be ideal.

2.4. Pre School Child :

At this age of 3 to 4 years the child become interest in its clothes, so selection should be done carefully where the child learn mostly through clothes.

Bright colours and their favourites colours red, yellow, blue and green are prefered by children. Play clothes should be more in their wardrobe.

A Preschool child clothes should be appropriative, durable and comfortable.

Cotton for summer wear, wollen for winter and teri cot, silk matrials can be worn with cotton lining.

For Adults :

Petticoats are generally are under wear garments which are worn next to the skin. They should be absorbant and smooth which give comfort to the wearer.

Generally cotton, poplin, thin cambric, satin or rayon varieties can be worn. Slightly thik variety of cotton handloom material can be used for petticoats for children.

Exercises :

1. Saree petticoat, Jabla, Jhangia, Romper, Aline Frock, Easy frock, Bib: A market survey of various fabrics available for above garments should be done.
2. Collection of the material suitable
3. Table to be drawn pasting above material in record.

CHAPTER III

3.0. Drafting cutting stitching & Fabric estimation

3.1. Jhangia

Jahangia is a infant upper garment and generally has full opening.

Aim : Drafting, cutting & stitching of Jhangia

Measurements Required

Length from waist to crotch : 20 cms.

Witdth of the Jhangia : 35 Cms

Drafting take a piece of paper of length 40 cms (double the length) width 35 cms. Fold the length into half, keep the fold to the left, name the corners 1,2,3,4. Divide the width into two equal parts and lengths into three equal parts, as shown in fig.3.1.1.

1-5 =1 cms on 1-3

2-6 = 2 cms towards 1.

7 is one block from 4 towards 2

8 is one block & $2^{1}/_{2}$ cms towards 3.

Join 5-6 with a curved line that will be the waistline.

Join 6-7 that will be the side seam

Join 8 to 7 with a straight-line mark the centre of 7&8 as 9

From 9 take 1 cms just above and name it as 10.

Draw a curve from 8 to 7 through 9. This will be the leg curve.

Drafting of Jhangia

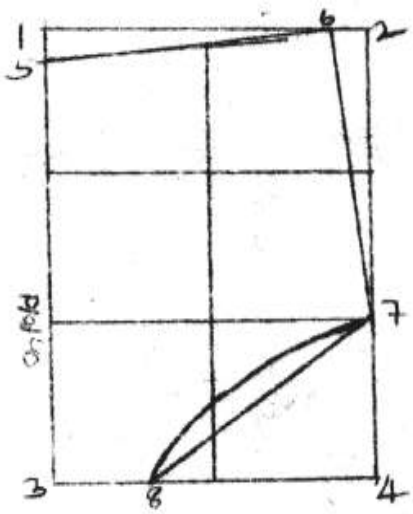


Fig.3.1.0.

Exercise :

1. Draw 1/4 scale of drafting in record
2. Write the method of stitching
3. Calculate amount of material required
4. List out the suitable mateiral for the garment.

3.2. Jabla :

This is infant lower garment.

Aim : Drafting, cutting & stitching of Jabla.

Measurements require

Length = 45 ms

Width = entire fabric = 90 cms

Take material of 45 cms+5cms for hem and width 90 cms. Fold in such a way that both the selvedges come together in the centre and fold once again width wise in such a way selvedges and one fold come to the left side, the two folds to right side. Mark the corners 1,2,3,4 as showing in **fig.3.2.0.**

2-5 is 10 cms from 2 towards 4.

5-6 is 5 cms

7 is 1 cm above 6

Join 7-5 with a smooth curve which

forms the arm hole.

Seam allowances are included

in the drafting of Jabla

Drafting :

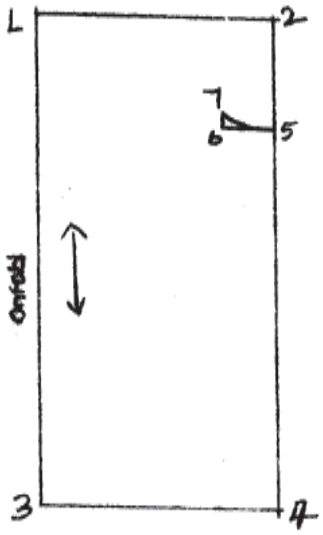


Fig.3.2.0.

Exercise :

1. Draw 1/4 scale of drafting in record
2. Write the method of stitching
3. Calculate amount of material required
4. List out the suitable mateiral for the garment.

3.3. Romper :

Aim : Drafting, cutting & stitching of Romper.

This garment worn by todder. Who stents to walk, crawl, stand, sit and climb. The garment should be protection to the toddler.

Drafting of Knicker.

Measurements required :

Length : from waist to a little above the knee = 25 cms.

Width : $1^{1}/_{3}$ length of 110 cms = 43.3 cms

Drafting : Fig 3.3.1 cut out a piece of 25 cms long & 43.3 cms wide. Fold the width into 1/2 (half) and keept the fold to the left. Name the corners 1,2,3,4. Divide length and width into four equal parts or blocks. As shown in **fig 3.3.0.**

1-5 = 1/2 block towards 3.

2-6 = 1 block towards 1.

Join 5-6 with a straight line which is back waist line

5-7 is 3 $^{1}/_{2}$ blocks. join 5-7 with a straight line which is front waist line.

8 is one block towards 2 from 4

From 4 take one block towards 3 and mark it as 9

Join 9-8 with a straight line.

Mark the Centre of 9-8 and mark it as 10.

10-11 is 1 cm

Join 9-11-8 with a curve which forms the leg curve.

Join 7-5 with a straight line. This is a centre front seam.

Join 6 & 8 as centre back seam.

3-9 is leg hem line

Drafting

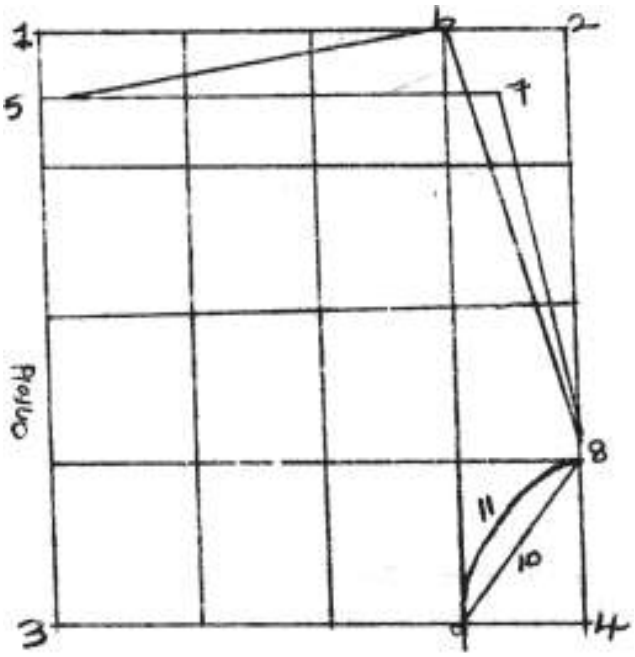


Fig 3.3.0.

Knicker

Bib :11 Cut out bib according to shape keeping 15 cms length and width. As shown in **fig 3.3.1.**

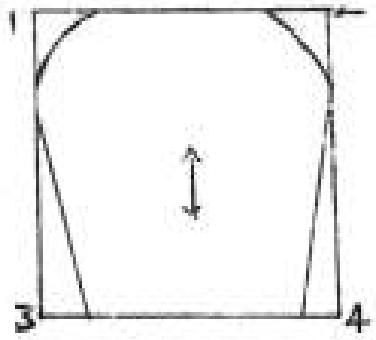


Fig 3.3.1.

Shoulder Straps : Cut two straps of 35 cms long and 8 cms wide.

As showin in **Fig.3.3.2.**

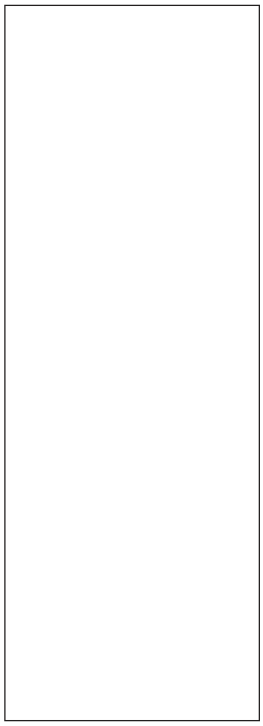


Fig 3.3.2

Exercise :

1. Draw 1/4 scale of drafting in record
2. Write the method of stitching
3. Calculate amount of material required
4. List out the suitable mateiral for the garment.

3.4. Aline Frock :

Aim : Drafting, cutting & stitching of Aline Frock:

It worn by preschool child. This is fully opened, put and takeout easily, can be decorated with lace, embroidary, applique or any attractive trimmings.

Measures :

50 cm breast, 10 cm shoulder, 40 cm full length

Front Part :

1-0 = Full length = 40 cm

2-0 = one fourth breast =12.5 cm

square out lines from 0,2,1.

3-2 = One fourth breast + 4 cm = 16.5. cm

4-0 =shoulder + $^{3}/_{4}$ cm

5 is squared from 2 and 4

6-4 = 2 cm

7-0 = one twelfth breast = 4.5. cm

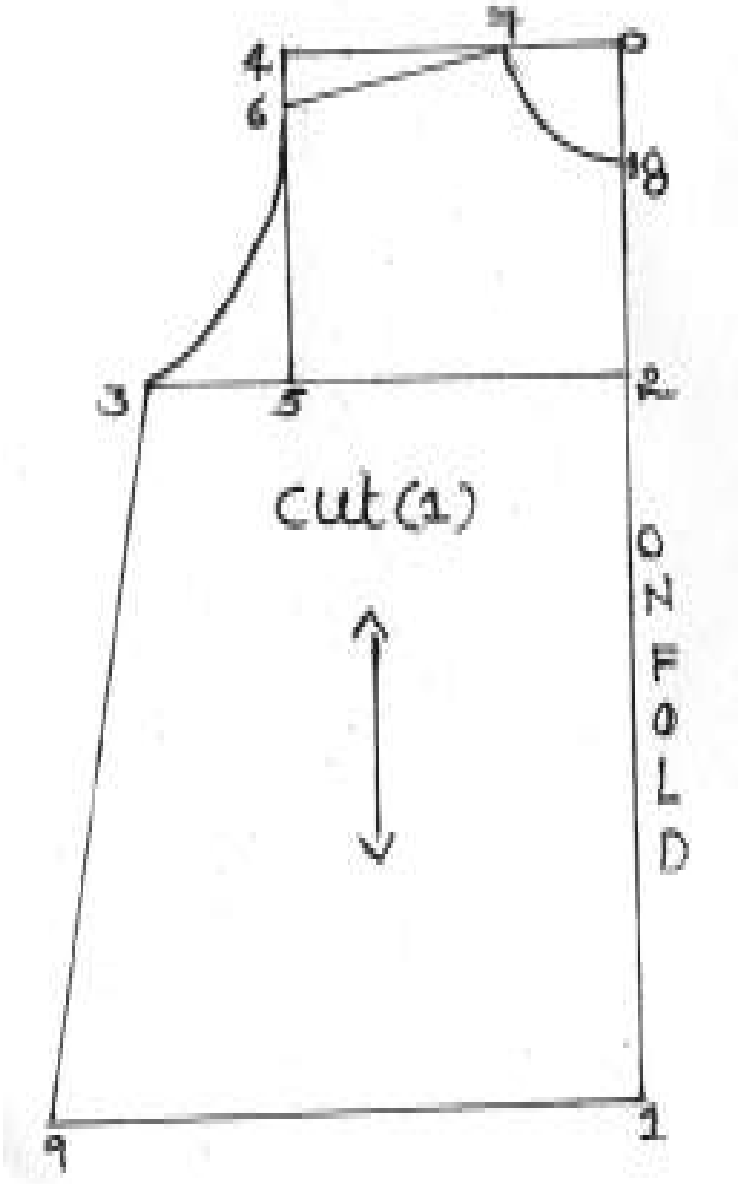
8-0 = one twelfth breast = 4.5. cm

Draw the line 6-7 for the side shoulder seam

Shape the neck 7-8

9-1 = one fourth bust + 10 cms.

Draw a line 3-9 for side seam. Draw the line 1-9 for bottom.



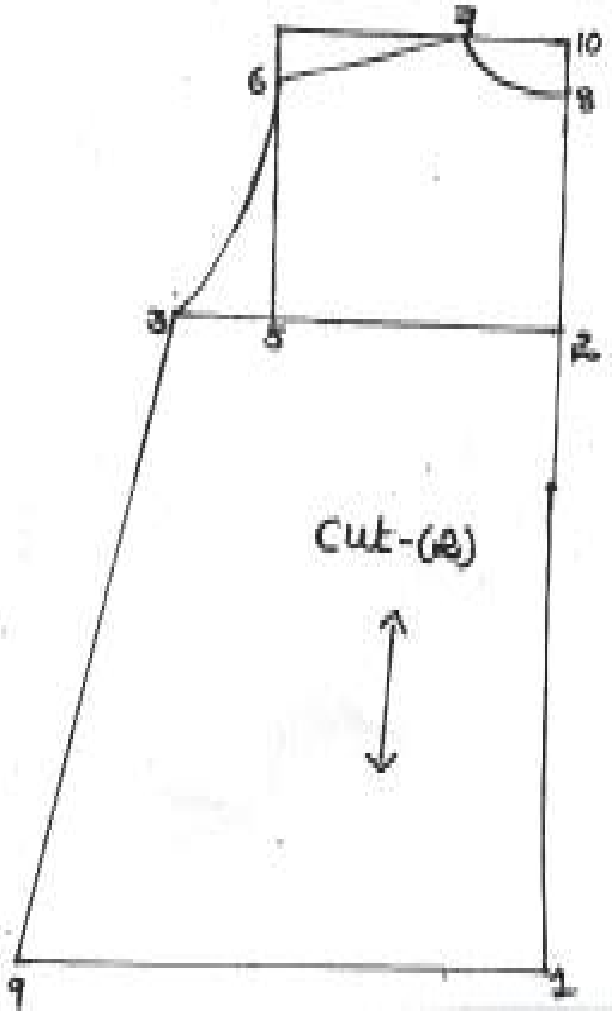
3.4.1.Front Part

Back Part :

10-0 = 2 cm

Shape the neck 7-10.

All



3.4.2. Back Part

Exercise :

1. Draw 1/4 scale of drafting in record
2. Write the method of stitching
3. Calculate amount of material required
4. List out the suitable mateiral for the garment.

3.5. Baby Frock:

Aim : Drafting, cutting & stitiching of Baby Frock.

Thin frock is used for babies upto 2 years. It has upper pant bodice and lower shirt. The frock can be decorated with lace, frills, embroidary, appliance also smaking.

Measurements :

1. Chest...50 cm (20")
2. Bodice length 10 cm (4")
3. Frock length 45 cm (18")
4. Shoulder ... 11.5 cm (4 $^{1}/_{2}$")
5. Sleeve with shoulder...23 cm (9")
6. Sleeve-round...16.5 cm(6/2")
7. Sleeve length ... 12 cms

   Bodice-length=One fourth chest less 2.5 cm (1")

Instructions for Drafting

Front (bodice) is square lines from 0, on a four layer fold, with folds at 1-0 and 4-0.

1-0 = bodice length plus 1 cm ($^{1}/_{4}$")

2-0 = One twelfth chest

3-0 = One twelth chest plus 1 cm ($^{1}/_{4}$")

Shape front neck 3-2

4-0 = shoulder plus 1 cm ($^1/_4$")

Square down from 4 to 5

6-4 = 1.5 cm ($^1/_2$"). Join 2-6

Shape Scye 6-5

7-1 = 1.5 cm ($^1/_2$") shape 7-5

Portion 1-7-5 is only for the front

Back is 8-0 = 1.5 cm ($^1/_2$")

Shape neck 8-2

9-5 = 1.5 cm ($^1/_2$")

Shape scye 6-9

Drafting

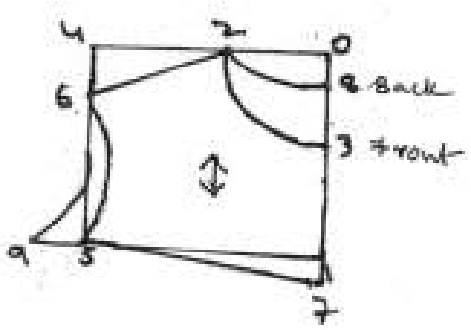


Fig 3.5.1.

Full length of frock less bodice length = skirt length

The bottom round of skirt is generally kept double the chest measure plus about 25 cm (10")

Full length of frock minus bodice = skirt length

11-10 = Skirt length plus 1.5 cm

12-10 and 13-11=one fourth chest, extra material for gathers on pleats 10 to 15 cms extra

14-12 = one fourth chest plus 4 cm

15-13 = One fourth chest plus 6-5 cm ($2^{1}/^{2}$") or

15-11 = one fourth bottom round plus 1 cm

Join 14-15; 16-15 = 1.5 cms

Shape bottom 13-16; 17-14 2.5 cm

18-12 = (i.e. shoulder+ 1 cms) same as 5 to 1 of bodice shape front scye 18-17

19-18 = 1.5 cm ($^{1}/_{2}$"). Shape back scye 19-17

Keep 5 t0 10 cm (2 t0 4")

below 11-13-16 for inturns.

The unfolded parts in

1 = back skirt,

2 = front skirt,

3= front bodice;

4=back bodice,

5 and6 = sleeves

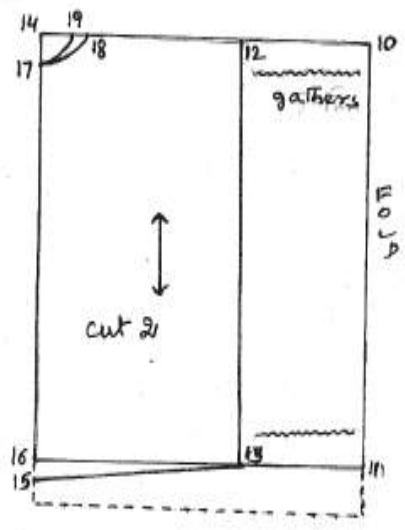


Fig.3.5.2.

Puffed Sleeve

Aim : Drafting, cutting & stitching of Puffed Sleeve.

There are gathers at the armhole as well as at sleeve bottom. For this, it is necessary to fix the proportion of gathers, before cutting the sleeve.

Instruction for drafting :

1 to 2 = sleeve length + 61/2 cms.

1 to 3 = 1/4 chest + 3.75 cms.

3 to 4 = half of 1 to 2 minus 0.75 cms (3/4 cms)

Join 4 and 2 with a straight line

4 to 5 = 1/3 of 4 and 2

For front armholecurve join 4,5 2 as shown in figure

For back armhole join 4 to 2 as shown in figure

3 to 6 = 2.5 cms

Join the 6 with a slight curve line as shown in figure

The wrinklesline denote area for gathern finish the lower round arm as for

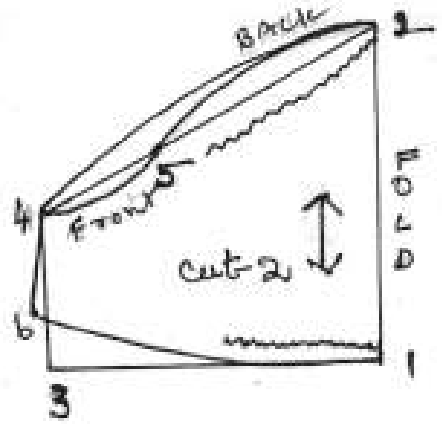


Fig.3.5.3.

Exercise :

1. Draw 1/4 scale of drafting in record
2. Write the method of stitching
3. Calculate amount of material required
4. List out the suitable mateiral for the garment.

3.6. Bib :

Aim : Drafting, cutting & stitching of Bib.

Bibs worn an by infants & small children to prevent soiling of the dress. Bib should be absorbent and easily washable. Generally cotton material, pileweare turkish towel materials are used for bibs or un cutpile materials.

Material required :

Fabric length = 25 cms

Width of the material 18 to 20 cms

1 to 2 = $^{1}/_{2}$ width of bib = 9 to 10 cms.

2 to 3 and 1 to 4 = length of the bib = 25 cms

(on 2 and 3 fabric is kepton fold)

2 to 5 = 4.5 cms

2 to 6 = 4.5 cms

Join 5 and 6 with a curve line for neck

From 4 measure 4 to 8 = 4 cms, inside bib

From 1 measure 7 = 2 cms

Join 3,8 and 7 for bib curve

It can be also curve as shown infigure by joining = 3,8,7 and 9 for round design or join 3,8 to 1 as desired design.

Drafting

Fig.3.6.1.

Exercise :

1. Draw 1/4 scale of drafting in record
2. Write the smethod of stitching
3. Calculate amount of material required
4. List out the suitable mateiral for the garment.

CHAPTER IV

4.0. Drafting of basic block & sleeve block for a child

This frock is drafted for the age group of 2 to 2 1/2 years old child. The length of the frock is till the knees with short sleeve.

Measurement required :

Round Chest = 50 cms; Round waist = 50 cms;

Waist length = 20 cms - shoulder to waist

Back width = 20 cms; sleeve length = 10 cms (as required)

Full length of the frock = 40 cms; R, lower arm = 18 cms

4.1.Drafting of child's bodice block : Back &front are drafted in same rectangle. As shown in fig. 4.1.1.

Aim : Drafting, cutting & stitching of Bib.

Draw a rectangle 1,2,3,4.

1-2 = $^1/_4$ bust + 3 cms.

1-3 = 2 = 4 =back waist length + $1^1/_2$ cms

Mark 1-8 = $^1/_2$ back width = 10cms

1-6 = $1^1/_{12}$ chest

1-5 = 2.5 cms

1-7 = $^1/_{12}$ chest + $^1/_2$ cms

8-9 = 2.5 cms

Connect 5-6 with a curved line, this is the back neck line.

Connect 7-6 with dotted line for front neck line

Join 6-9 with straight line which is shoulder seam 2-11 = $^1/_4$ chest.

Draw 8-10 parallel line to 2-11 and Join 10-11

Join 9-11. This is back armscye line

4-14 = 1 cms. Join 11-14. This is the side seam

Mark 9-13 = 1/3 or 9-10

13-12 = 1.3 cm connect 9-13-11 this is back arm scye, line
connect 9-12-11 for front armscye line
4-14 = 1.5 cm
11-14=side seam line (Fig.4.1.1.)
Seam allowances : Shoulder = 1 cms.
Neckline = $^{1}/_{2}$ cms; side seam = 2.5 cms.

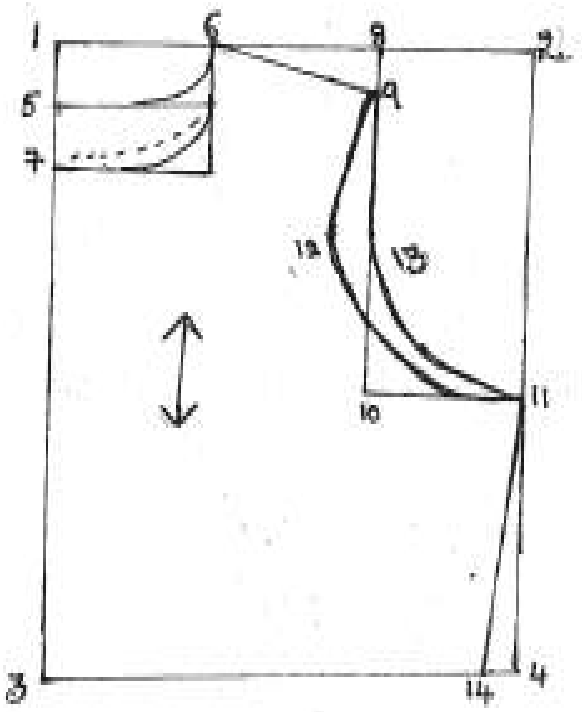


Fig. 4.1.1.

4.2. Sleeve Drafting :

To draft a sleeve, draw rectangle and name 1,2,3,4 as shown in **fig 4.2.1**m 7,8,9.

Mark 7-10 = $^1/_2$ cm

8-11 = $^1/_2$ cm

9-12 = $^1/_2$ cm

9-13 = 1cm (Fig.4.2.1.)

Connect 1-10-11-12 to 5 for back armhole curve

Connect 1-10-8-13 to 5 for front armhole curve

Seam allowances.

Sleeve cap = 1 cms

Under arm = 1 to 2.5 cms

Sleeve hem = 2.5 cm.

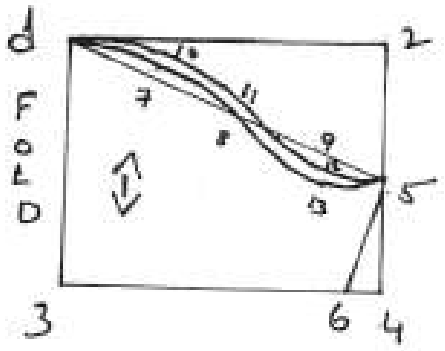


Fig. 4.2.1.

Exercise :

1. Draw 1/4 scale of drafting and name them

CHAPTER V

COLLECTION OF COMMERCIAL SEWING MACHINES - PICTURES

1. Single Needle Lock Stitch
2. Double Needle Overlock Stitch
3. Over Lock Machines
4. Button Sewing Machine
5. Button Hole Machine
6. Fusing Machine

5.0. Collection of Commercial Sewing Machines :

Pictures and paste them in record.

1

MACHINE ROOM

5.1. Single needle lock stitch :

Electronic machine with single needle consist of single needel

SINGLE NEEDLE LOCK STITCH

SINGLE NEEDLE LOCK STITCH

5.2. Double needle overlock stitch :

Electronic machine stitching is done with duble needle.

5.3. Over lock machine :

This machine is used to finish the edges of the seam. It is alsoused for normal sewing of the knittted material.

5.4. Button sewing machine :

Used for sewing buttons for shirts, where the width of the stitch is adjusted with holes of the button.

5.5. Button Hole Machine :

Button hole is stitched with machines stitches, after finishing the hole is done with shart knife adjusted to the length required.

5.6. Fusing Machine :

They are bacically used for pressing fusing two or more materials with heat and pressure - fusing cotton, fascing in garment, yolkes, and so on.

FUSING MACHINE

Basic Sewing Machines :

General Sewing : The modern, single needle lock stitch machine is used for sewing.

It runs with a speed of 6000 rpm with Electronic controls which reduce time required for acceleration and decleration.

The position of the needle is automatic up and down postition

The clipping of threads is also automaticly done.

Back tacking is done by foot or automatically by means of an Electronic seam end sensor.

The sewing machines are programmed for sewing in sequence.

1. Over locking : Over locking is used to trim and over the rough edges of the fabric in order to present a clean and neat appearance where seam edges are visible. They are also used for finished raw edges of shirts, pants and dresses where edges of fabric are likely to fray.

2. Button Hole Machines : A buttonhole is a straight or shaped slot through the garment and then sewn round its edges to prevent fraying and stretching. In standard garments the buttonholes are automatically sewn and spaced at predethmined distances. It enables to operator to work on more than one buttonm holing unit.

3. Button Sewing : Button with two holes or shanks can all be sewn on the same machine by simple adjustments to the clamp and spacing machanism.

The sewing action consists of a series of parallel stitches whole length is equal to the spacing between centres of the hole.

The needle has vertical movements only and the button from side to side by the buttom clamp.

Buttons can be sewn on with one or two threads, the number of stitches depending on the type of machine used.

4. Cutting Machine : This is a major operation of the cutting room. When the spread fabric is cut into garments. Of all operations cutting most decisive, as once the fabric is cut, it should be done perfectily, as there is no possibility to any mistake. In most cutting rooms the straight knife cutting machine is used.