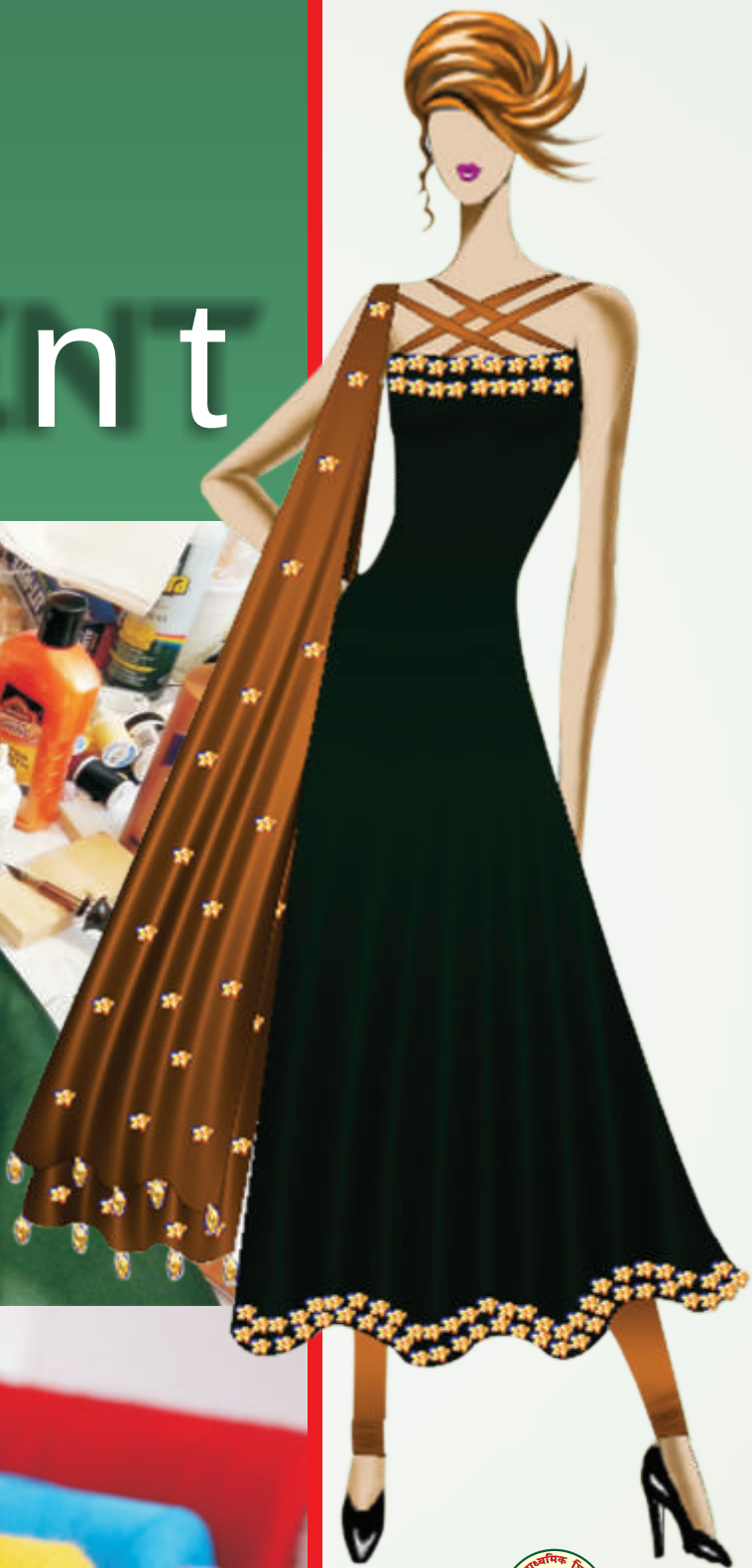
Class XII

Garment Construction-II



CENTRAL BOARD OF SECONDARY EDUCATION
Shiksha Kendra, 2, Community Centre
Preet Vihar, Delhi-110301

BUILDING SKILLS BUILDING FUTURE

Garment Construction-II

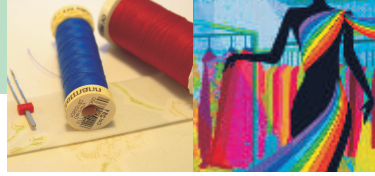
Students Handbook

CLASS XII

CENTRAL BOARD OF SECONDARY EDUCATION

in collaboration with

NATIONAL INSTITUTE OF FASHION TECHNOLOGY



Garment Construction - II
Students Handbook, Class XII

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भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक सम्पूर्ण [1]प्रभुत्व-संपन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य बनाने के लिए, तथा उसके समस्त नागरिकों को:

सामाजिक, आर्थिक और राजनैतिक न्याय,
विचार, अभिव्यक्ति, विश्वास, धर्म
और उपासना की स्वतंत्रता,
प्रतिष्ठा और अवसर की समता
प्राप्त कराने के लिए
तथा उन सब में व्यक्ति की गरिमा
[2]और राष्ट्र की एकता और अखंडता
सुनिश्चित करने वाली बंधुता बढ़ाने के लिए

दृढ़संकल्प होकर अपनी इस संविधान सभा में आज तारीख 26 नवम्बर, 1949 ई॰ को एतद्द्वारा इस संविधान को अंगीकृत, अधिनियमित और आत्मार्पित करते हैं।

---

1. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से "प्रभुत्व-संपन्न लोकतंत्रात्मक गणराज्य" के स्थान पर प्रतिस्थापित।
2. संविधान (बयालीसवां संशोधन) अधिनियम, 1976 की धारा 2 द्वारा (3.1.1977) से "राष्ट्र की एकता" के स्थान पर प्रतिस्थापित।

भाग 4 क

मूल कर्त्तव्य

51 क. मूल कर्त्तव्य – भारत के प्रत्येक नागरिक का यह कर्त्तव्य होगा कि वह –

(क) संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्रध्वज और राष्ट्रगान का आदर करे;

(ख) स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे;

(ग) भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे;

(घ) देश की रक्षा करे और आह्वान किए जाने पर राष्ट्र की सेवा करे;

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(च) हमारी सामासिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका परिरक्षण करे;

(छ) प्राकृतिक पर्यावरण की जिसके अंतर्गत वन, झील, नदी, और वन्य जीव हैं, रक्षा करे और उसका संवर्धन करे तथा प्राणी मात्र के प्रति दयाभाव रखे;

(ज) वैज्ञानिक दृष्टिकोण, मानववाद और ज्ञानार्जन तथा सुधार की भावना का विकास करे;

(झ) सार्वजनिक संपत्ति को सुरक्षित रखे और हिंसा से दूर रहे;

(ञ) व्यक्तिगत और सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत प्रयास करे जिससे राष्ट्र निरंतर बढ़ते हुए प्रयत्न और उपलब्धि की नई उंचाइयों को छू ले;

[1](ट) यदि माता-पिता या संरक्षक है, छह वर्ष से चौदह वर्ष तक की आयु वाले अपने, यथास्थिति, बालक या प्रतिपाल्य के लिये शिक्षा के अवसर प्रदान करे।

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1. संविधान (छयासीवां संशोधन) अधिनियम, 2002 की धारा 4 द्वारा प्रतिस्थापित।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a [1]**SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC** and to secure to all its citizens :

JUSTICE, social, economic and political;

LIBERTY of thought, expression, belief, faith and worship;

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the[2] unity and integrity of the Nation;

IN OUR CONSTITUENT ASSEMBLY this twenty-sixth day of November, 1949, do **HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.**

---

1. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "Sovereign Democratic Republic" (w.e.f. 3.1.1977)
2. Subs, by the Constitution (Forty-Second Amendment) Act. 1976, sec. 2, for "unity of the Nation" (w.e.f. 3.1.1977)

THE CONSTITUTION OF INDIA

Chapter IV A

FUNDAMENTAL DUTIES

ARTICLE 51A

Fundamental Duties - It shall be the duty of every citizen of India-

(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;

(b) to cherish and follow the noble ideals which inspired our national struggle for freedom;

(c) to uphold and protect the sovereignty, unity and integrity of India;

(d) to defend the country and render national service when called upon to do so;

(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;

(f) to value and preserve the rich heritage of our composite culture;

(g) to protect and improve the natural environment including forests, lakes, rivers, wild life and to have compassion for living creatures;

(h) to develop the scientific temper, humanism and the spirit of inquiry and reform;

(i) to safeguard public property and to abjure violence;

(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement;

[1](k) to provide opportunities for education to his/her child or, as the case may be, ward between age of 6 and 14 years.

---

1. Subs. by the Constitution (Eighty - Sixth Amendment) Act, 2002

Preface

The Indian textile and fashion industry contributes substantially to its exports earnings. It is also the second largest domestic employer after agriculture. The garment industry is classified into organized and unorganized sectors catering to a diverse consumer segment. The unorganized segment comprises small-scale readymade apparel stores, independent fabric and tailoring shops etc. The organized sector comprises single-brand or multi-brand retail outlets, designer boutiques etc. to cater to different strata of consumers. The domestic apparel market is expected to grow @ 11% CAGR primarily driven by high value growth due to organized and branded segment. The Indian textile and apparel trade is estimated at USD 662 billion in 2011 and is expected to grow at 5% CAGR by 2021.Employment in the Indian textile and apparel sector stands at 45 million with an additional employment of 60 million in allied sectors.

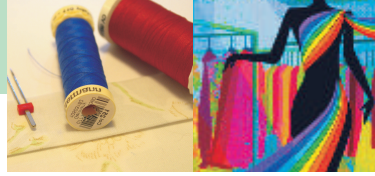
The Central Board of Secondary Education (CBSE) has taken the initiative of developing a range of vocational courses in areas of emerging interest for those students who may not pursue higher education due to financial constraints or for any other reason. In keeping with this objective, the vocational course on Fashion Design Garment Technology (FDGT) for students of Std XI and XII offers an option to those who would like to enter the fashion industry right after completion of secondary level of education. While academic courses have more theory-based curricular content and do not develop extensive hands-on skill competency, it is envisaged that vocational courses will inculcate not only knowledge but also the related skills which are required by specific industry segments. The FDGT course combines a gamut of theoretical with practical inputs in order to enable students to gain professional competency education in the area of fashion design and garment technology.

The content of the subject is the outcome of consultative discussions among CBSE officials and teachers, senior NIFT faculty members and alumni, industry members representing the export and domestic garment sector including fashion designers.

The Board would like to place on record the support received from Shri P. K. Gera, IAS, Director General NIFT and Sr. Prof. Banhi Jha, Dean – Academic. We also acknowledge the contribution of Sr. Prof. Banhi Jha, Prof. Vandana Narang - Project Anchor, Prof. Malini D, Dr. Rajitha & Mr. K. D. Sharma of NIFT for their time and effort in developing the FDGT textbooks for Std XII. The contribution of the Sh. Biswajit Saha, Additional Director and Ms. Swati Gupta, Deputy Director, Vocational Education Cell, CBSE is also deeply appreciated.

Any suggestions and feedback from the readers for improvement in the future editions of the subject is welcome.

Shri Vineet Joshi
Chairman, CBSE



Preamble

Fashion is dynamic and ever changing. It is one of the most powerful forces in our lives. It influences every facet of our lifestyle at a particular period in time e.g. the clothes we wear, the music we listen, the food we eat, where we go for holiday or the car we drive in etc.

The purpose of the stream of Fashion Design and Garment technology under the broad head of Professional Competency Education is to acquaint the students with the fundamentals of fashion design and production of garments. Fashion Design as profession includes the entire process of designing and producing fashion apparels from the fibre and yarn stage to the finished product. The subjects of this course will give an overview of fashion design and elaborate on different aspects like elements of design, history of fashion, fabrics, and understanding of the body, pattern development and garment construction.

The apparel industry is a heterogeneous entity where the design, technology and management of fashion activities are geared towards mass production, limited edition, high fashion clothing, crafts, exports and other niche segments. This subject also gives directional options for students wishing to pursue higher studies in fashion and seeking careers as fashion professionals.

Acknowledgements

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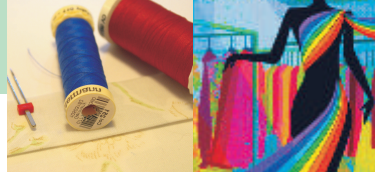


CHAPTER - 1

Introduction to Garment Assembly Systems

Garment Assembly

Most of the people who sew clothes at home or have seen their mothers, grandmothers, aunts or tailors sew, know that a garment is assembled by putting together various components of it such as fabric pieces, thread, buttons, zipper, and so on.

Garment construction involves conversion of raw material into a stitched and wearable piece of clothing. It is a basic requirement of clothing and fashion design. Garment construction involves creating a three-dimensional garment from a two-dimensional design /pattern/ fabric.

Various parts of a garment, say, a shirt requires assembling to make a complete garment. The front and the back body, sleeve, cuff, placket, yoke, collar and pocket need to be assembled together in order to make a shirt.

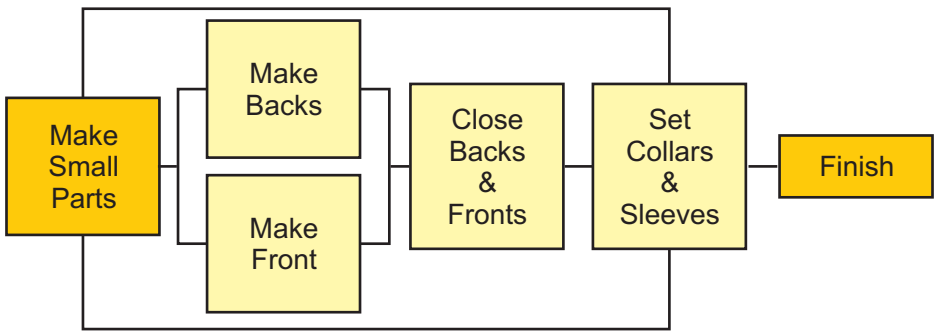
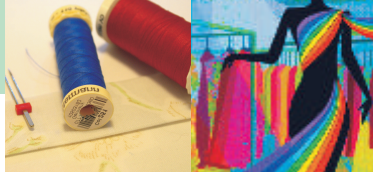


Figure - 1: Layout & Workflow

1.1 Garment Assembly Systems

The garment assembly system used by an individual or in small tailor shops is different from the systems used in the factories. The production system in the factories follows a production process to manufacture a garment and put its components together. The basic garment components according to Glock and Kunz (1995) include:

- Top fronts and top backs
- Bottom fronts and bottom backs
- Sleeves
- Collars and neckline treatments
- Cuffs and sleeve treatments
- Plackets
- Pockets
- Waistline treatments



Hems, stitches, seams, bonding, fusing, or combination of these, is used to assemble the garment components into a complete structure. The more components a garment has, the more complex the assembly and higher the labour costs.

1.1.1 Individual System

This is traditional method of sewing and assembling a garment whereby one operator puts together the entire garment. The operator cuts the fabric and does every operation required to make the garment, including machining, hand work and pressing. The operator sews the garment according to his or her own method of work. This type of garment assembly system is effective when varieties of garments are required to be produced in very small quantities. Individual system of assembling garment is more common with homemakers, local tailors, boutiques, etc.

1.1.2 Factory Production System

There are various ways used in the clothing factories for assembling a garment. The choice of best assembly system depends on the product and production & pricing policies of the company. Most of the garment assembly systems employed in clothing factories are derived from the following manual or mechanical systems. Each system has its own characteristics.

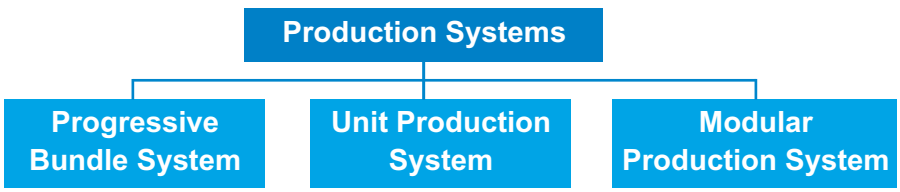


Figure - 1: Production Systems

1.2 Garment Assembly Systems Commonly used in India

There are three types of garment assembly systems commonly used in India in mass production of apparel. Each system requires an appropriate management philosophy, materials handling methods, floor layout, and employee training. Factories may use only one system, a combination of systems for one product line, or different systems for different product lines in the same plant to meet their specific production needs. These systems are:

1. Progressive Bundle System
2. Unit Production System
3. Modular Production System

1.2.1 Progressive Bundle System (PBS)

In the Progressive Bundle System the bundles of garment parts are moved in a sequence from one operation to another. The operators specialise in one major component and sew it from beginning to end. The garments are gradually assembled as they move through successive sub-assembly and main assembly operations in bundle form. This system, often referred to as the traditional production system, has been widely used by apparel manufacturers for several decades and still is today.

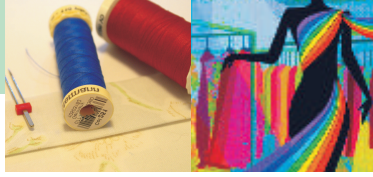
Bundles are assembled in the cutting room where cut parts are matched up with corresponding parts and bundle tickets. Bundles of cut parts are transported to the sewing room and given to the operator scheduled to complete the operation.

Bundles consist of garment parts needed to complete a specific operation or garment component. For example, an operation bundle for pocket setting might include shirt fronts and pockets that are to be attached. One operator is expected to perform the same operation on all the pieces in the bundle, retie the bundle, process coupon, and set it aside until it is picked up and moved to the next operation.

Under this system of assembling garment, the sewing room would have a number of sections, each containing versatile operators capable of performing the operations required for a specific component.

CUFFS	CUFF HEM	BUTTON HEM	
	CUFF R/S	CUTT R/S	
	CUFF TURN / TRIM	CUFF FINISH	
SLEEVES	SLEEVE OPEN	CUFF SETTING	ASSEMBLY II
	SLEEVE PLK ATTACH	CUFF SETTING	
	SLEEVE PCK FINISH (B)	SIDE TOP STITCH	
	SEELVE PCK FINISH (C)	SIDE ATTACH	
COLLAR	COLLAR R/S	SLEEVE T/S	
	COLLAR TURN	SLEEVE ATTACH	
	COLLAR TOP IRON	SLEEVE SETTING	
	COLLAR T/S	COLLAR FINISH	
	PICK A HEM	COLLAR FINISH	ASSEMBLY I
	PICK ATTACH	COLLAR ATTACH	
	PICK CUTTING	COLLAR SETTING	
	POCKET IRON	SHOULDER T/S	
FRONTS	POCKET HEM	SHOULDER ATTACH	
	POCKET MARKING	SHOULDER JOIN SET	FRONT
	POCKET IRON	POCKET ATTACH	
	FRONT BUTTON PLK HEM	BACK YCKE LABEL	
	FRONT KAJA PLK HEM	BACK YCKE T/S	BACKS
	FRONT PLACKET FUSING	BACK YCKE ATTACH	

Figure - 3: Progressive Bundle Systems



The progressive bundle system is somewhat cumbersome in operation and requires large quantities of work in progress. However, it is probably one of the most stable systems if large output is required. The only disadvantage of this system is that production gets badly affected if there is serious absenteeism or prolonged special machine breakdowns.

1.2.2 Unit Production System (UPS)

A unit production system (UPS) is a type of assembly line layout that uses an overhead transportation system to move garment components from one work station to another for assembling the garment. All the parts for a single garment are moved forward through the production line by means of a hanging carrier that travels along an overhead conveyor. At the completion of an operation the operator presses a button, and the carrier moves on to the next operation. Most unit production systems are linked to a computer control centre that routes and tracks production and provides up-to-the-minute data for management decisions. Proper planning is required to make this system effective.

The unit production system transports all the pieces of one complete product through the manufacturing process. The carrier takes all the pieces of one entire unit (i.e., for trousers - backs, fronts, pockets, etc) through the different steps of production. Operations are performed at individual workstations. The end result is a cost-efficient product, processed from pieces to completion.

The essential features of this type of system are:

- The unit of production is a single garment and not bundles.
- The garment components are automatically transported from workstation to work station according to a pre-determined sequence.
- The completed product arrives to an unloading station.
- The empty product carrier returns to the loading station.

Unit Production System requires substantial investments, which may not always be justified by conventional payback calculations. However, UPS has many intangible benefits such as a more orderly and controlled flow of work, and the ability via the control computer of simulating the production situation some time in advance. This system provides a clothing factory with the capability to respond quickly to any changes, which might occur.

1.2.3 Modular Production System (MPS)

This system focuses on a **team method** of assembly. The members of a team are responsible for either the entire garment or a specific operation of the assembly process, depending on the overall production plant and the number of components to be put together.

The team is trained on the functions requires and paid as a team, based on the total

output. The team members operate individual machines and do separate tasks, but they work together for their final compensation. They are also **cross trained** to help company avoid any kind of production lapses.

MPS is efficient garment assembly system as it reduces production time and improves quality. Since workers get to do different tasks, there is cut down on work monotony and job performance is enhanced.

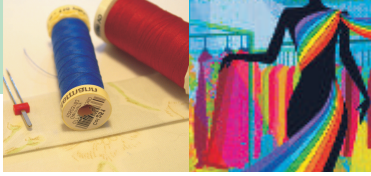
EXERCISE

Visit a garment production facility and identify the production system followed there. Write a short report on the process undertaken there to manufacture the garments. The report should include the following information:

- The product under the manufacturing
- Number of sewing machines and operators
- Total production output per day
- Advantages and disadvantages of the production system faced by the management.

Fill in the blanks:

1. The choice of best assembly system depends on the _____, _____ and _____of the company.
2. In the _____ System the operators specialise in one major component and sew it from beginning to end.
3. In a Unit Production System (UPS) all the parts for a single garment are moved forward through the production line by means of a _____ that travels along an_____.
4. _____ System requires substantial investments.
5. Modular Production System focuses on a _____.



CHAPTER - 2

Garment Finishing Machines

We had previously learned about the Lock stitch machine for sewing the garments. When garment making was industrialized, specialized machines were developed for specialized operations to meet the needs of mass production. These operations may be over locking, sewing buttons, making button holes, making pleats and pin tucks, and many more.

A comprehensive review of all different machines available in the market may be possible to include in this book, but the following are some of the machines widely used for production of clothing.

2.1 The Lock–Stitch Machine

The Lock–stitch machine sews a straight seam by making the top thread to go under the bottom thread around a bobbin, creating a lock. This is the most secure stitch possible, but it leaves unfinished seam allowances, undesirable in fabrics that rave easily. Also, the operations need to be stopped frequently to rewind the bobbin.

2.2 The Chain-Stitch Machine

The chain-stitch machine works on a principle similar to crocheting; it makes a series of loops pulled through one another. The top needle goes in and out of the fabric, making loops underneath that catch into one another. The chain-stitch is not as secure as the lock-stitch, as the stitch ravels easily when the thread is pulled. However, because the chain-stitch machine does not have a bobbin, the operator does not need to stop in mid operation to rewind it. Chain stitch also lends stretch ability to the seams.

Figure - 4: Chain Stitch Machine

2.3 The Flat Lock or Serging Machine

The flat lock or serging machine is based on the same principle as the chain–stitch machine and is also not as secure as the lock stitch. It was created to make an edge finish as well as to sew seams. In one operation it sews the fabric together, cuts off the fabric to make a smooth edge, and wraps thread around the edge. A simple over lock machine has one needle and two loopers (which look like thick, bent needles) and works with three spools or cones of thread. The needle and loopers work together in a reciprocating pattern, the loopers moving back and forth from the needle to the fabric edge. This stitch is ideal for knits because it gives the stretch of the fabric.

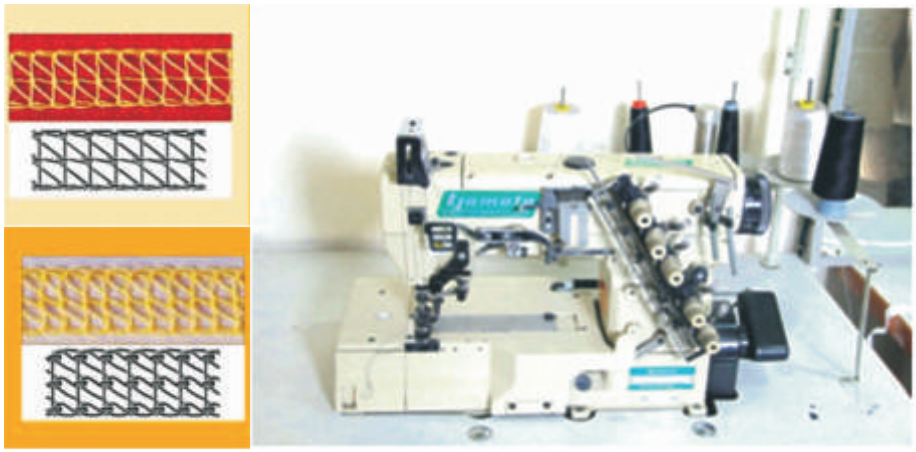


Figure - 5: Flat Lock Machine

2.4 The Safety Overlock Machine

The safety over lock machine is a combination of the chain-stitch and the over lock. The safety factor is that if one row of stitching comes out, the other still holds the garment together. With a total of two needles, three loopers, and five cones of thread, it functions as two machines in one. It provides the straight chain-stitch needed for factory assembling plus an edge finish.

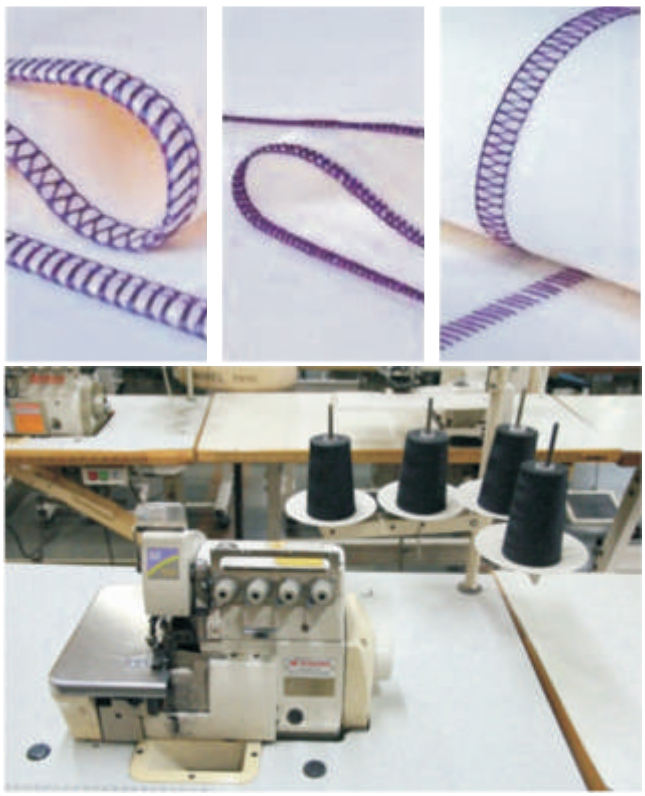
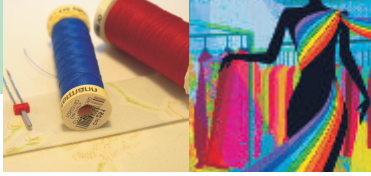


Figure - 6: The Safety Over Lock Machine



2.5 The Blind-Stitch Hemming Machine

The blind-stitch hemming machine is also based on the chain-stitch. The hem is folded back and caught by the needle at even intervals.

2.6 Button Machines

Button machines sew buttons onto a garment. Button placement is marked on the fabric. A sew-through button is placed in a holder, which moves the button back and forth while the needle sews it onto the fabric underneath. A shank button is held in position sideways so that the needle can go through the shank on its back.

Figure - 7: Button Machine

2.7 The Buttonhole Machine

The buttonhole machine is essentially a zigzag lock stitch machine with automatic devices to control the width and length of the buttonhole and to cut it open.

Figure - 8: Buttonhole Machine

2.8 The Feed off Arm Sewing Machine

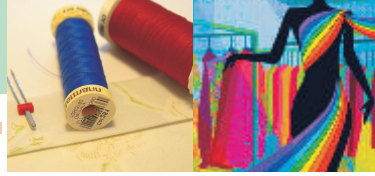
It is an industrial sewing machine ideal for seaming long tubular pieces of material such as pants and jeans in seams, shirt sides and shirt sleeves.

Figure - 9: Feed off Arm Sewing Machine

2.9 The Pin Tucking Machine

The best pin tucks are made on lightweight fabrics, such as batiste or lawn. Pin tucks are created using a combination of a double needle and a grooved pin tucking foot. (Ref. figure.10)

Figure - 10: Pin Tuck Machine



ACTIVITY

Visit a garment factory and identify various kinds of machinery being used in operation for woven and knit fabric.

Fill in the blanks

1. The chain-stitch machine works on a principle of _____; it makes a series of _____ pulled through one another.
2. Pintucks are created using a combination of a _____ _____ and a _____pin tucking foot.
3. The buttonhole machine is essentially a ____ _____ stitch machine.
4. The safety overlock machine uses a total of two _____, _____loopers, and ____ cones of thread it functions as two machines in one.
5. The feed off arm is an_____ sewing machine ideal for seaming ____ _____ pieces of material such as _____&_____.

CHAPTER - 3

Fabric Consumption and Estimation

Fabric Requirement

A major question that arises in ones mind at the time of purchasing fabric for any garment is how much to buy it is an important question and to be able to give an objective reply, it requires the person to be an expert in pattern development and an expert in making an economical layout. For the garment industry, this is of crucial importance, as even minimal saving of 5cms of fabric in a shirt would result in 50 meters being saved in a lot of 1000 shirts. At Rs. 80 per meter it would save Rs. 4000/-, which is a substantial amount of saving for a producer. Generally an expert is able to save as much as 25- 30cms in a garment easily even for a single shirt that is a big saving in the *made to measurement* sector of the apparel industry.

Imagine a stage where one buys minimum of 50cms extra than the required amount, so that one does not run short of fabric while cutting. The amount of money that is being spent on extra fabric, which goes waste and is thrown out or that collects dust is tremendous.

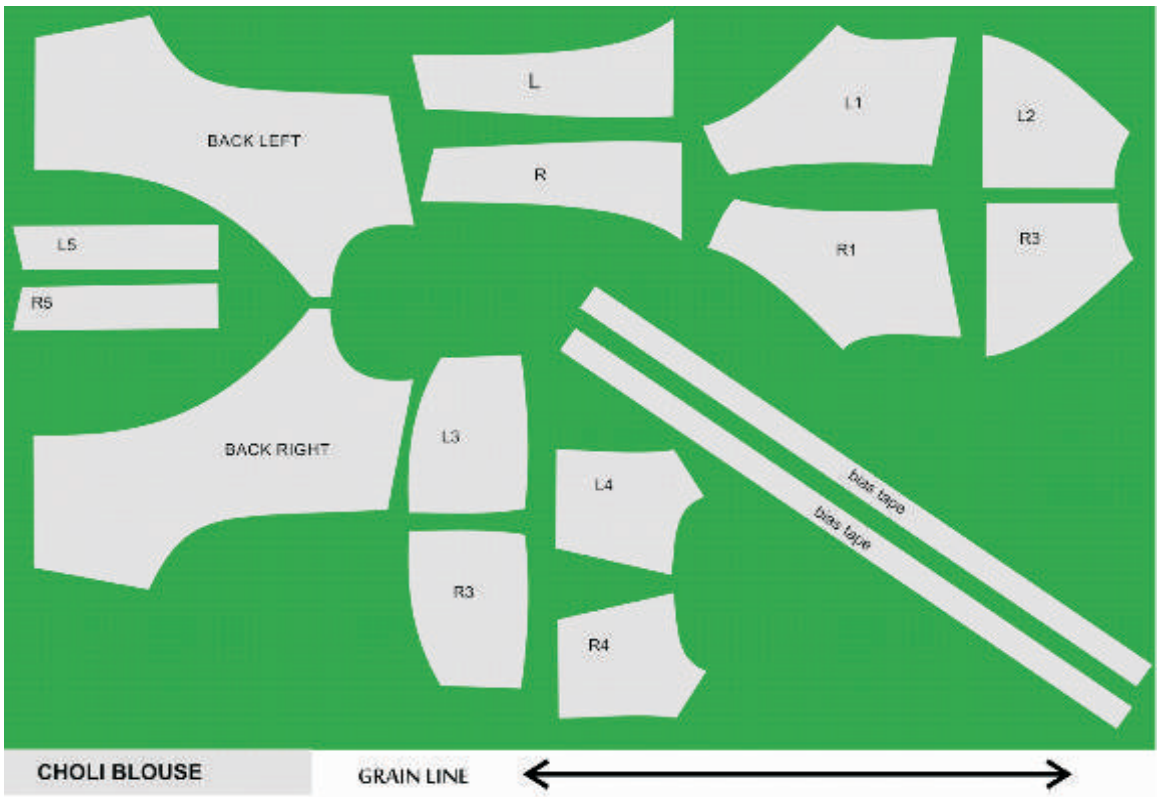
3.1 How to Calculate Fabric Required?

For any garment, that one is going to make one needs to know its two major dimensions i.e. maximum length and the maximum round width. For any garment one needs a minimum of two lengths plus seam allowances. The fabric has two grains lengthwise grain and width wise grain. One should cut the garment lengths along the length wise grain as this is the stronger grain (which you have learnt in earlier chapters) and the fall of the garment would be far better on this grain. One is able to cut the garment in less fabric only if the width of the fabric is wide enough to fit two length of the garment in one length of the fabric.

The patterns representing all the individual pieces of the garment should be laid out together in such a manner that they fit within the confines of the fabric width as closely and efficiently as possible. This minimises the wastage in fabric. This is a **pattern lay**.

3.2 How to Make Pattern Layout?

In the industry, this is the specialised task for which most of the companies that work on developing, pattern making software's for the clothing industry have been working for a long time and have successfully created a number of dedicated software's. On the computer all the pattern pieces of the garment are either digitised or drafted and a lay of the garment is made. A rectangle of the dimensions of the fabric is made and the pattern pieces are placed on it in exactly the same manner as one would on a fabric keeping in mind whether a piece is to be cut on fold, on bias or on a cross grain. One can do this exercise manually by cutting or drawing a similar rectangle on a small scale and placing or drawing the pattern pieces also on small scale in it. This exercise would be more scientific, precise and accurate for fabric calculation. An example of the same is given below:



It takes time and effort to fit together all the pieces of pattern. It is like playing a giant puzzle. The game is to place all the pattern pieces on grain in such a manner so as to be able to use the entire width and the length most economically. For such purposes it is advisable to keep on hand several lengths of wrapping paper cut to standard widths of fabric on scale.

Place the fabric on a flat surface. Line up its straightened edges with the straight edges of the cutting surface. Place the pattern in position. Start with one end of the fabric. Support the weight of the cloth at the other end of the cutting area. When the pattern pieces have been temporarily pinned on the material it is required to check if pattern pieces could be adjusted to save more fabric.

Remember to place the pieces on the right grain and close to each other. Spaces between them may result in wastage of as much as five to six inches of fabric. Always place the largest piece first, then the ones that may need to be cut on fold. Fit in the smaller pieces. Fit in the shapes against each other, locking them whenever possible. This saves a lot of fabric. Arrange the pattern pieces in such a manner that if any fabric is left, it is in one usable piece, either at an end or middle.

The pattern pieces have to be laid out in such a way that it takes into account directional properties of fabric, such as fabric design and fabric grain. The quality of a product is affected significantly by the accuracy of fabric matching also called mitring that is very important for fabrics with checks or stripes. 'Mitring' is the perfect matching of check or stripes even other directional prints on the side seam, centre back and centre front seam or

any seam that might be running across in the garment like a yoke or waistline seam. This might require more fabric consumption and great deal of time and effort, for a perfectly mitred garment is a joy and pride of a designer and master tailor.

Given below are **methods of fabric calculations** for some of the popular categories of garments. These have been given on an assumption that one would be using readily available 36" width fabric. These are just indicative and have been done for basic or classical styles in the category and are in no way conclusive as it is expected that this should be combined with practical exercises at every step. This is a practical subject and more learning happens with hands on experience.

3.2.1 Shirt

For buying fabric for a man's shirt, one needs to know the shirt length, the round chest, and sleeve length (whether it will be full or half). One needs to buy fabric piece for two lengths of the shirt plus the seam allowances and one length of the sleeve with seam allowance. Care should be taken to place the centre front on selvedge, as not only this saves fabric but also will save one operation, as the placket would have a ready finished edge. In case one is making a shirt in a fabric that has one way print one may need at least two lengths of the shirt and sleeve length.

3.2.2 Trouser

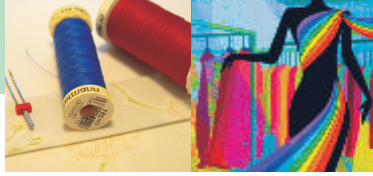
A trouser is generally made in the thicker fabric, which most of the times is available in a larger width of 60". Hence, one requires fabric piece for one length of the trouser plus 25cms, since two legs of the trousers have 4 pieces which can be cut two at one time by placing them in opposite directions on a fabric that is, folded half width wise. In case one is making a trouser in a fabric that has one way print one would need at least two lengths of the trouser.

3.2.3 Salwar

A Salwar has 6 pieces for the legs and a belt. Four side leg pieces of the Salwar are cut in the most economical manner by placing them in opposite directions with no wastage of fabric whatsoever. The other two pieces of the leg and belt are simple rectangles but basically Salwar is much wider than the trouser. For the Salwar one requires fabric piece for two lengths of the Salwar and one seat length. In case one is making a Salwar in a fabric that has one-way print one would need minimum four lengths of Salwar fabric.

3.2.4 Kameez

A woman's Kameez is worn over a Salwar. One needs fabric piece for two lengths of the Kameez and one sleeve length. If trends in fashion were for a big flare at the hem then, more than two lengths would be required. This depends on number of panels of the required width, which would be needed, to cut the pattern according to the design. In case one is making a Kameez in a fabric that has one-way print one may not need extra fabric in basic styles but for larger flare in the hem or a Kameez with princess panel an extra length would be required.



3.2.5 Kalidar Kurta

A kalidar kurta has two simple rectangles for back and front, which have the dimension of cross back plus seam allowance by the length of the kurta plus the seam allowance. It has two sleeves, the length of which depend on design and generally has four kalis. The kalis are cut in the same manner as the Salwar side panels. Generally the kali is added after the sleeve in the kurta but in some designs it may start from shoulder. In case the fabric width is sufficient (depending on the width of the kali required) you need fabric piece for one length of the kurta, one length of the kali and one length of the sleeve. Otherwise, you would need two lengths of the kurta and one length of the kali. In case the number of kalis is more then the fabric required would increase proportionately.

3.2.6 Pyjama

A pyjama is a trouser like in its pattern but is generally much wider for comfort and easy fit. Generally it requires fabric piece for two lengths of pyjama plus seam allowance.

3.2.7 Churidar Pyjama

It is a variation of a simple pyjama that has extra length, which gathers around the ankle of the wearer. This pyjama is cut on bias for a better fit. The fabric required for this is $2^{1}/_{2}$ times the required length of the wearer (This is the measurement of the person and not the pyjama).

3.2.8 Sari Blouse

For sari blouse, you need fabric piece for one length of the blouse and one sleeve length plus the seam allowance. In case of a bigger size, one may need to buy two lengths of the blouse. Since the sari blouses are generally made in 2 x 2 rubia that comes only in 36" width.

3.2.9 Skirt

Skirt generally has one back piece, one front piece and a waistband. You need fabric piece for two lengths of the skirt. There are tremendous possibilities of design variation in skirt. So the generalisation may not work for skirts with bigger flares, more panels, different fits and skirts with yokes holding pleats or gathers. The amount of gathers or pleats in the skirt generally determine the fabric required.

3.2.10 Nighty

It is like a shirt, you need two lengths of the nighty and one sleeve length.

All the above are indicative measurements and requirements. It is recommended that one learns to make a pattern layout. As explained in the beginning layout is a process similar to the actual cutting of fabric one needs to layout on an imaginary fabric with the required pieces as one would on an actual fabric for the sake of fabric calculation.

For the beginner it is important to do a simple exercise as a learning point and should

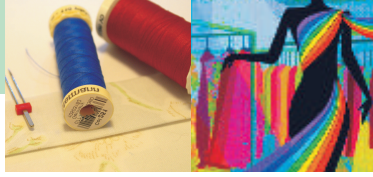
progress into more complicated ones later. Conversion chart of fabrics with various widths has been prepared and that is to be used after one has calculated the fabric required for a garment in 36" width (which is a most common width available in the Indian market). A beginner needs to buy at least 25cms extra, as it is only with experience that one is able to make a layout economical and accurate. Another reason is that as a beginner one may make some mistakes in marking or cutting the right grain or dimensions and run short of fabric. After gaining experience, one must do some complicated layouts to gain confidence.

ACTIVITY

Calculate actual fabric consumption for salwars and kalidar kurta using fabric with two different widths of fabric like 36" and 44".

Fill in the blank

1. The pattern lay represents a _____of all the _____ of the garment in a manner that they ____within the confines of the fabric width.
2. This ____ _____ minimises the wastage in fabric by fitting in as _____ and efficiently as possible.
3. The amounts of _____ or number of _____ in the skirt generally determine the fabric required.
4. Pyjama requires fabric equal to ____ ____ of pyjama plus seam allowance.
5. Side leg pieces of the Salwar are cut in the most _____ manner by placing them in_____ directions with ____wastage of fabric.



CHAPTER - 4

Construction of Design Elements in Garments

4.1 Various Kinds of Plackets

Most of the garments need an opening to get in and get out of the garment. Positioning of the opening is of equal importance. Generally the opening in the garment is placed at Centre Front, Centre Back, Side Seam, Shoulder, Sleeve, etc.

A placket is a finished opening in a garment or at a section of the garment. Placket should be designed and styled in sufficient length to permit ease and convenience of dressing. They are used on front or back neckline opening instead of a zipper. Plackets are planned as extension for placement of buttonholes, snaps and other fasteners. Placket openings are used on sleeves to allow expansion of the narrow end and to provide room, when the cuff is opened.

The type and length of placket selected depends on:

- Placement of placket.
- Function of placket.
- Style and design of garment.
- Use of garment.
- Type and weight of fabric.
- Care of garment.
- Method of construction.

4.1.1 Continuous Placket

This type of placket is easy to make and serves as the basis for a Number of variations in both menswear and womenswear. It is one piece placket that is widely used on cuffed sleeve openings to permit hand to fit through sleeve circumferences, bloomers, children's' dresses, on skirts and trousers, where zipper application would detract from appeal of the garment and as a neckline opening alternative to other fasteners or closures.

Pattern Piece Required

Cut the pattern piece for length of the piece take double the length of the finished placket opening and add 1" extra. (The 1" extra length of the binding strip is for emergency only. If measurements are accurate and the placket is properly made, this amount should be cut off after the binding is stitched in place.) The width of the piece will be twice the width of finished placket facing (which is usually ½" for 1 side) plus two times seam allowances (which usually is ¼")

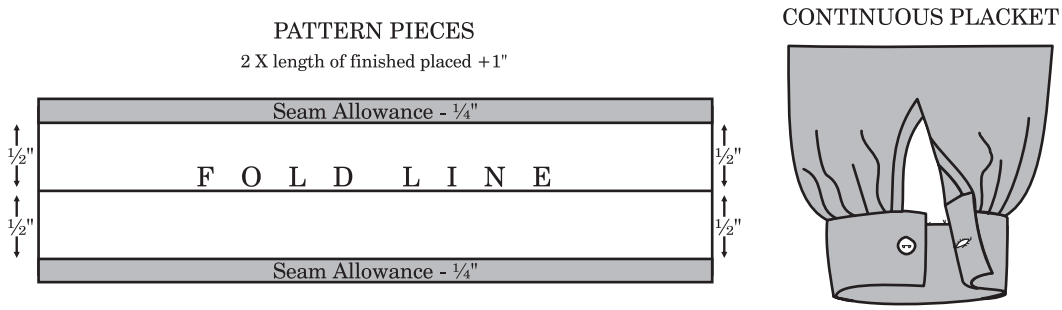
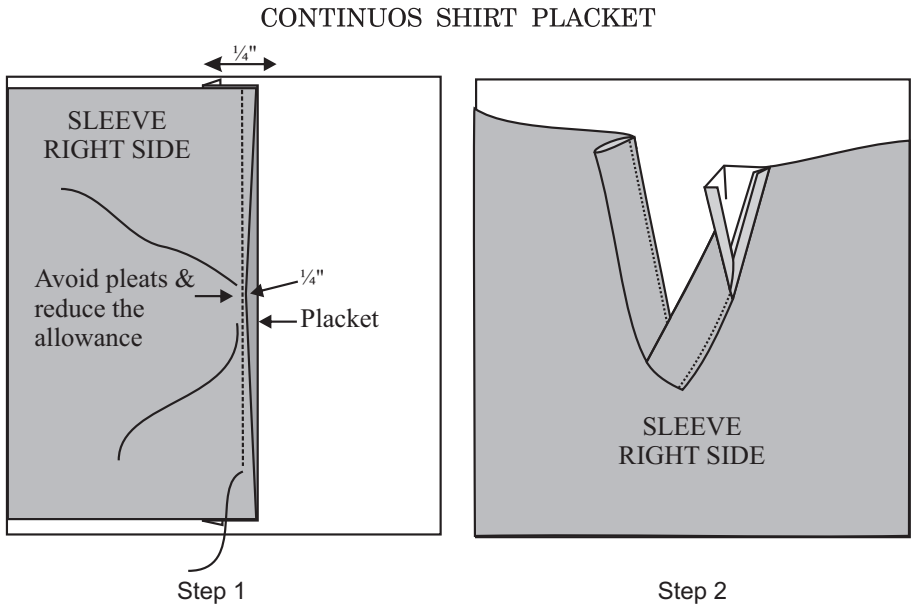
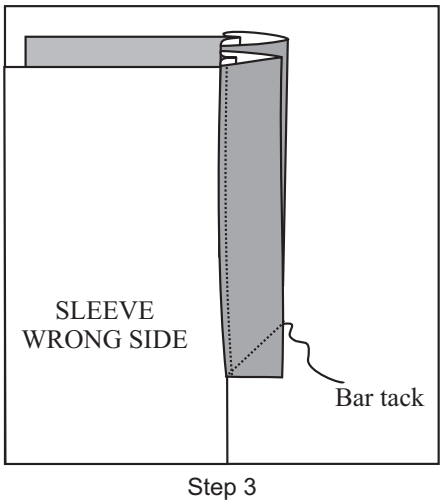


Figure - 11: Continuous Placket

Steps of Construction

1. Place the right side of the placket on the wrong side of the sleeveopening and start stitching near the edge leaving a distance of ¼". As you come in the center of the placket, maintain ¼" seam allowance of placket piece and reduce the allowance of the garment piece. Take care so that no pleat formation takes place at this point.
2. Fold the allowance (other side) of the placket and place it on first stitching line. Then stitch in place from right side of the sleeve. Take care that stitching at the back should be same i.e. if it is on top, it should be maintained on top throughout and if it is in ditch then maintain it throughout. In good quality plackets, this seam is on top at the back.
3. From wrong side of the sleeve, stitch both the upper and under of the placket, 2 to 3 times diagonally (at 45^0) near end. This is known as Bar Tack.





Step 3

Figure - 12: Continuous Placket Construction Step 1, 2, 3

4.1.2 Diamond Placket

A tab design consisting two stripes of unequal width, which enclose the raw edges of an opening. The wider, top stitched strip overlaps and conceals the narrower binding strip and unfinished edge.

- When placket is planned as a design detail.
- To emphasize placket opening.
- On sleeve and garment openings with overlap closure.
- On sleeve openings of sports shirts.
- On skirt opening where a zipper is not used.
- Kurta Placket

Top stitched placket section shows on face of the garment. The placket produces a strong and flat finished opening.

Pattern pieces

1. Make two facings together, facing 1 and facing 2,each 1" wide. One will be 5" long and the other will be 6½" long. Mark seam allowance of ½" on the top as that is going to be stitched with cuff. Mark an allowance of $^1/_4$" on the remaining sides as illustrated.
2. To make the under placket, make a facing of size 5"x½" and then make another facing of the same size very near to it. Give allowance of $^1/_4$" along all sides except top side where the seam allowance will be ½".

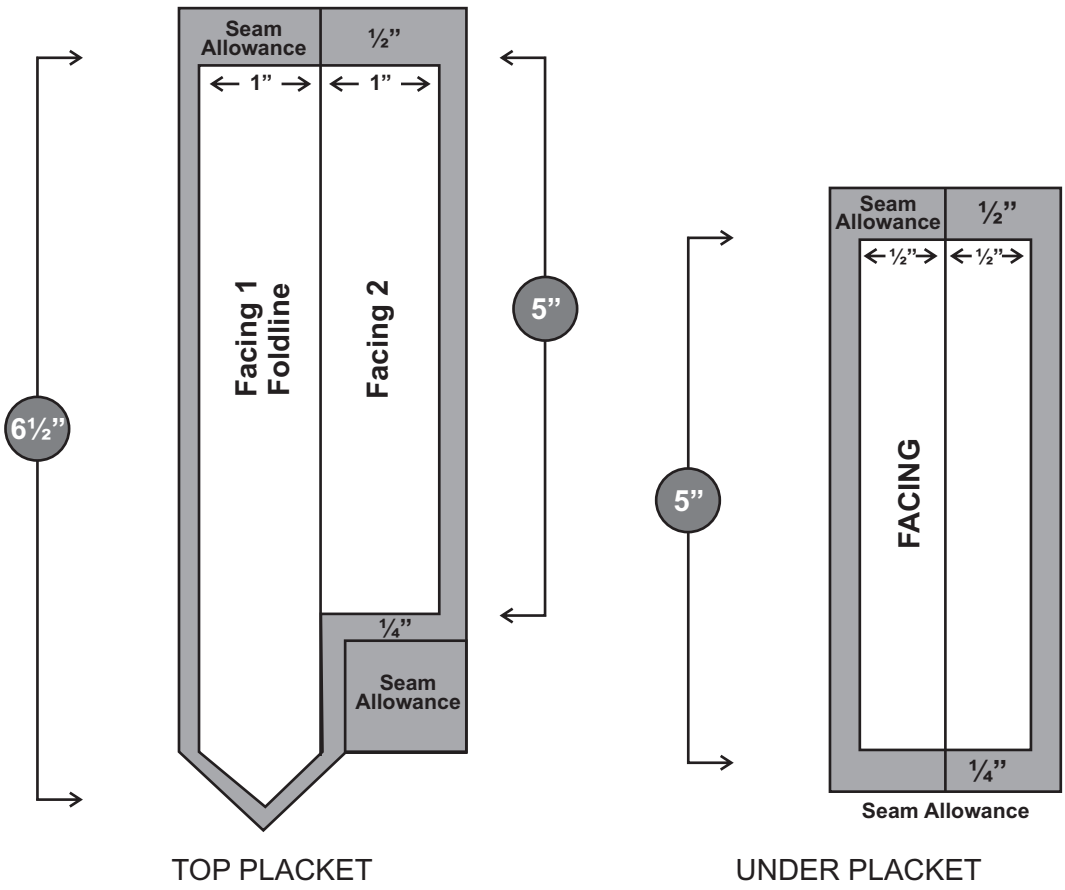
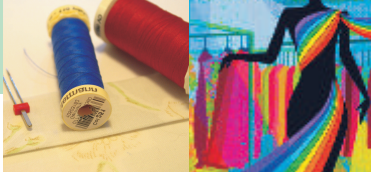


Figure - 13: Diamond Placket

Steps of Construction

1. Place right side of the placket to the wrong side of the garment piece. Match the slash lines of garment and placket. Place reinforcing stitches within placket top, then to corners. Determine the front and back edges of the opening.
2. With seam lines aligned, pin and stitch right side of underlay raw edges to wrong side of the back placket edges. Secure stitches at top corner of placket. Now fold underlay to right side, pin its folded edge over stitch line. Edge stitch through all thickness. Stop at corner and secure stitches.
3. At placket top, flip triangular piece up towards wrong side and pin to under lap. Stitch across base of triangle, securing stitches at beginning and end. Tapper square corners of under lap.
4. Pin right sides of overlaps extended edge o wrong side remaining (front) placket edge. Align seam lines and kept raw edges at bottom even, stitch. Secure stitches at top.
5. Press seam flat towards overlap. Bring folded edge of overlap to stitching line and pin it in place.



6. Pin the top portions of overlap to sleeve completely covering the top portion of under lap, pin down as far as placket corner. Baste along all pinned edges.
7. Topstitch along unbasted fold of overlap (be sure not to catch any part of underlay in stitching) pull threads to wrong side at stopping point and knot.
8. Top stitch (through all the thickness) across overlap and around basted edges. Follow direction of arrows. Secure stitches at beginning, remove basting and press.

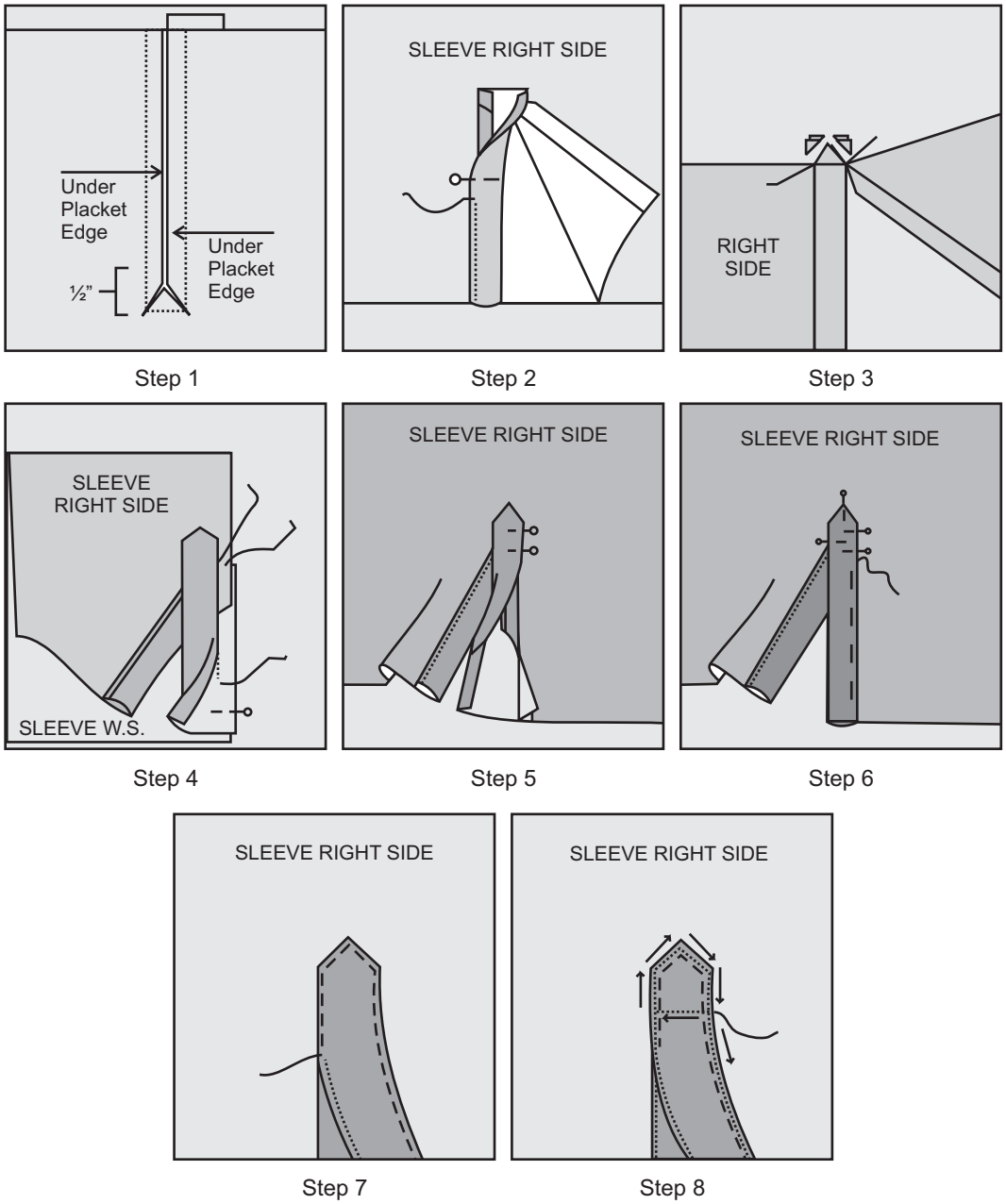


Figure - 14: Steps of Construction

4.1.3 Simple Shirt Placket

Men and women shirts generally have a front opening which is built in the garment/ pattern piece of the garment. For men's shirt the placket opening is right over left and for women's shirt, it is left over right.

Pattern pieces required are two one for upper part and other for the under part.

Upper Part

Trace the bodice till centre front line. Mark the extension; which is taken as half the button + 1 cm i.e. Radius of the button + 1cm = extension. Or it is taken as the diameter of the button. Other wise a standard measurement of ½" or ¾" is taken for men's shirts.

The line of extension is the fold line. After this a standard facing of 1½" is made, an allowance of ¼" is then taken. Turn the allowance towards wrong side of the facing. Then turn fold line towards wrong side of the garment piece. (If facing has to be aligned to the selvedge when placed on fabric then no seam allowances is taken). Cut out the pattern.

Under Part

Flip the pattern horizontally, trace it. Under part is made in the same way as you make the over part but the difference being the facing, which is 1". Otherwise stitching line of under part will be visible on the front of the placket.

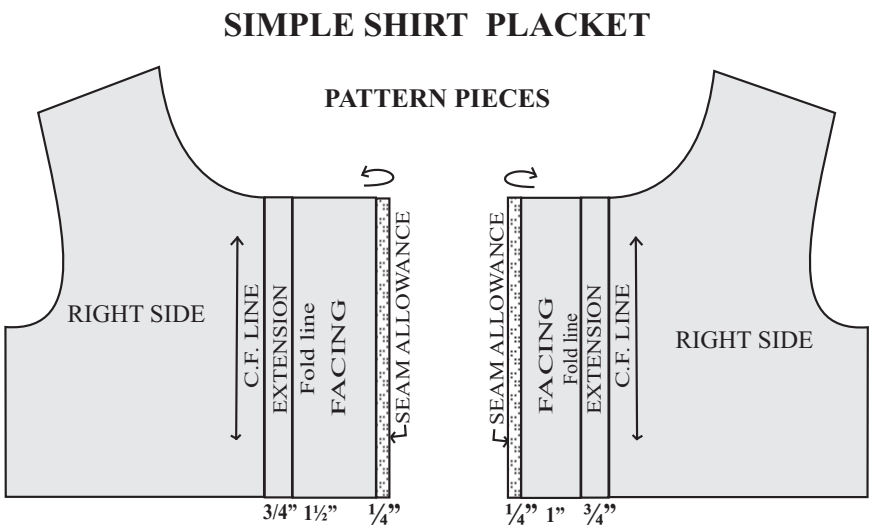


Figure - 15: Simple Shirt Placket

Steps of Construction

Upper Part

1. Trace the pattern on the fabric and mark the position of the lines.

2. Turn the allowance towards the wrong side of the fabric. Turn the facing also in the same way from fold line i.e. towards wrong side of fabric.
3. Machine stitch on the edge of facing from wrong side, as illustrated.

Under Part

1. Trace the pattern on the fabric and mark the position of all lines.
2. Turn the allowance towards wrong side of the fabric. In same way turn the facing also.
3. Machine stitch on the edge of facing from wrong side, as illustrated.

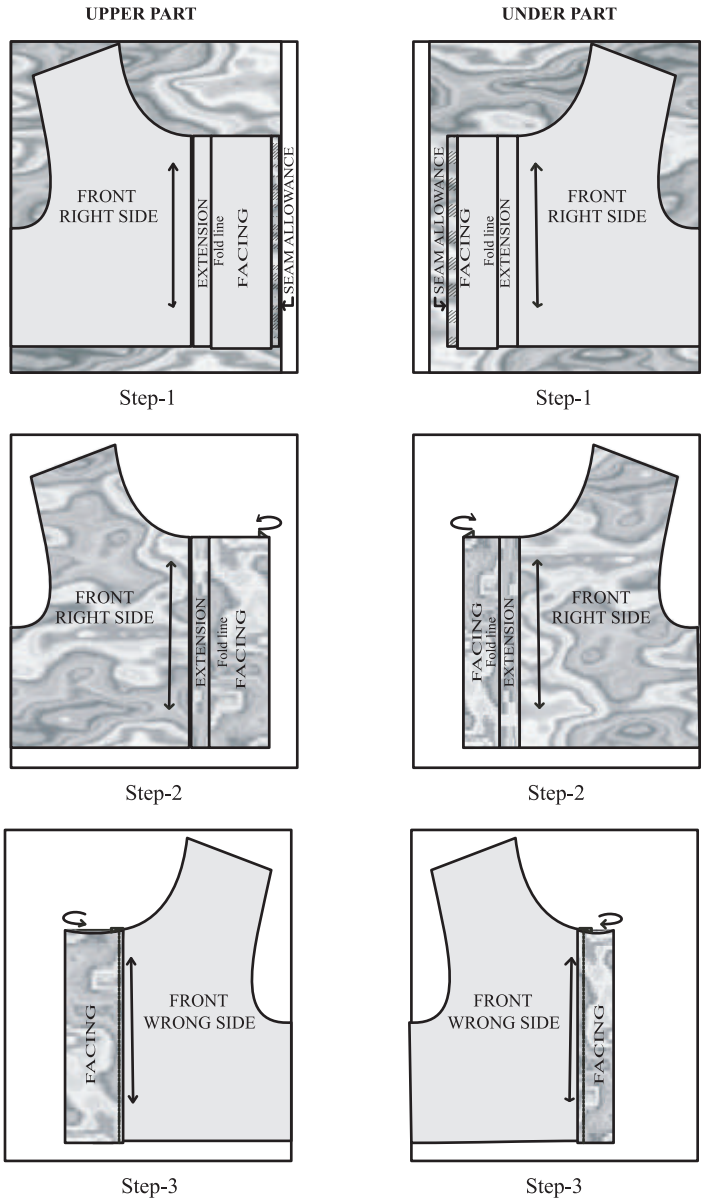


Figure - 16: Simple Shirt Placket Upper and Under Part

4.1.4 Shirt Placket with Facing and Pleat

Sometimes the shirts may have a placket in a different color/ grain/ fabric as a design detail. The shirt band/the strip on the right side of shirt front in which the buttonholes are made, eliminates the need for facing. An extended self-facing is used on the left front. The finished shirt band is 1½" wide but construction techniques vary depending on the fabric and style of the shirt.

Pattern Pieces Required

Under Part: Trace the bodice and make extension of ¾" which is half of finished placket. Then give an allowance of ¼".

Facing: A straight strip of the length same as placket opening is taken, mark ¼" seam allowance on one side and ½" seam allowance on the other side.

Under Part: Flip and trace the other half of bodice and mark extension of ¾" and facing of 1" then mark the seam allowance of ¼".

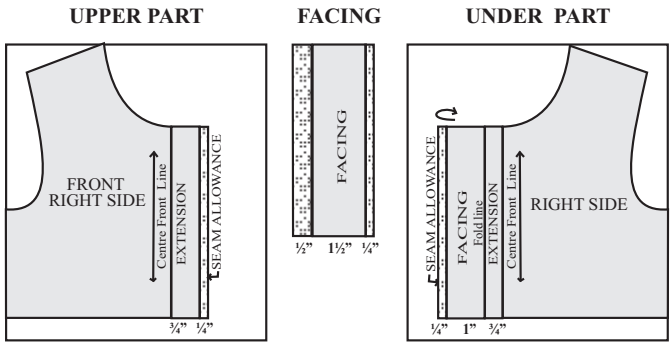


Figure - 17: Shirt Placket with Facing

Steps of Construction

Upper Part

1. Place right side of the facing over wrong side of garment piece and then stitch leaving the ¼" allowance near edge.
2. From right side of the fabric, turn facing towards right side. Press the seam allowance (½") of facing towards wrong side of facing. Iron in place.
3. Leave allowance of ¼" from both the sides and stitch in place from right side.

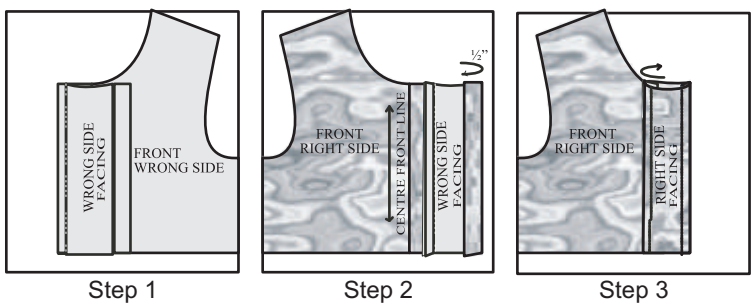
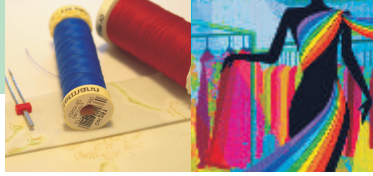


Figure - 18: Construction of Shirt Placket with Facing



Under Part

Trace the pattern for under part on the fabric. Fold the seam allowance of the facing towards the wrong side of the fabric. Again turn this facing towards the wrong side of the fabric, stitch in place.

(For diagram refer steps of construction for under part of simple shirt placket.)

4.2 Placement of Buttons

The button extension is equal to the width of the button. As a general rule, the neckline of the front bodice is lowered by ¼" at the centre front for comfort, whenever a basic neckline is required. The first buttonhole is placed on center front, down from neckline an amount equal to the width of the button. This ensures that the button will not extend into the neck. Placement of the last button hole depends on the need or the requirement of the garment. The rest of the button holes are marked on the even division between the first and the last. It is a good idea to place a button close to the apex or bust point this ensures that the garment does not gape open at centre front due to movement which may cause a pull on the bust.

The size of the button hole equals the width of the button plus 1/8" for the button to go in easily. The button hole is marked so that width of the button is on the garment side of the centre front and extra 1/8" is on the extension.

4.3 Various kinds of Pockets

A fashion designer and a pattern master have to keep in mind about different types of pockets as for different garments the requirement of pockets changes. It is important that pocket size, shape, and placement should complement the design of the garment. Pocket is a pouch that has a closed end is usually stitched on a garment or even inside the garment. Pocket can be both functional and decorative purpose. Pocket helps in holding and small article temporarily. It is important that pocket size, shape, and placement should complement the design of the garment.

Pockets can be classified in three categories:

- Outside Pockets
- Inseam Pockets
- Welt Pockets

4.3.1 Outside Pocket/ Patch pocket

Pockets of any size or shapes that are stitched over the garments are called outside pockets. These are also called Patch pockets.

Figure - 19: Outside Pockets

4.3.2 In-seam Pockets

A pouch is stitched inside of the garment into a straight and stylized seam.

Figure - 20: In-Seam Pockets

4.3.3 Welt pocket

An inset pocket with the lower lip finished by an upstanding welt. The welt may be from 3/8" to 1" wide. It can have one or two lips finishing the opening edges. This pocket are used mainly found as the chest pocket of a jacket, coat or as back side pocket on trousers.

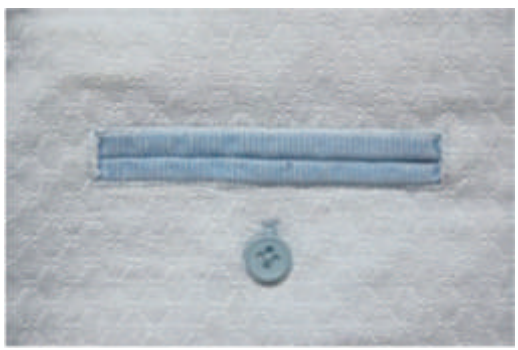


Figure - 21: Welt Pocket

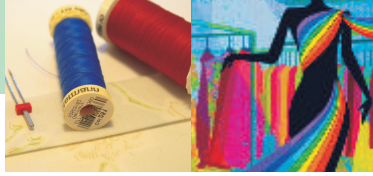
4.3.4 Concept of Slit and seam

Pockets are attached in a seam or can be attached in a seam, the same principle is followed for plackets.

4.4 Neckline Facings

A facing is the fabric used to finish raw edges of a garment at such locations as neck, armhole and front and back opening. There are three categories of facings.

- Extended facings
- Bias facings
- Shaped facings



A facing is shaped to fit the edge it will finish either during cutting or just before application. A "shaped facing" is cut out, using a pattern, to the same shape and on the same grain as the edge it will finish. A "bias facing" is a strip of fabric cut on the bias so that it can be shaped to match the curve of the edge it will be applied to. After a facing is attached to the garments edge, it is turned to the inside of the garment and should not show on the outside. In order to reduce bulk, both shaped and bias facings can be cut from a fabric lighter in weight than the garment fabric. Because the extended facing is cut as one with the garment, garment and facing fabric are always the same but some times may vary according to the design.

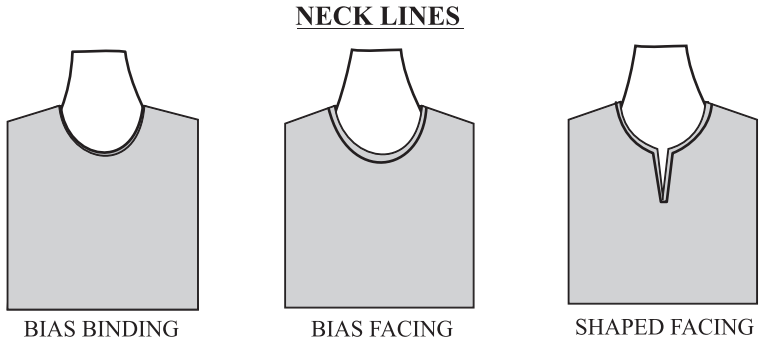


Figure - 22: Neckline Facings

4.4.1 Bias Strip Preparation

Bias strip is prepared as a strip of matching or contrasting fabric. In construction it is used to conceal, finish and strengthen seams and raw edges or as a substitute for facings. Bias may be used as decorative binding, piping, or tubing. Bias for binding, piping and tubing is a true bias and is defined as the diagonal line established by a 45^0 degree angle, intersecting length and cross grain of a square. The bias of the fabric offers the maximum stretch, flexibility, and elasticity needed to conform to a curved edge.

Bias may be self-prepared, specially manufactured for industry, or commercially prepared and purchased in retail stores.

Commercially prepared, pre cut and folded bias bindings are also known as bias tape or "bias fold" they are available in a variety of width and placement of bias selected depends on:

- Style and design of garment
- Type of garment
- Use of garment
- Care of garment
- Choice of fabric
- Method of construction
- Availability of machines and attachments
- Procedures for production

Steps of construction

- First of all find the true bias of the fabric by folding fabric with lengthwise grain parallel to the crosswise grain. The fold edge is the true bias.
- After locating true bias, draw the width and the desired number of strips needed for desired length of bias and then cut it.
- Many times the bias stripes are not long enough to complete a continuous sewing step. Adequate number of strips must be joined before starting to sew bias binding or facing. Now place the cut out bias strips at right angles, right side facing right side.
- Stitch bias strips with a ¼" seam allowance at angles.
- Continue to join bias strips as needed for the desired length. Press all seams open and snip extended points.

Once the strip is ready it can be applied on the neckline

4.4.2 Extended Facing/ Bias Binding

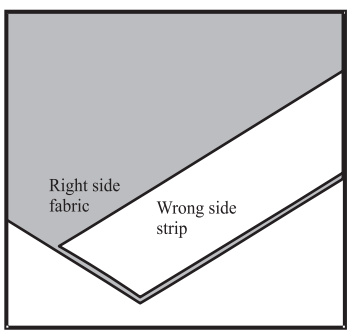
Bias binding is used to finish and strengthen raw edges and also add a decorative trim to garment. In some case it may replace a facing at the neckline, sleeve or armhole edges.

A standard bias strip is 1 to ½ inch wide (either in the same or contrasting color of the garment). A commercially prepared double fold bias tape can also be used.

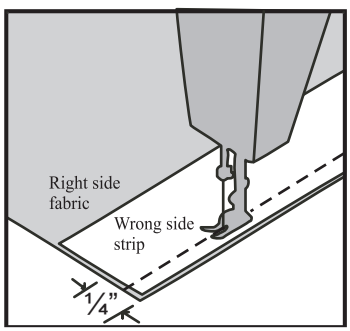
Steps of construction

Place the garment on sewing table wrong side up. Now place the bias strip on the garment with right side facing wrong side (of garment), matching both the raw edges.

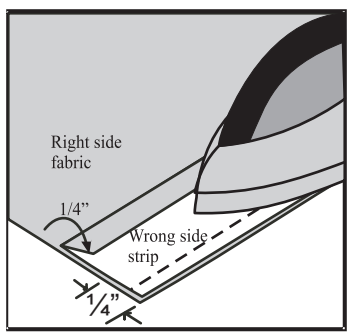
- Stitch with a ¼" seam allowance.
- Fold the bias strip over ¼" and press down.
- Fold bias binding over along stitch line and press down.
- Fold bias strip over Wrong Side of garment just covering first stitch line.
- Slip stitch along the edge of bias binding.



Step -1



Step -2



Step -3

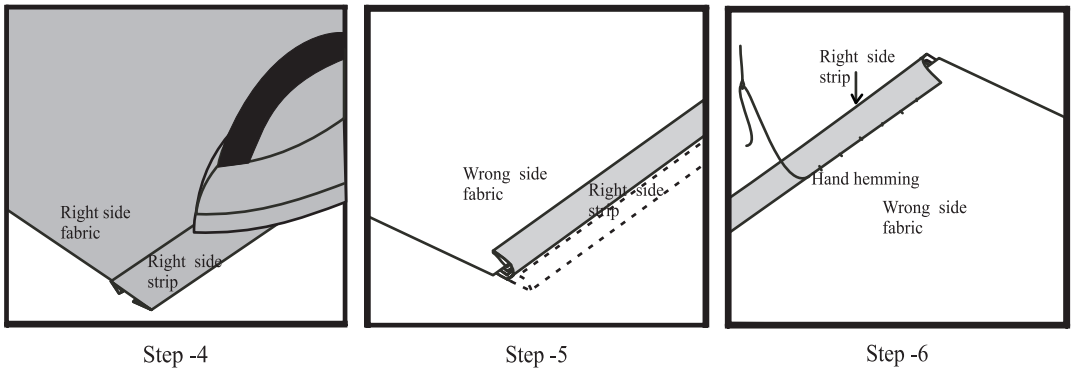


Figure - 23: Bias Binding Construction

4.4.3 Bias Facing

A bias facing is a strip of fabric out on the bias, which is attached to the garment neckline so that it can be shaped to match the curve of the edge it will be applied to. After a facing is attached to the garment, it is turned to the inside of the garment and should not show on the outside i.e. right side of the garment. (To make bias strip refer steps of construction for the preparation of bias strip)

The finished width of bias facing should not be more than ½".

Steps of Construction

- Face right side of bias strip to the right side of the garment neckline. When applying the binding, fold back the starting end ½" and align the fold with the garment seam line. Pin binding in place and stitch to within 3" of starting point.
- Trim away excess binding at this end to ½" beyond fold of starting end. Overlap this end over the beginning fold and stitch the rest of the way across, through all thickness of the fabric. When the binding will be turned inside, the end folded first will be on top; stitch or slip stitch it with the other end.
- Lapped edge is the fabric edge that is overlapped at the shoulder.
- Clip the curved seam allowance.
- Open the facing away from the garment press all seam allowances towards the facing. To keep facing from rolling to outside of garments, the seam should be under stitched with facing and seam allowance extended away from garment. Stitch from right side close to neck seam line, through facing and seam allowance.
- Turn the other edge of the facing towards its Wrong Side. Press and slip stitch.

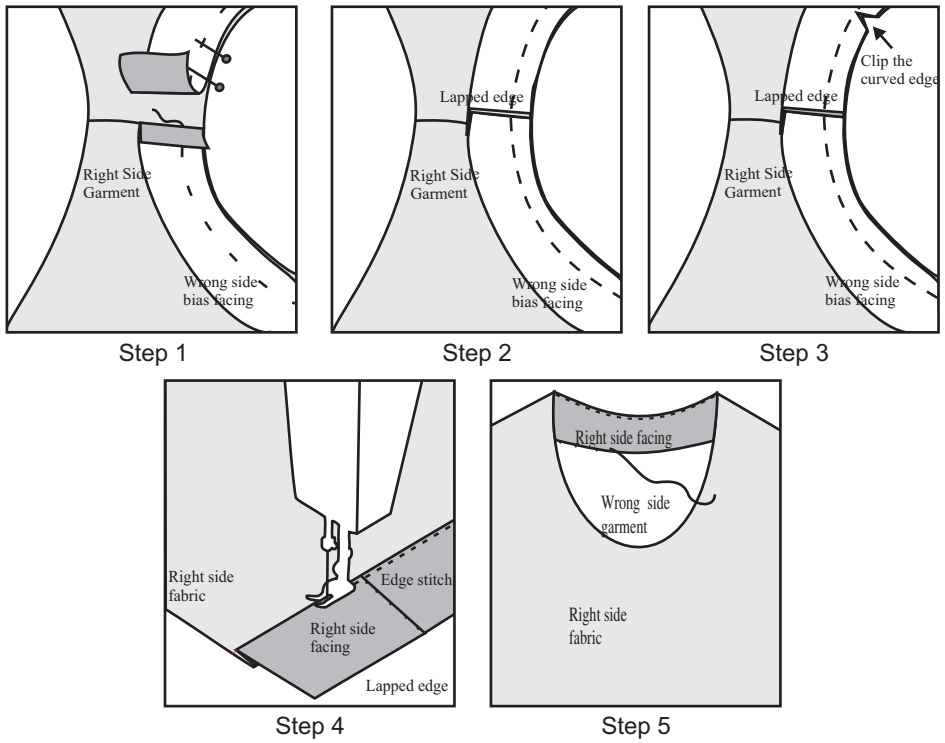


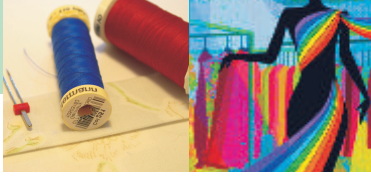
Figure - 24: Bias Facing Construction

4.4.4 Shaped Facing (Slash Neckline)

A neck line shape which is finished with shaped facing i.e. instead of finishing raw edges of fabric at neckline with bias strip as used earlier, it is finished with a facing which is of the same shape as the neckline.

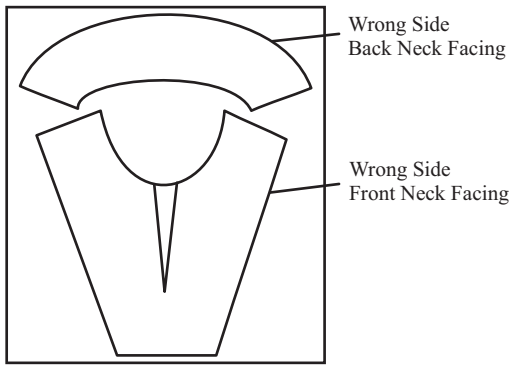
Steps of Construction

- Interface the Wrong Side of the facing of both front back.
- With Right Side together and the markings matched seam the front facing sections to the back facing sections at shoulders. Press seam flat as stitched then open.
- Keeping seam allowances open, tailor edge finish the facing by turning under 1/8" Press. Stitch close to folded edge.
- Right Side together, matching, notches, markings and seam lines, pin facing to neck and machine.
- Trim diagonally across cross seam allowances at shoulders. Clip curved seams also slash the opening at front neckline and clip the corners.
- Place seam Wrong Side up, using the tip of the iron press seam open.
- Turn facing to inside of garment, allowing seam line to roll inside slightly. Now top stitch at a distance of ¼".

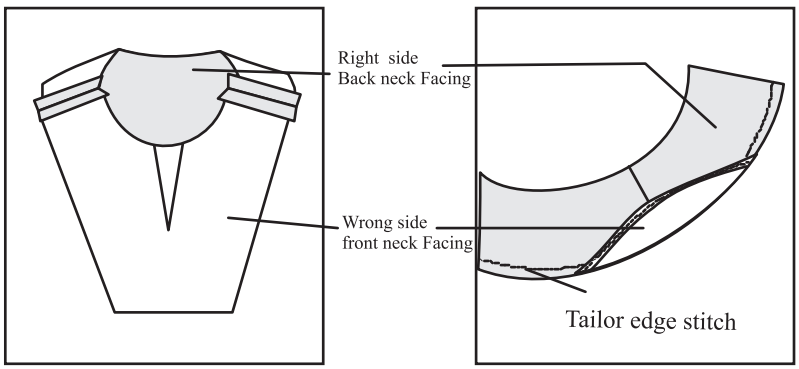


Steps of Construction

Preparation of Facing



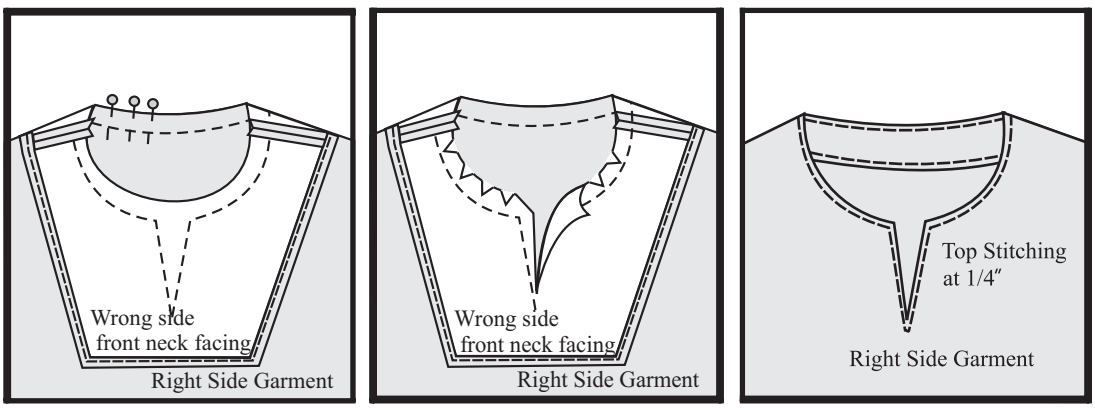
Step 1



Step 2 Step 3

Figure - 25: Shaped Facing Preparation

Steps of Construction



Step 4 Step 5 Step 6

Figure - 26: Shaped Facing Construction

4.4.4 Collar Attachment

The peter pan collar is attached with a bias or shaped facing in a similar manner by placing the finished collar on the neck edge from right side and placing the the facing on top. Stitch them together at ¼" from seam edge and turn the facing in and finish with hemming.

4.5 Sleeve Attachment

Today's garments are designed with a wide variety of sleeves, which cover greatly in look and in method of construction. A garment for example, may have armholes that are merely finished, producing a sleeveless look, or it may have sleeves, either SET-IN or RAGLAN that are separately made and attached to the garment. Still another possibility, KIMONO sleeves are cut as extensions of the main bodice.

The armscyes of sleeveless garments are cut in such a manner that it comfortably encircles the arm with upper of armscyeedge resting at shoulder point. Garments are sometimes designed with wider than usual shoulder widths that drop over the shoulder to create a little cap. Others are styled with narrow shoulder width's that results in a larger and more angled armhole, and something of a halter effect.

Set-in sleeves are the most widely used type. As the name implies this sleeve is actually set into the armhole of edge, or cap. They can be slightly rounded or fully gathered, the length long or short, the bottom tapered, flared or gathered. The armscye can also vary from standard round armhole in sleeves are designed with a slightly rounded, cap ideally they should fall in a smooth curve from the shoulder edge with no dimpling or puckering. To achieve this, the sleeve cap curvature must be carefully eased into the armscye.

To achieve success with any garment, whether it is sleeveless or made with sleeves, it is wise to observe several principles.

- Check garment and sleeve fit and alter the pattern accordingly.
- Carefully and accurately transfer all sleeve and armhole markings to the fashion fabric.
- Use proper pressing techniques during construction.
- Whenever possible, finish the lower edge of the sleeve before attaching it to the garment.

Steps of Construction

- Place two rows of stitching on the cap of the sleeve 1/8" away from the stitching line. The distance between the two lines will be 1/4". Take care that the stitch size should be more than the usual one. Leave long threads at the starting & end of both the stitch lines.
- Face right side to the right side and stitch at the side of the sleeve.
- Pull the threads and insert the sleeve inside the armhole of the bodice. Adjust the size of the sleeve cap by pulling and releasing the thread. Put pins in position.
- Stitch the sleeve to the armhole.

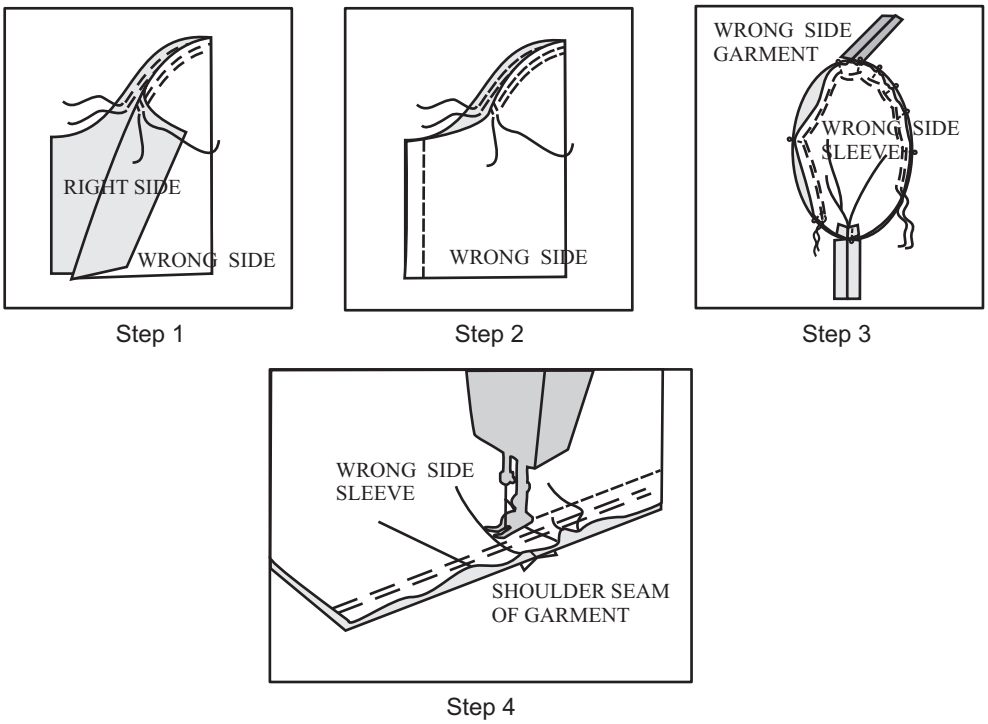


Figure - 27: Sleeve Attachment

4.6 Cuff Attachment

Cuffs actually consist of a cuff and a facing section, which may be cut all in one or may be in two pieces. Before starting cuff application, apply the type of placket, which is required for that particular sleeve and then complete the underarm sleeve seam. Prepare pleats or gathers at sleeve edge if any. Note the placement of the cuff end to placket edge.

4.6.1 One Piece Straight Cuff

Pattern pieces for sample

1. One piece of upper and under cuff each.
2. Micro-dot interfacing for cuff.
3. Sleeve on which cuff will be applied along with sleeve placket.

Steps of construction

- Fuse the wrong side of the upper cuff to interfacing, which can come to fold line or can be extended half inch beyond the fold line.
- Turn the seam allowance of the upper cuff to the wrong side of the cuff and give top stitch at a distance of ¼" or ¾" as required.
- Fold along fold line right side facing each other and pin the two ends from wrong side, stitch at a distance of half inch from both the sides. Chop off extra seam allowance near the edges.

- Turn inside out and pull the corners.
- Face wrong side of the sleeve to the right side of the under cuff, machine stitch in place.
- Insert all the seam allowance into the cuff. Start machining at the edge, from the right side of the upper cuff on to the right side of the sleeve.
- Optional top stitch at a distance of ¼" all around the cuff edges.

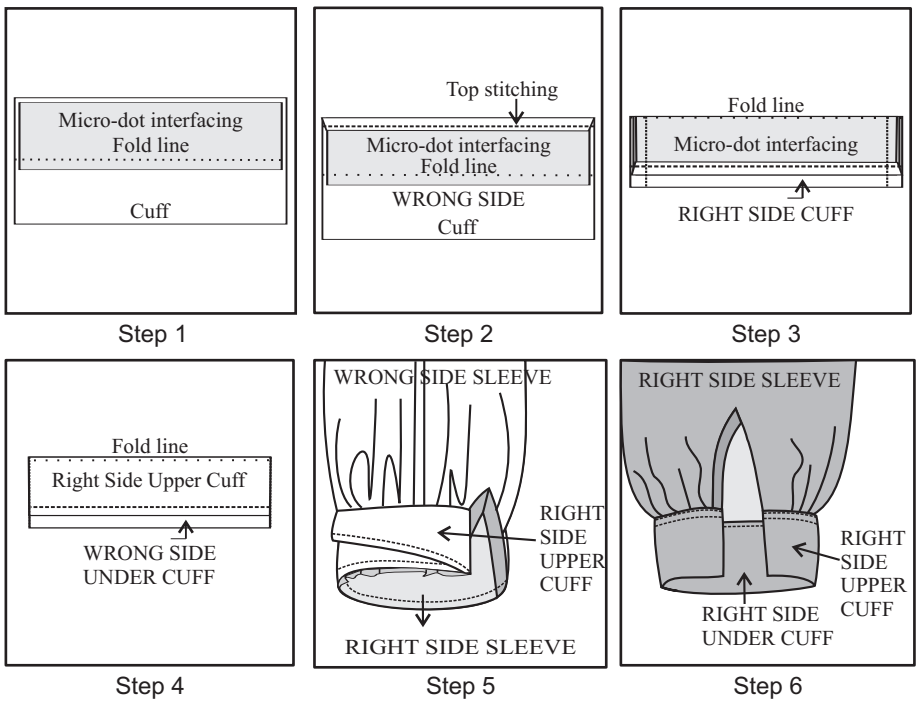


Figure - 28: Cuff Attachement

4.6.2 Waist Band Attachment

The Waist band is attached as in the similar manner of cuff attachment.

4.7 Yoke Attachment

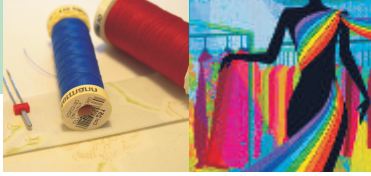
The skirt yoke is fully lined so that all seams are enclosed. The method uses machine sewing throughout, but top stitching. It is not difficult, but demands care in positioning for the stitching of front shoulder seams.

Pattern pieces

- Two yoke pieces
- Front and back shirt pieces

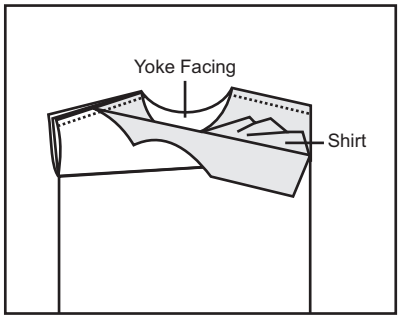
Steps of construction

- Right sides together, baste the yoke to the shirt back. Baste the Right Side of the yoke facing to the Wrong Side of the shirt back. Stitch at $^{1}/_{2}$"seam allowance. Sewing through

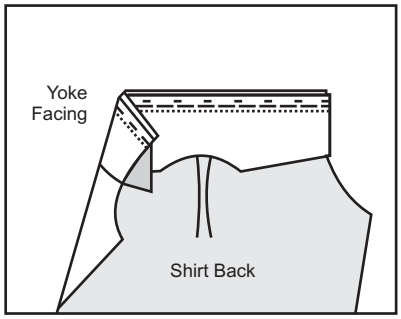


all three layers. Grade seam allowance, leaving yoke seam allowance the widest. Press yoke and facing up, away from shirt into yokes permanent position.

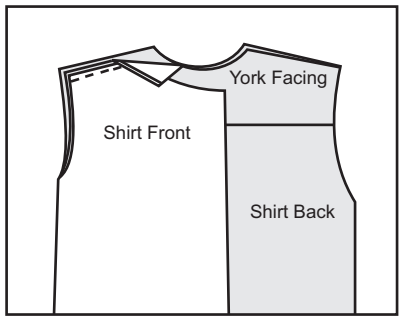
- Baste Right Side of the yoke facing to wrong side of shirt fronts at shoulder seam. Right sides together match shoulder seam of yoke and shirt front.(shirt will be between yoke and yoke facing)
- Stitch through yoke, shirt front and yoke facing. Turn shirt to right Side and press.



Step 1



Step 2



Step 3

ACTIVITY

Get three garments from home one kurta a sari blouse and a shirt for men identify various finishes used like facing, pockets, sleeve, placket, cuff and other elements.

Fill in the blanks

1. A placket is a_____ opening in a garment. It should be _____with sufficient _____ to permit _____ and convenience of dressing.
2. Plackets can be used on front or back neckline _____instead of a _____.
3. The type and _____ of placket selected depends on its _____,_____ and _____ of garment.
4. The armscyes of_____ garments are cut in such a manner that it _____ encircles the armhole.
5. Set-in sleeves are the most _____ used; this sleeve is actually _____ ____the armhole of edge, or cap.

CHAPTER - 5

Construction of Bodice/Top and Skirt

5.1. Assembling of a Top/Bodice

Lay the pattern on fabric with grain line parallel to the Selvedge as shown in Fig. 5.1.1. Add seam allowance as shown in (Fig. 5.1.1 a). Mark ½" seam allowance at shoulder, neckline and armhole and 1" at side seam.

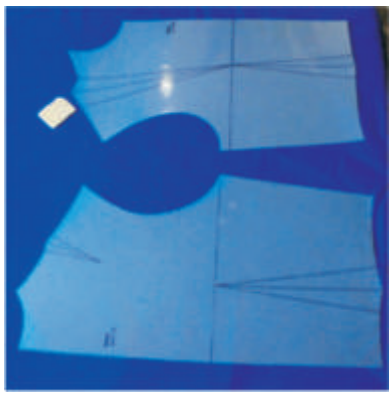


Fig. 5.1.1

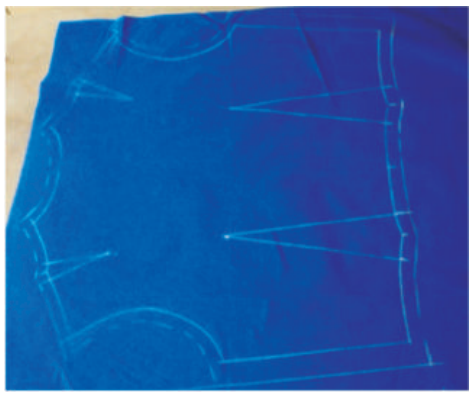


Fig. 5.1.1a

Cut the fabric as shown in Fig. 5.1.1 b

Fig. 5.1.1b

Step 1: Stitch the dart starting from the end of the dart leg. Give a back stitch to reinforce the stitch at the dart leg and stitch all dart in same manner.

[Do not give back stitch at the end of dart i.e. the vanishing point.]

At vanishing point of dart, leave 1" of extra thread and tie tailor knot or twist to give a clean finish as shown in Fig. 5.1.2b.

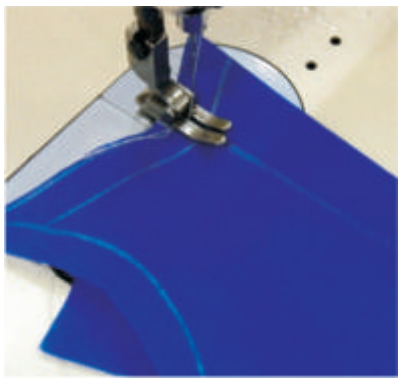


Fig. 5.1.2

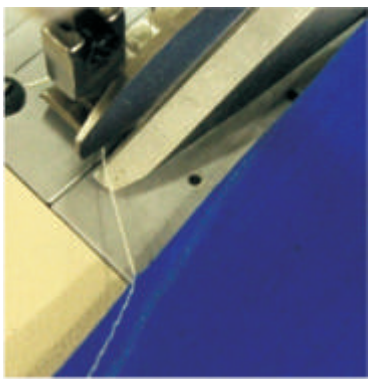


Fig. 5.1.2a

Fig. 5.1.2b

Step 2: After closing all darts, give false gathering at the back shoulder to adjust ease.

Place the right side of front shoulder over right side of back shoulder and stitch, gently ease in the extra length of back shoulder, as shown in Fig. 5.1.3 and 5.1.3a.

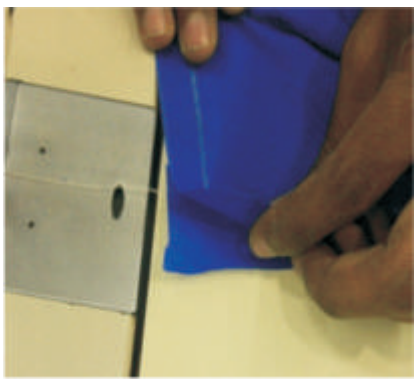


Fig. 5.1.3

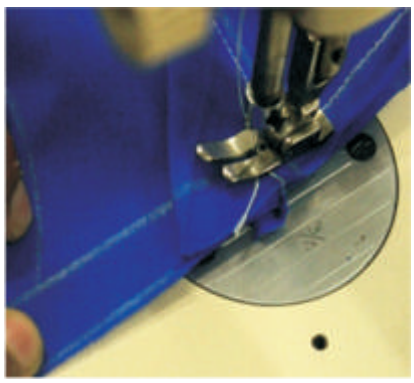


Fig. 5.1.3a

While mitring the dart (shown in Fig.5.1.3b), adjust the bulk of dart intake in seam line. To get proper finish, place the dart intake in opposite direction and then sew in the seam.

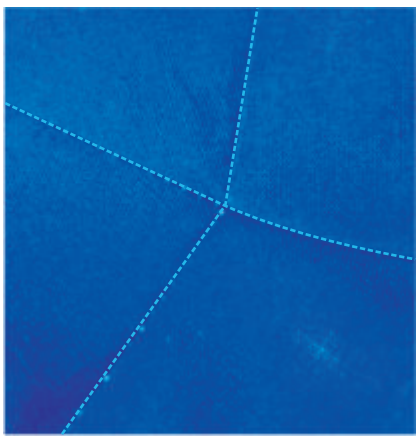


Fig. 5.1.3b

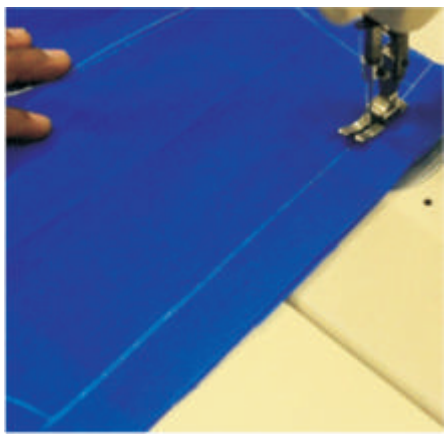


Fig. 5.1.4

Step 3: Close side seam of one side of the garment as shown in Fig.5.1.4

Step 4: Attach invisible zipper at the other side seam by placing the zipper's teeth at the seam line. Insert the zipper teeth into the zipper foot's groove as shown in Fig. 5.1.5

Now, stitch in the ditch, as close to the zipper teeth as shown in Fig. 5.1.5a

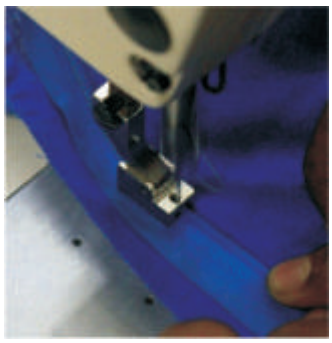


Fig. 5.1.5

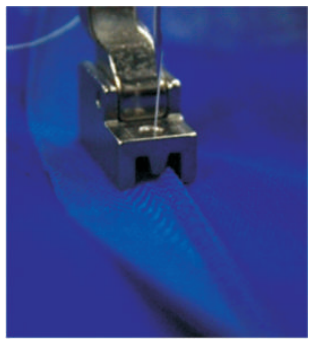


Fig. 5.1.5a

Lift the slider of the zipper and stitch till the slider on the allowance and give back stitch.

Now repeat the same step to the other side of the zipper teeth by Insert it to the other groove of the zipper foot as shown in Fig.5.1.5c

Fig. 5.15b

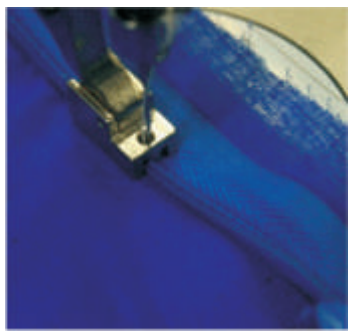


Fig. 5.1.5c

The stitch must be close to the zipper teeth as shown in Fig. 5.1.5d

Then, finish the raw edge by folding the extra allowance of fabric twice at a distance of ¼" and give edge stitch

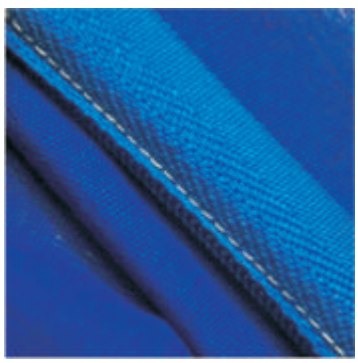


Fig. 5.1.5d

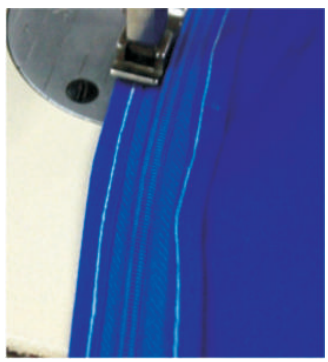


Fig. 5.1.5e

Step 5: Finish the raw edge of shoulder seam and side seam by giving an overlock stitch as shown in Fig.5.1.6 and Fig. 5.1.6a.

Fig. 5.1.6

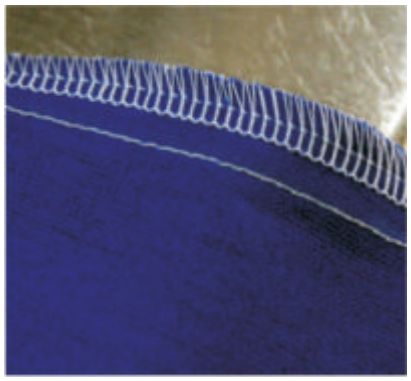


Fig. 5.1.6a

Step 6: Now, finish the neckline with a bias strip. Cut a bias strip as shown in Fig 5.1.7

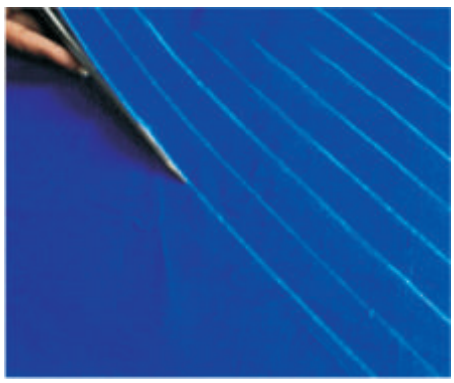


Fig. 5.1.7

Place the bias strip on right side of the neckline as shown in Fig. 5.1.7a.

Stitch at a distance of ¼" as shown in Fig. 5.1.7b.

Fig. 5.1.7a

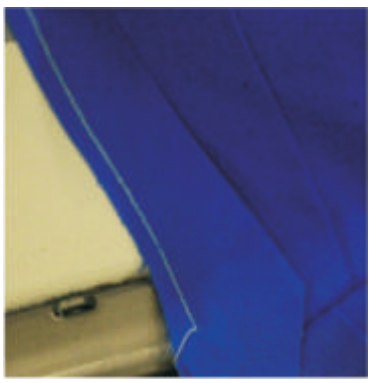


Fig. 5.1.7b

Fold the strip towards the wrong side and give an edge stitch as shown in Fig. 5.1.7c

Fold the raw edge of the strip at a distance of ¼" and fold the strip once more towards the wrong side of garment along the neckline and give an edge stitch as shown in Fig. 5.1.7d, Fig. 5.1.7e and Fig. 5.1.7f respectively.

Fig. 5.1.7c

Fig. 5.1.7d

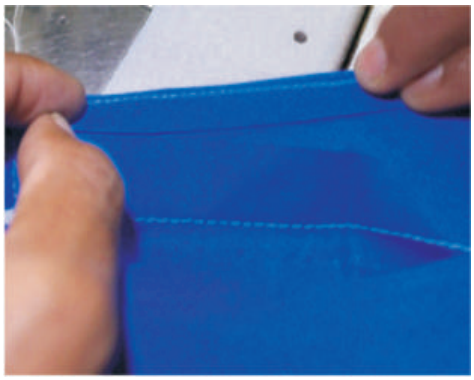


Fig. 5.1.7e

Fig. 5.1.7f

Step 7: Finish hemline by folding raw edge at a distance of ½" and again fold ½" repeating the step. Give an edge stitch as shown in Fig. 5.1.8.

Fig. 5.1.8

Fig. 5.1.9 (Front)

Fig. 5.1.9a (Back)

This is a Complete Top/ Bodice

5.2. Construction of a Skirt

Trace the pattern on fold or mirror the pattern on centre-front according to the marker and cut out the front and back pieces as shown in Fig. 5.2.1 and Fig. 5.2.1a.

Fig. 5.2.1

Fig. 5.2.1a

Step 1: Stitch all darts as shown in Fig 5.2.2.[Refer to the Dart Finishing as shown in previous chapter.]

Fig. 5.2.2

Step 2: Stitch the side seams as shown in Fig. 5.2.3. Leave 6" to 7" from the waist at the left side seam for an opening and stitch the rest of the seam.

Fig. 5.2.3

Step 3: Attach zipper to the side seam, as done for bodice/top in previous chapter, same as shown in Fig. 5.2.4

Fig. 5.2.4

Step 4: Finish the side seam by over locking as shown in Fig. 5.2.5

Fig. 5.2.5

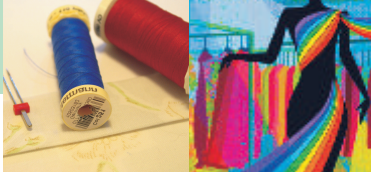
5. 2.1 Construction of a Skirt Waist band

Step 5: Attach waist band to the waist as shown in Fig. 5.2.6. Place the right side of skirt (on top) over the right side of waistband (below). Stitch on the stitch line. Then, fold the width of waistband backwards to finish the opening for the zipper. Stitch on the fabric for waistband extension at the opening and then turn the waist band width back so that the waist band is finished. Stitch on the edge of waistband.

Finish the waistband as per your choice, or you can either give double or single stitch as shown in Fig.5.2.6a.

Fig. 5.2.6

Fig. 5.2.6a



Step 6: Finish hemline by folding twice at 1" and give edge stitch as shown in Fig. 5.2.7.

Fig. 5.2.7

Fig. 5.2.8 (Front)

Fig. 5.2.8a(Back)

This is a Ready Skirt

ACTIVITY

Collect visuals of various kinds of skirts and identify the design details that you can stitch.

Fill in the blanks

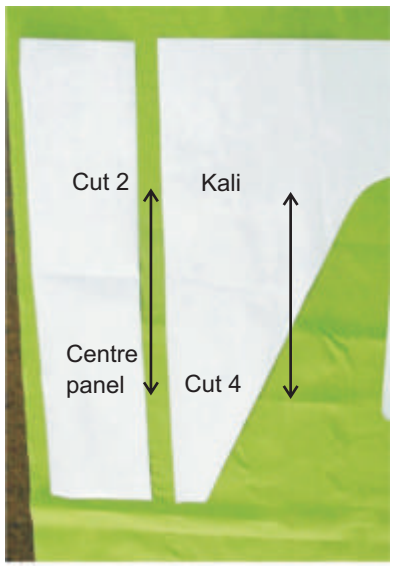
1. To get proper finish of the dart, place the dart in opposite direction and then in the seam.
2. Attach to the waist by placing the right side of over the right side of waistband.
3. Neckline of the top can be with a or piping cut as a bias strip.
4. Zipper can be attached by the zipper's teeth at the seam line as close to the as possible.
5. At vanishing point of dart, leave of extra thread and tailor knot.

CHAPTER - 6

Construction of Salwar and Kameez / Kurti

6.1. Construction of Salwar

Trace the pattern according to marker and Cut out all pieces as shown in Fig. 6.1.1



Step 1: Stitch the centre-front of the kali or side panel. In centre-front, leave 2" for finishing of the casing. Finish the opening and then attach the left centre panel with the left kali, and the right centre panel with the right kali.

Again, repeat the same process to attach the back panel with the side seam panel, and join centre-front and centre-back with French seam as shown in Fig, 6.1.2a, 6.1.2b, 6.1.2c, 6.1.2d,6.1.2e and 6.1.2f

Fig. 6.1.2

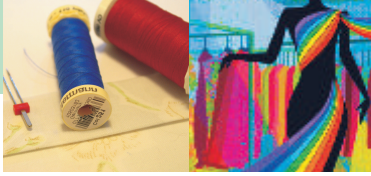


Fig. 6.1.2a

Fig. 6.1.2b

Fig. 6.1.2c

Fig. 6.1.2d

Fig. 6.1.2e

Fig. 6.1.2f

Similarly, attach the other leg, close and stitch the inseam as shown in Fig 6.1.3

Fig. 6.1.3

Step 2: Now, take two straps for the hem, with the right sides facing each other such that the seam allowances of all the four sides match together. Give a top stitch; finish the sides and the bottom of the hem strap as shown in Fig 6.1.4

Fig. 6.1.4

Step 3: Attach waist panel at centre-back with French seam.

Step 4: Now, close and stitch the centre-front with a French seam leaving the casing for the drawstring opening as shown in Fig 6.1.5 and Fig 6.1.5a

Fig. 6.1.5

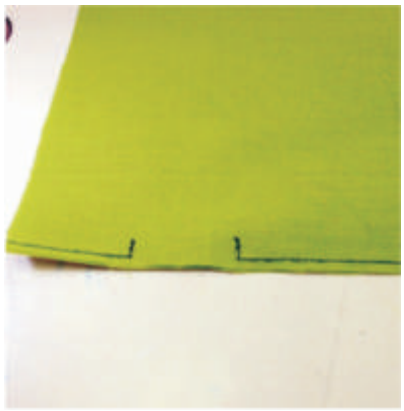


Fig. 6.1.5a

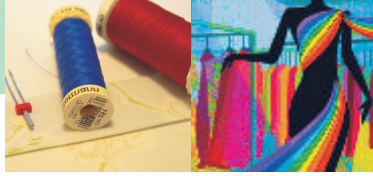
Make a slit of approx. 1/8" and open the casing as shown in Fig 6.1.5b

Fig. 6.1.5b

Fold the raw edge of the casing and give an edge stitch as shown in Fig. 6.1.5c and Fig. 6.1.5d.

Fig. 6.1.5c

Fig. 6.1.5d



Step 5: Now, fold at the waistline at a distance of 1 ½" and finish the waist band as shown in Fig.6.1.6

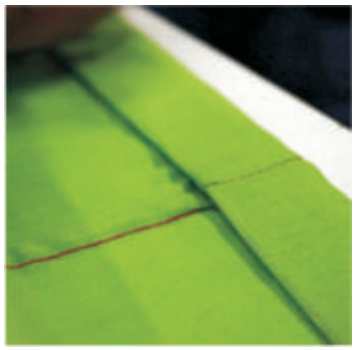


Fig. 6.1.6

Step 6: Then, make knife pleats, finishing the excess fabric, and attach them with the waist panel as shown in Fig. 6.1.7, Fig.6.1.7a, Fig.6.1.7b, and Fig. 6.1.7c

Fig. 6.1.7

Fig. 6.1.7a

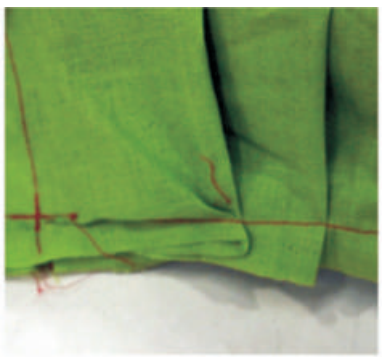


Fig. 6.1.7b

Fig. 6.1.7c

Fig. 6.1.8
(Complete Salwar)

6.2 Construction of a Kameez / Kurti

Trace the front and back patterns on-fold and cut out all the pieces as shown in Fig. 6.2.1, Fig. 6.2.1a and Fig. 6.2.1b.

Fig. 6.2.1

Fig. 6.1.2a

Fig. 6.2.1b

Step 1: Close all darts as described in Chapter 5, shown in Fig. 6.2.2

Fig. 6.2.2

Step 2: Shrink the extra amount of ease of the back shoulder by false gathering and attach the shoulders as shown in Fig.6.2.3

Fig. 6.2.3

Step 3: Close the side seams as shown in Fig 6.2.4

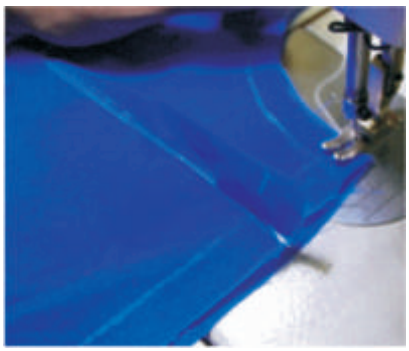


Fig. 6.2.4

Step 4: Finish neckline and armhole with a bias strip as described in Chapter 5 and also shown in Fig. 6.2.5, Fig.6.2.5a, Fig. 6.2.5b, Fig. 6.2.5c, Fig. 6.2.5d and Fig. 6.2.5e

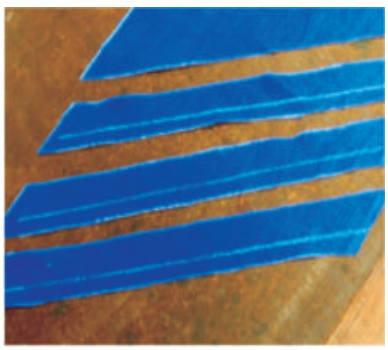


Fig. 6.2.5

Fig. 6.2.5a

Fig. 6.2.5b

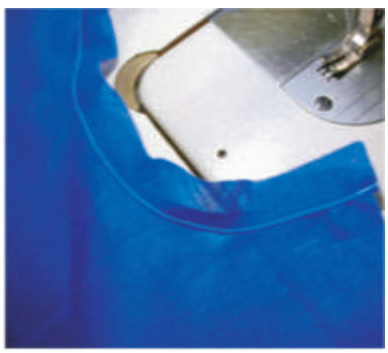


Fig. 6.2.5c

Fig. 6.2.5d

Fig. 6.2.5e

Step 5: Finish the hem and the side slit by folding twice at ¼" and giving an edge stitch as shown in Fig.6.2.6, Fig. 6.2.6a, Fig. 6.2.6b, Fig. 6.2.6c and Fig.8.2.6d

Fig. 6.2.6

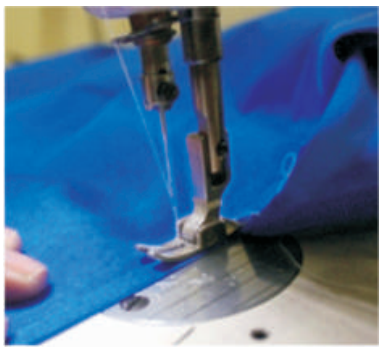


Fig. 6.2.6a

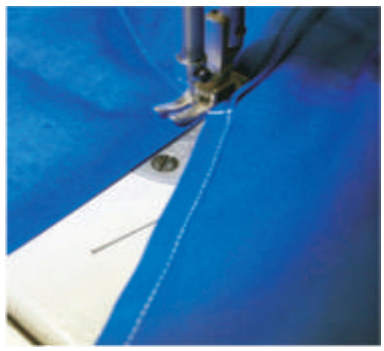


Fig. 6.2.6b

Fig. 6.2.6c

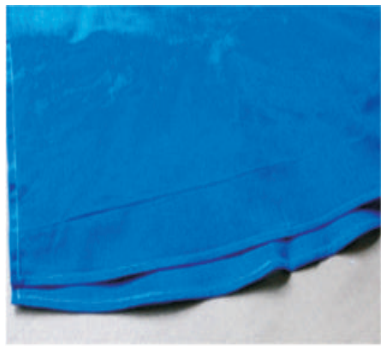
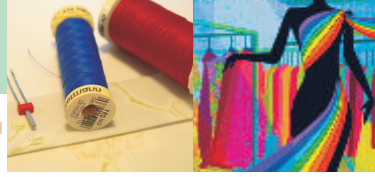


Fig. 6.2.6d

Fig. 6.2.7 (Front)

Fig. 6.2.7a (Back)

(A stitched Kameez / Kurti)



ACTIVITY

Collect visuals of various kinds of salwars & kameez and identify the design details that you can stitch.

Fill in the blanks

1. The waist panel of salwars is attached at _____ with a _____seam.
2. The ease of the back shoulder is _____by ____ gathering at the shoulder seam.
3. The side ___ of salwars is also known as ____.
4. The _____ of the lower part of the salwars is either _____or finished with ____ pleats.
5. The salwar is tied with help of _____ inserted in a _____.

CHAPTER - 7

Construction of Churidar and Kalidar Kurta

7.1. Construction of Churidar

Step 1: Take 2 metres of fabric, and fold it lengthwise as shown in Fig 7.1.1

Fig. 7.1.1

Then fold the fabric diagonally and place the pattern as shown in Fig 7.1.1a.

Fig. 7.1.1a

Step 2: Trace and cut out all pieces as shown in Fig 7.1.2 and Fig 7.1.2a.

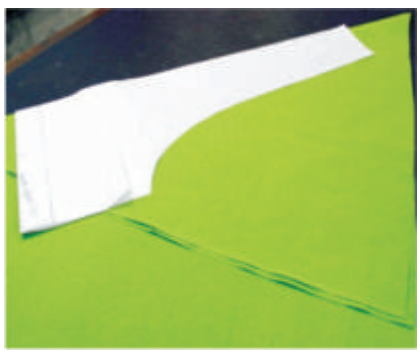
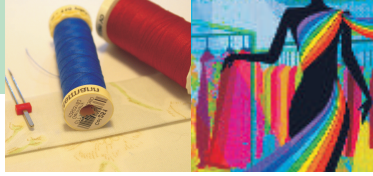


Fig. 7.1.2

Fig. 7.1.2a



Step 3: Attach the triangular piece of fabric if the pattern doesn't fit as is shown in Fig.7.1.3 and Fig 7.1.3a.

Fig. 7.1.3

Fig.7.1.3a

Step 4: Attach the centre-front and centre-back with 'French Seam' as shown in Fig.7.1.4. Close the inseam as shown in and Fig. 7.1.4a.

Fig.7.1.4

Fig. 7.1.4a

Step 5: Then, create drawstring opening and finish the waist band as done for Salwar in the Waist panel and attach it to the leg panel as shown in Fig. 7.1.5.

Fig. 7.1.5

Step 6: Finish hemline by folding the edge and stitch.

Fig.7.1.6
(A stitched and finished Churidar)

7.2. Construction of Kalidar Kurta

Place and trace the pattern and cut out all pieces as shown in Fig. 7.2.1

Fig. 7.2.1

7.2.1 Kurta Placket

Step 1: Finish placket at the centre front of the kalidar kurta, as shown in Fig 7.2.2

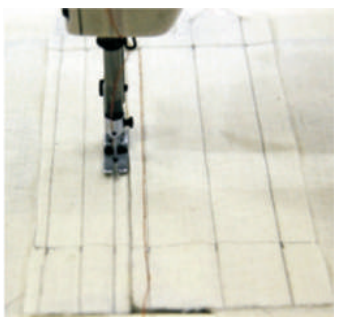
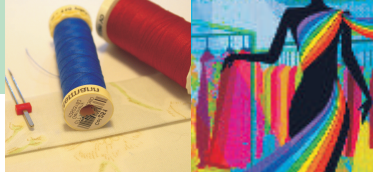


Fig. 7.2.2



Place the placket piece over the right side of neckline opening and stitch at a distance of ¼" as shown in Fig. 7.2.2a. Fold the placket at fold line and place it over the stitch line, give an edge stitch as shown in Fig.7.2.2b

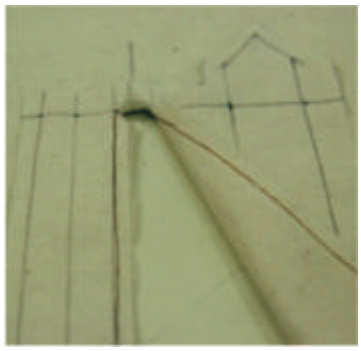


Fig.7.2.2a

Fig.2.2.2b

Repeat the same process with the other side and form the diamond by giving an edge stitch as shown in Fig. 7.2.2c and Fig 7.2.2d.

Fig. 7.2.2c

Fig. 7.2.2d

Step 2: Join shoulders with tailor's edge and stitch it as shown in Fig 7.2.3

Fig. 7.2.3

Step 3: Mark the pocket position on the fabric. Cut the slit where the pocket has to be folded as shown in Fig. 7.2.4. Fold the fabric neatly at 1/4" and double the fold at another 1/4" as

shown in Fig 7.2.4a. Steam press and then put a top stitch as shown in Fig 7.2.4b and Fig. 7.2.4c.

Fig. 7.2.4

Fig. 7.2.4a

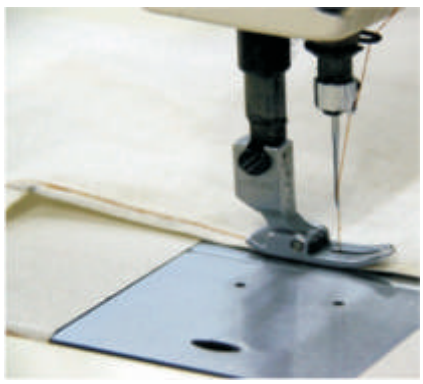


Fig. 7.2.4b

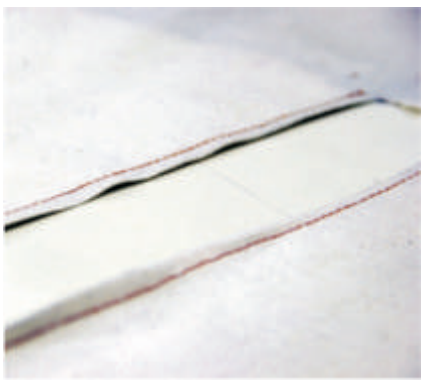


Fig. 7.2.4c

Step 4: The right side of the gusset should be facing the right side of the Fabric Stitch the allowance from the wrong side at a seam allowance of 1/2".Attach the gusset as shown in the Fig. 7.2.5

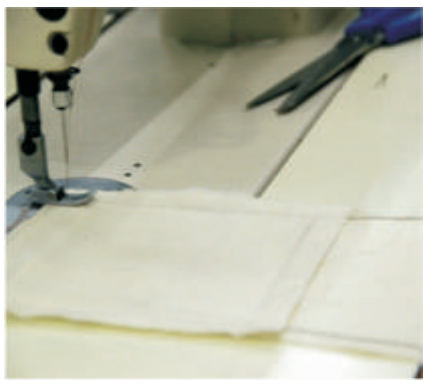


Fig. 7.2.5

Similarly, attach the second panel to the adjacent side of the gusset as shown in Fig. 7.2.5a and Fig. 7.2.5b

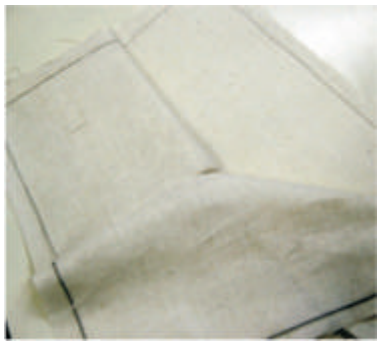


Fig. 7.2.5a

Fig. 7.2.5b

Step 5: Continue stitching seam allowance of the two panels upto the vent level. Do not stitch at the pocket mouth opening as shown in Fig. 7.2.5c

With the right sides facing each other, horizontal part of the panel is Stitched with the sleeve.

Similarly, the other end of the sleeve is attached to horizontal line of the Back panel.

Fig. 7.2.5c

Step 6: Finish the neckline with a bias strip. Place the bias strip on the right side of the neckline and stitch at a distance 1/4" as shown in Fig.7.2.6. Fold the strip and give an edge stitch as shown in Fig. 7.2.6a. Fold the strip towards the wrong side of the garment along the neckline as shown in Fig.7.2.6b. Fold the raw edge of the bias strip at a distance of 1/4 " and give an edge stitch as shown in Fig. 7.2.6c.The finished neckline will have a double stitch line at the back and a single stitch line at the front as shown in Fig.7.2.6d.

Fig. 7.2.6

Fig. 7.2.6a

Fig 7.2.6b

Fig 7.2.6c

Fig. 7.2.6d

Step 7: For finishing the slit, cut a small triangle and fold its raw edges As shown in Fig. 7.2.7.

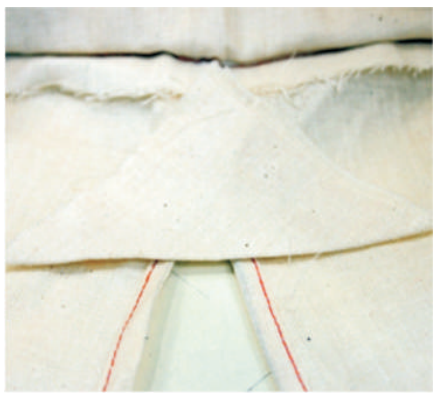


Fig. 7.2.7

Place it on the wrong side and attach it to the slit by giving a top stitch at the front as shown in Fig. 7.2.7a and Fig. 7.2.7b.

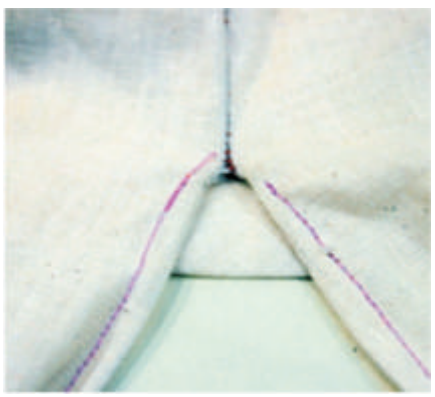


Fig.7.2.7a

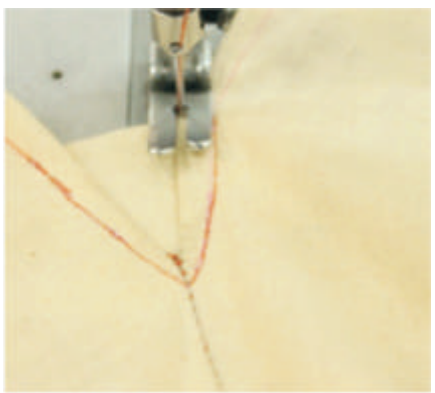


Fig.7.2.7b

Step 8: Finish the hemline as described for a Kameez, shown in Fig 7.2.8

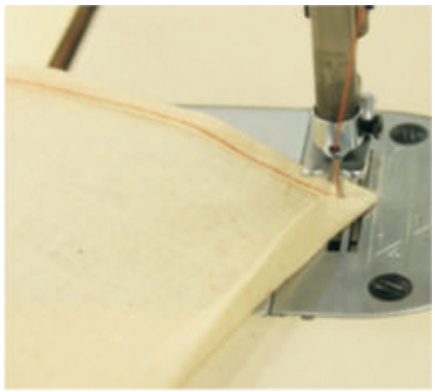


Fig. 7.2.8

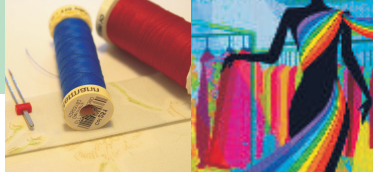
Fig.7.2.9
(A complete Kalidar Kurta with Gusseted sleeve)

ACTIVITY

Collect visuals of various kinds of Churidar pyjama & Kalidar Kurta and identify the design details that you can stitch.

Fill in the blanks

1. For Churidar take metres of fabric, and fold it _____and then fold it _____.
2. Kalidar Kurta has a _____ placket with _____ to ____ buttons.
3. Pocket of the kurta is attached on the _____ _____ of the kali.
3. Gusset in the kurta is attached between ____ and _____and provides _____to the sleeve.
4. The side slit in the kurta is _____ with a _____ piece.

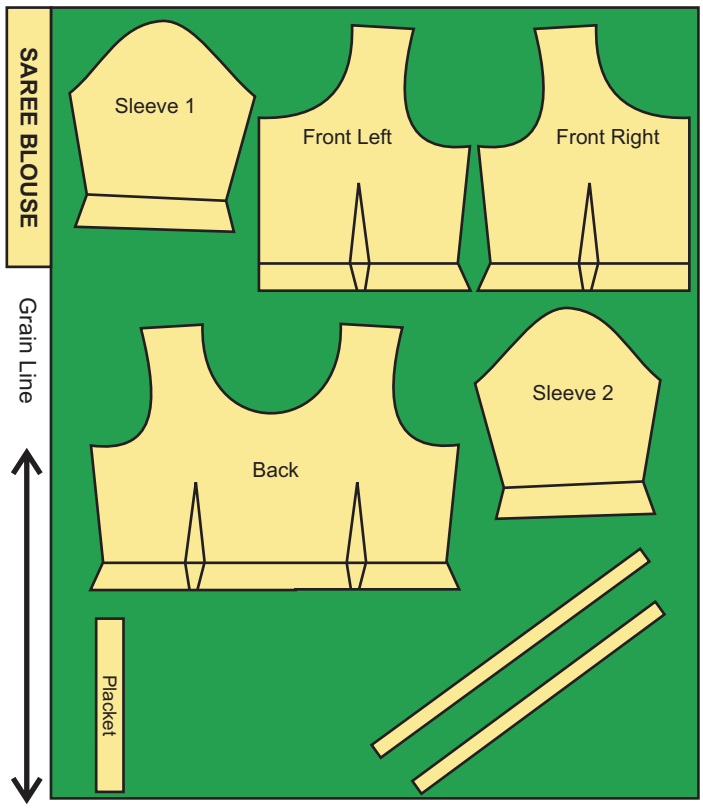


CHAPTER - 8

Constructon of Sari Blouse and Choliblouse

8.1 Construction of Sari Blouse

Trace the pattern on the fabric according to the marker and cut out all the pieces.



Step 1: Close all the darts without reinforcing at the vanishing point.

Leave a 1" long thread and twist as shown in Fig 8.1.1 and Fig 8.1.1a

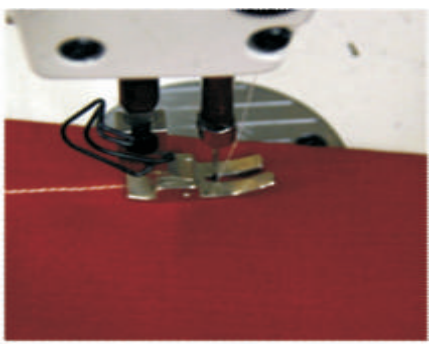


Fig. 8.1.1

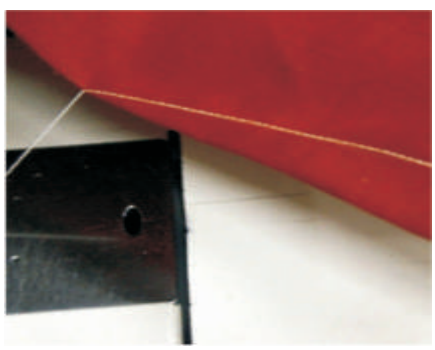


Fig. 8.1.1a

8.1.1 Construction of Sari Blouse placket

Step 2: Finish the over placket by placing right side of the placket over the right side of fabric and by stitching at a distance of 1/4 " as shown in

Fig 8.1.2.Fold the placket and give edge stitch as shown in Fig 8.1.2a

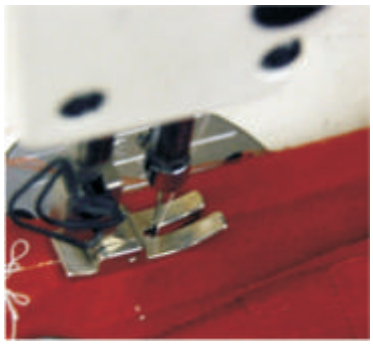


Fig. 8.1.2

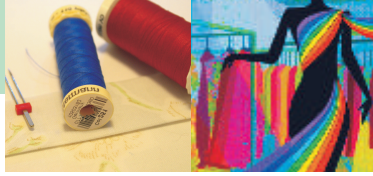
Fig. 8.1.2a

Fold the placket towards the wrong side of the blouse. Fold the raw edge and give an edge stitch or slip-hem it as shown in Fig 8.1.2b

Fig. 8.1.2b

Step 3: Finish the under placket by placing the wrong side of placket over the wrong side of fabric and stitch on the right side at a distance of 1/4 " as shown in Fig 8.1.3

Fig. 8.1.3



Fold the placket towards the right side. Now fold the raw edge of the placket leaving a distance of 3/4", as shown in Fig 8.1.3a. Place it over the stitch line as shown in Fig.8.1.3b

Fig.8.1.3a

Fig. 8.1.3b

Give an edge stitch in such a way that the stitch comes over the placket edge on the wrong side, as shown in Fig. 8.1.3c and Fig. 8.1.3d

Fig. 8.1.3c

Fig. 8.1.3d

Step 4: Attach the shoulders with either French seam or tailor's edge as shown in Fig 8.1.4.

Fig 8.1.4

Step 5: Close the side seams with tailor's edge seam as shown in Fig 8.1.5

Fig. 8.1.5

Step 6: Finish the sleeve's hem by slip hemming and close the seam with tailor's edge as shown in Fig 8.1.6.

Fig. 8.1.6

Place the right side of the sleeve over the right side of the blouse's armhole as shown in Fig 8.1.6a. Give a double stitch as shown in Fig 8.1.6b

Fig.8.1.6a

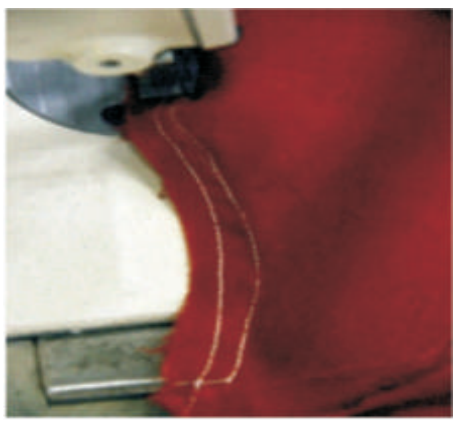
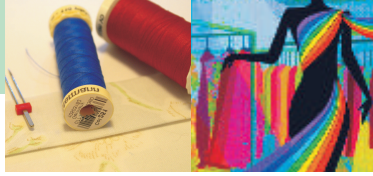


Fig.8.1.6b



Step 7: Finish the neckline with a bias strip. Give a stay stitch at Neckline at a distance of 1/8" as shown in Fig 8.1.7. Fold the bias strip in half and iron while gently stretching it. Place the bias strip on the right side of the neckline and stitch at a distance of 1/4" as shown in Fig. 8.1.7a

Fig. 8.1.7

Fig. 8.1.7a

Fold the strip towards the wrong side and create a piping as shown in Fig 8.1.7b. Stitch in the ditch so as to secure the strip on the other side as shown in Fig 8.1.7c

Fig. 8.1.7b

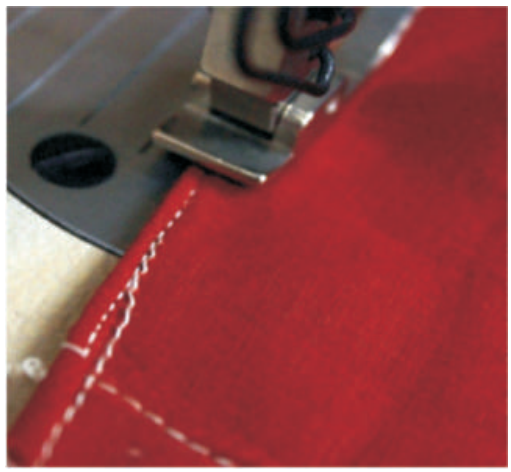


Fig. 8.1.7c

8.2. Construction of Choli Blouse

Trace your pattern on the fabric according to the marker and cut all pieces as shown in Fig.8.2.1 and Fig. 8.2.2 respectively.

Fig. 8.2.1

Fig. 8.2.2

Step 1: Attach the four bust pieces in such a way that they are self-finished.

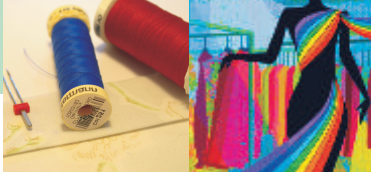
Place the right side of the bust pieces facing each other and stitch on the wrong side as shown in Fig 8.2.3

Fig. 8.2.3

Step 2: Attach the side panels with the bust cups by inserting them between the cup panels as shown in Fig. 8.2.4. And Fig 8.2.4a

Fig. 8.2.4

Fig. 8.2.4a



Step 3: Attach back to front at the side seams and join the tieups at the back.

Step 4: Attach the centre of both halves by placing the right sides facing each other and stitch at the wrong side as shown in Fig 8.2.5 and Fig.8.2.5a

Fig. 8.2.5

Fig. 8.2.5a

Step 5: Join the waist band which is Cut 2. Sandwich the choli between the two waist band strips and stitch as shown in Fig 8.2.6, Fig.8.2.6a.

Fig. 8.2.6

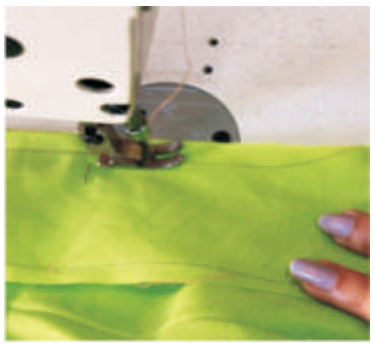


Fig. 8.2.6a

Step 6: Finish the neckline with a bias strip same as the sari blouse.

Fig. 8.2.7
(The completed front of a choli)

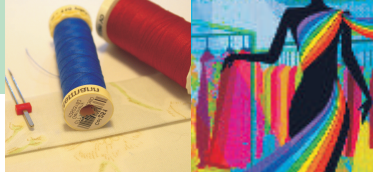
Fig 8.2.8
(A finished choli blouse)

ACTIVITY

Collect visuals of various kinds of blouse from the magazines and make scrap book.

Fill in the blanks

1. Sari blouse has a _____ piece _____ which has hook and eye to fasten the blouse.
2. Choli blouse has _____ piece that is cut on _____.
3. The waistband of choli blouse is cut on _____ grain and has ____dart.
4. The_____ and choli piece are cut _____ for reinforcement.
5. The four _____ pieces of choli are stitched in such a way that they are_____.



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