FASHION DESIGN & TECHNOLOGY

NSQF LEVEL - 3

TRADE THEORY

SECTOR: APPAREL

(As per revised syllabus July 2022 - 1200 Hrs)

Directorate General of Training

DIRECTORATE GENERAL OF TRAINING
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP
GOVERNMENTOF INDIA

NATIONAL INSTRUCTIONAL MEDIA INSTITUTE, CHENNAI

Post Box No. 3142, CTI Campus, Guindy, Chennai - 600 032

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Duration : 1 Year

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FOREWORD

The Government of India has set an ambitious target of imparting skills to 30 crores people, one out of every four Indians, to help them secure jobs as part of the National Skills Development Policy. Industrial Training Institutes (ITIs) play a vital role in this process especially in terms of providing skilled manpower. Keeping this in mind, and for providing the current industry relevant skill training to Trainees, ITI syllabus has been recently updated with the help of Media Development Committee members of various stakeholders viz. Industries, Entrepreneurs, Academicians and representatives from ITIs.

The National Instructional Media Institute (NIMI), Chennai, has now come up with instructional material to suit the revised curriculum for **Fashion Design & Technology - Trade Theory** in **Apparel Sector** under **Yearly Pattern.** The NSQF Level - 3 (Revised 2022) Trade Practical will help the trainees to get an international equivalency standard where their skill proficiency and competency will be duly recognized across the globe and this will also increase the scope of recognition of prior learning. NSQF Level - 3 (Revised 2022) trainees will also get the opportunities to promote life long learning and skill development. I have no doubt that with NSQF Level - 3 (Revised 2022) the trainers and trainees of ITIs, and all stakeholders will derive maximum benefits from these Instructional Media Packages IMPs and that NIMI's effort will go a long way in improving the quality of Vocational training in the country.

The Executive Director & Staff of NIMI and members of Media Development Committee deserve appreciation for their contribution in bringing out this publication.

Jai Hind

Addl. Secretary/Director General (Training)
Ministry of Skill Development & Entrepreneurship,
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New Delhi - 110 001

PREFACE

The National Instructional Media Institute (NIMI) was established in 1986 at Chennai by then Directorate General of Employment and Training (D.G.E & T), Ministry of Labour and Employment, (now under Directorate General of Training, Ministry of Skill Development and Entrepreneurship) Government of India, with technical assistance from the Govt. of Federal Republic of Germany. The prime objective of this Institute is to develop and provide instructional materials for various trades as per the prescribed syllabi under the Craftsman and Apprenticeship Training Schemes.

The instructional materials are created keeping in mind, the main objective of Vocational Training under NCVT/NAC in India, which is to help an individual to master skills to do a job. The instructional materials are generated in the form of Instructional Media Packages (IMPs). An IMP consists of Theory book, Practical book, Test and Assignment book, Instructor Guide, Audio Visual Aid (Wall charts and Transparencies) and other support materials.

The trade practical book consists of series of exercises to be completed by the trainees in the workshop. These exercises are designed to ensure that all the skills in the prescribed syllabus are covered. The trade theory book provides related theoretical knowledge required to enable the trainee to do a job. The test and assignments will enable the instructor to give assignments for the evaluation of the performance of a trainee. The wall charts and transparencies are unique, as they not only help the instructor to effectively present a topic but also help him to assess the trainee's understanding. The instructor guide enables the instructor to plan his schedule of instruction, plan the raw material requirements, day to day lessons and demonstrations.

IMPs also deals with the complex skills required to be developed for effective team work. Necessary care has also been taken to include important skill areas of allied trades as prescribed in the syllabus.

The availability of a complete Instructional Media Package in an institute helps both the trainer and management to impart effective training.

The IMPs are the outcome of collective efforts of the staff members of NIMI and the members of the Media Development Committees specially drawn from Public and Private sector industries, various training institutes under the Directorate General of Training (DGT), Government and Private ITIs.

NIMI would like to take this opportunity to convey sincere thanks to the Directors of Employment & Training of various State Governments, Training Departments of Industries both in the Public and Private sectors, Officers of DGT and DGT field institutes, proof readers, individual media developers and coordinators, but for whose active support NIMI would not have been able to bring out this materials.

Chennai - 600 032 **EXECUTIVE DIRECTOR**

ACKNOWLEDGEMENT

National Instructional Media Institute (NIMI) sincerely acknowledges with thanks for the co-operation and contribution extended by the following Media Developers and their sponsoring organisation to bring out this IMP for the trade of **Fashion Design & Technology - Trade Theory - NSQF Level - 3 (Revised 2022)** under the **Apparel** Sector for ITIs.

MEDIA DEVELOPMENT COMMITTEE MEMBERS

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NIMI records its appreciation of the Data Entry, CAD, DTP Operators for their excellent and devoted services in the process of development of this Instructional Material.

NIMI also acknowledges with thanks, the invaluable efforts rendered by all other staff who have contributed for the development of this Instructional Material.

NIMI is grateful to all others who have directly or indirectly helped in developing this IMP.

INTRODUCTION

TRADE PRACTICAL

The trade practical manual is intended to be used in practical workshop. It consists of a series of practical exercises to be completed by the trainees during the course. These exercises are designed to ensure that all the skills in compliance with NSQF Level - 3 (Revised 2022) syllabus are covered.

The manual is divided into Fourteen modules.

Module 1	-	Basic Sewing Operation
Module 2	-	Shapes & Color Schemes
Module 3	-	Fashion Illustration - I
Module 4	-	Surface Ornamentation
Module 5	-	Edge Finishing
Module 6	-	Pattern Making, Draping & Sample Preparation
Module 7	-	Textile Science
Module 8	-	Corel Draw
Module 9	-	Fashion Illustration - II
Module 10	-	Draping Techniques
Module 11	-	Sketching & Anatomy
Module 12	-	Quality of Production
Module 13	-	Fashion Scope & Career
Module 14	-	Designing of Fashion Accessories

The skill training in the shop floor is planned through a series of practical exercises centered around some practical project. However, there are few instances where the individual exercise does not form a part of project.

While developing the practical manual, a sincere effort was made to prepare each exercise which will be easy to understand and carry out even by below average trainee. However the development team accept that there is a scope for further improvement. NIMI looks forward to the suggestions from the experienced training faculty for improving the manual.

TRADE THEORY

The manual of trade theory consists of theoretical information for the Course of the **Fashion Design & Technology** - Trade Theory - NSQF Level - 3 (Revised 2022) in **Apparel**. The contents are sequenced according to the practical exercise contained in NSQF Level - 3 (Revised 2022) syllabus on Trade Theory attempt has been made to relate the theoretical aspects with the skill covered in each exercise to the extent possible. This correlation is maintained to help the trainees to develop the perceptional capabilities for performing the skills.

The trade theory has to be taught and learnt along with the corresponding exercise contained in the manual on trade practical. The indications about the corresponding practical exercises are given in every sheet of this manual.

It will be preferable to teach/learn trade theory connected to each exercise at least one class before performing the related skills in the shop floor. The trade theory is to be treated as an integrated part of each exercise.

The material is not for the purpose of self-learning and should be considered as supplementary to class room instruction.

CONTENTS

LEARNING / ASSESSABLE OUTCOME

On completion of this book you shall be able to

S.No.	Learning Outcome	Ref. Ex.No.
1	**Interpret and illustrate importance of Fashion designing following safety precautions. (NOS:AMH/N1204),(AMH/NO103)**	**1.1.01 - 1.1.02**
2	**Sketch fashion croquie of female and Design Garments with the help of elements using principles of design and colour scheme. (NOS:AMH/N1204)**	**1.2.03 - 1.2.08**
3	**Drape, illustrate Fabric rendering And drawing texture. (NOS:AMH/NO1204)**	**1.3.09**
4	**Apply surface ornamentation with embroidery. (NOS:AMH/N1010)**	**1.4.10 - 1.4.12**
5	**Perform basic Stitches, Seams and Edge finishes with operation of Sewing machine. (NOS:AMH/N1211)**	**1.5.13 - 1.5.15**
6	**Identify different Fibres and Fabrics along with Weaves and Knits. (NOS:AMH/N1201)**	**1.7.19 & 1.7.20**
7	**Create and Design Garments and Accessories in Corel Draw using tools and commands. (NOS not Available)**	**1.8.21 - 1.8.26**
8	**Create Bodice Block Set & Patterns and construct samples of Design Details. (NOS:AMH/N1204)**	**1.6.16 - 1.6.18**
9	**Apply garment details in fashion illustration. (NOS:AMH/N1204)**	**1.9.27 & 1.9.28**
10	**Illustrate Male and Female wear on Croquie and develop designer Wears based on draping Technique/ sketches as per fashion & style. (NOS:AMH/N1204)**	**1.10.29**
11	**Analyse human anatomy with Eight Head theory and different types of body contour. (NOS:AMH/N1947)**	**1.11.30 - 1.11.35**
12	**Ensure the Quality of production. (NOS:AMH/N1948), (NOS:AMH/NO103)**	**1.12.36 - 1.12.42**
13	**Analyse fashion merchandising, fashion scope and Career Prospect. (NOS:AMH/N1203) ,(NOS:AMH/N1201)**	**1.13.43 - 1.13.44**
14	**Create and Design Fashion accessories as per latest trend. (NOS not Available)**	**1.14.45**

QR CODE

Module 1

Ex.No. 1.1.01

Ex.No. 1.1.02

1.5.13

Module 5

1.5.14

1.5.15

Module 2

1.2.07&08

1.6.16

Module 6

1.6.17

1.6.18

Module 3

1.3.09

Module 7

1.7.20

Module 4

1.4.12

Module 11

1.11.30

SYLLABUS FOR FASHION DESIGN & TECHNOLOGY

Duration	Reference Learning Outcome	Professional Skills (Trade Practical) with Indicative hours	Professional Knowledge (Trade Theory)
Professional Skill 30Hrs; Professional Knowledge 12Hrs	Interpret and illustrate importance of Fashion designing following safety precautions. **(NOS:AMH/N1204),(AMH/NO103)**	1 Introduction and familiarization with the institute. (15hrs.) 2 Practice of sewing and practical exercises on sewing. (15hrs.)	Introduction and familiarization with the institute. Importance of safety and general precaution. Safety precautions. Introduction to work ethics, Discipline. ERGONOMICS Tools & Equipment measuring tools and Techniques Marking tools and Techniques cutting tools and Techniques pressing tools and Techniques Introduction to sewing machine & its components. Basic part and attachment and Their applications. Classification of sewing machine, cutting machines, and finishing equipment and their applications. Defects and remedies Needles. Safe broken Needle disposable Policy Threads. (12 Hrs)
Professional Skill 60 Hrs; Professional Knowledge 18 Hrs	Sketch fashion croquie of female and Design Garments with the help of elements using principles of design and colour scheme. **(NOS:AMH/N1204)**	3 Free Hand Sketching of Different Types of Line. (05 hrs.) 4 Line sketches in pencil & ink. (05hrs.) 5 Geometric construction of two dimensional geometric shapes and forms. (05hrs.) 6 Prepare chart only (colour wheel, colour scheme, grey scale, Tints and shades, gradation) (15 hrs.)	Brief idea about drawing tools and Techniques materials Elements of design. (06 Hrs) Introduction to elements and principles of design. Fundamentals and basics of colour. Colour & colour Theories and colour scheme. Understand concepts of design textures, shapes and forms.(06 Hrs)
		7 Creation Of Designs Using Elements and principles Of Design in 0terms of dress (through sketching) (15 hrs.) 8 Prepare sheets of optical illusions repeat pattern and composition. (15 hrs.)	Introduction to: Principles of Design.(06 Hrs)
Professional Skill 30Hrs; Professional Knowledge 06 Hrs	Drape, illustrate Fabric rendering And drawing texture. **(NOS:AMH/NO1204)**	9 Drawing Texture.(10 hrs.) Fabric rendering • Plain cotton • Chiffon • Mesh/ net • Tissue • Brocade • Denim • Corduroy • Fabric rendering according to weight, fall and opacity. (20 hrs.)	Selection of Dresses according to (age, occasion, climate, personality, age &sex). Age group relation to design various categories of men's wear, women's wear, kids wear Ready Made Garments Industry Introduction. Basis of selection of readymade garment Merits. Overview of garment mass Production Setup. Precaution to be taken while working with different kinds of fabric.

Duration	Reference Learning Outcome	Professional Skills (Trade Practical) with Indicative hours	Professional Knowledge (Trade Theory)
			Preparation of material before cutting, Draping of Garment. (06 Hrs)
Professional Skill 60Hrs; Professional Knowledge 18Hrs	Apply surface ornamentation with embroidery. **(NOS:AMH/ N1010)**	10. Introduction to Basic hand and Machine stitches (Sample Making). (15 hrs.) 11. Temporary stitches. (10 hrs.) 12. Permanent stitches. (15 hrs.) 13. Decorative stitches (in context to contemporary stitches) Flat Stitches Looped stitches Knotted stitches Crossed stitches Seams Seam finishes. (20 hrs.)	Motifs (enlargement and reduction). Sources of design inspiration & conceptualization optical illusion, silhouette. Introduction to Hand Stitching. Introduction to decorative stitches - Flat Stitches Looped stitches Knotted stitches Crossed stitches Introduction to Seams & Seam Finishes. (18Hrs)
Professional Skill 120 Hrs; Professional Knowledge 24Hrs	Perform basic Stitches, Seams and Edge finishes with operation of Sewing machine. (NOS:AMH/N1211)	14 Apply Fullness (Sample Making) Darts Pleats Tucks Gathers & Shirrs Frills Godets (25 hrs.) 15 Sample Making of : Plackets &Openings Pockets Facing Binding(25 hrs.) 16 Making draft and samples of Sleeves: Plain Raglan Magyar Puff Bell Petal Circular Batwing Collars: Peter pan Shirt Stand or Chinese Shawl (20hrs.) 17. Sample Making of Fasteners: Buttonholes Buttons Snaps Zippers Hooks and Eyes Velcro Sample making of Trimmings. (25 hrs.) 18. Sample making of neckline finishes. Sample making of Hems. (25 hrs.)	Introducing Fullness- Darts Pleats Tucks Gathers & Shirrs Frills Godets Introduction to - Plackets &Openings Pockets Facing Binding. Introduction to measurement. ISI Standards of measurements Relationship of sizes &measurements methods of measuring body and dress form Measurement charts. Introduction to paper pattern Definition. Types- Flat Pattern and Draped pattern. Importance Consideration while making paper pattern. Introduction to Bodice Block. Introduction to sleeve block. Introduction to collar. Introduction to skirt block. Introduction To Draping method for apparel Design. **Theoretical Introduction to :** Fasteners Trimmings Hems Necklines. Edge finishing Hems.(24Hrs)
Professional Skill 30Hrs; Professional Knowledge 12Hrs	Identify different Fibres and Fabrics along with Weaves and Knits. (NOS:AMH/N1201)	19. Samples of Weaving Plain weave Twill weave Basket weave Sateen weave Rib weave Honey comb (15 hrs.) 20. Prepare sample file and a survey report on different type of :- fabric, accessories and fusing Synthetic	Textile fabric, Meaning and definition of textile fibres. Classification of fibres- natural fibre, manmade fibres. Characteristics/ properties of above mentioned fibres. Identification of textile fibresyarn construction.

Duration	Reference Learning Outcome	Professional Skills (Trade Practical) with Indicative hours	Professional Knowledge (Trade Theory)
		Woolen Worsted Sheer Silk Linen Pile fabrics Laces Buttons Braids Cords Fusings etc. (15 hrs.)	Elementary processing of different types of fibre to yarn. Characteristic of yarn. twist Size count and count measuring system. Types of yarn- Simple Complex Fabric manufacturing Yarn preparation. Elementary weaving theory Fabric structure-Woven, Knitted and non-woven. Introduction to Dyeing & Printing. Introduction to knitting. Types of Knitted Fabric used in garment industry. Finishes. Mechanical. Chemical. (06Hrs) Introduction and identification of Different type of: Cotton fabric Synthetic Woolen Sheer Silk Linen Pile fabrics Laces Buttons Braids Cords Fusings etc. (06 Hrs)
Professional Skill 30Hrs; Professional Knowledge 06 Hrs	Create and Design Garments and Accessories in Corel Draw using tools and commands. (NOS not Available)	21.Introduction and designing through Corel Draw.(10 hrs.) 22.Practice on Tools.(10 hrs.) 23.Working with Shapes (10 hrs.)	Introduction and importance of designing through computers. Use of Corel Draw in Design creation. Tools Working with Shapes.(06 Hrs)
Professional Skill 30Hrs; Professional Knowledge 12Hrs	Create Bodice Block Set & Patterns and construct samples of Design Details. (NOS:AMH/N1204)	24.Working with special effects. (10 hrs.) 25.Creating Fabric Designs. (10 hrs.) 26.Accessories Designing. (10 hrs.)	Working with special effects : Creating Fabric Designs Creating Croquie Rendering & Draping Accessories Designing. (12 Hrs)
Professional Skill 60Hrs; Professional Knowledge 12Hrs	Apply garment details in fashion illustration. (NOS:AMH/N1204)	27.Sketching of a. Necklines, b. Collars, c. Sleeves, d. Yokes, e. Gathers, f. pleats, g. Bows and ties, h. Caps and hats i. Pockets, j. cascades, k.Belts, l.Style lines (60 hrs.)	Rendering of different type of fabric- Plain Checks Dotted Printed Stripped Textured(12 Hrs)
Professional Skill 120Hrs; Professional Knowledge 48 Hrs	Illustrate Male and Female wear on Croquie and develop designer Wears based on draping Technique/ sketches as per fashion & style. (NOS:AMH/N1204)	28.Female Croquie Block figure, Stick figure (60 hrs.) 29.Ready to Wear Collection Replication Variations Creation Construction. (60 hrs.)	FASHION Drawings- Block Figure Stick Figure Fleshing out (18 Hrs) Draping- Principles of draping Methods of Draping Draping Techniques Contour Draping (06 Hrs) Drape and draw 5 sketches of indo-western ladies wear as per Fashion and style. Wardrobe planning. How to select and wear the dress? How to select colour and pattern? To develop good taste in clothes? Dressing according to personality? Fashion and style?(24Hrs)

Duration	Reference Learning Outcome	Professional Skills (Trade Practical) with Indicative hours	Professional Knowledge (Trade Theory)
Professional Skill 120Hrs; Professional Knowledge 18 Hrs	Analyse human anatomy with Eight Head theory and different types of body contour. (NOS:AMH/N1947)	30.Cutting, stitching and finishing of frock. (15 hrs) 31.Cutting stitching & finishing of night suit. (20 hrs.) 32.Practice of developing dress pattern from Draping Technique. (15 hrs.) 33.Basic Bodies (dart and princess line) (15 hrs.) 34.Basic Skirt (Straight and circular) (20 hrs.) 35.Drafting of ladies block pattern set (bodice sleeve, skirt and trouser) (35 hrs.)	Anatomy (in brief). Joints and muscles. Growth and development. Eight head theory. Types of human figure. Introduction To Kids Pattern,(Drafting, pattern making, estimation, and layout of the garments). Child Bodice block and sleeve block with size variation Skirt Block (Children) Drafting Frock, night suit. (18 Hrs)
Professional Skill 30Hrs; Professional Knowledge 12Hrs	Ensure the Quality of production. (NOS:AMH/N1948), (NOS:AMH/NO103)	36.Introduction to Quality assurance. (4 hrs.) 37.Quality Management. (4 hrs.) 38.Textile Testing and product. (4 hrs.) 39.Evaluation. (4 hrs.) 40.Quality Inspection. (4 hrs.) 41.Care Labelling of apparels. (05 hrs.) 42. Checking of garment with respect to measurement and stitching. (05 hrs.)	Care and storage wash care symbols. Introduction to Quality control and quality assurance.Stain removal. Immediate repairing. (12 Hrs)
Professional Skill 90Hrs; Professional Knowledge 30Hrs	Analyse fashion merchandising, fashion scope and Career Prospect. (NOS:AMH/N1203) ,(NOS:AMH/N1201)	43. Preparation and designing of Tech pack Cost sheet. (30 hrs.)	Career in fashion. Fashion designer. Auxiliary Service in Fashion Design. Fashion Design Technician. Education. Industry. Meaning and scope of business Introduction to Fashion merchandising. (12 Hrs)
		44.Assignment Report based on: fashion trend trade fairs, fashion show, boutique, Garment production unit. Apparel Retail Channels. (60 hrs.)	Brief knowledge of fashion trend, trade fairs, fashion show, boutique, garment production unit Study of fashion Fraternity. Leading Fashion Designers. Textile Designers.(18 Hrs)
Professional Skill 30Hrs; Professional Knowledge 12Hrs	Create and Design Fashion accessories as per latest trend. (NOS not Available)	45.Design and creating of fashion accessories Head Gears Scarf Fashion Jewellery Tie and Bow Belts BowsBag and Purses Hand Gloves.(30 hrs.)	Introduction to trims and accessories for fashion industry. Fashion accessories- Head Gears Scarf Fashion Jewellery Tie and Bow Belts BowsBag and Purses Hand Gloves.(12 Hrs)

Trade Introduction

Objectives: At the end of this lesson you shall be able to
- **explain the role of dresses**
- **name the prospects of the trade**
- **Safety precautions.**

Trade Introduction

Role of clothes

Besides food and shelter clothes are the basic necessities of human life. Three main functions for clothes can be stated.

Protection

Clothes cover nudity or nakedness of men and women. They protect against injuries while working or during other activities.

Decoration

Clothes have also decorative function. People wear different dresses in different situations. A day to day dress will look different from dresses worn in auspicious function. The decorative aspect is also used to give an individual touch to the person wearing the dress.

Identification

This function of dresses characterises people as part of a special group or society. Peasant costumes and national dresses as well as uniforms of policemen or students may serve as examples.

Scope and prospects of the trade

People started wearing unstitched dresses, i.e. fur and coat of animals and woven pieces of fabrics which were draped around the body.

Stitched garments for upper and lower body necessitate cutting and tailoring of fabrics. Fashion creates lots of new dresses. Fashion parades are conducted throughout the world. The style of saree blouse and ladies' shirts change according to the shape and decoration. This is the reason why the different trades of dressmaking have good prospects in the future.

The work in the dressmaking field involves a multitude of activities.

Stitching dresses for you and your family at home and employment in tailor's shop require your skills for pattern making, cutting and stitching of the components.

Working in industry normally means that many dresses are produced from one pattern. Here you are working in a highly specialised section of production where many layers of fabric are cut and parts are assembled with the help of highly sophisticated machinery.

To set up your own business like tailor shops for example you have to do some investment for machinery and tools; if you don't have own property you have to rent a room where you can set up your production. You need skills to calculate costing, estimate materials etc.

Ergonomics

Objectives: At the end of this lesson you shall be able to
- **define ergonomics**
- **describe advantages of ergonomics**
- **explain the components of ergonomics.**

Ergonomics is known as human factor which consists of scientific understanding and relation between the human (user/worker) with the elements of system (working environment).

Ergonomics deals with the occupational health, safety and productivity.

It consists of

- Safe furniture
- Easy to use interface
- Easy to use mechanics
- Easy to use handling of equipment

Advantages of ergonomics

- It assesses the fit between a person and technology.
- It assesses the relation between the job (activity) and the demand of user for performing the activity.
- It assesses the presentation of information used.

It is based on following disciplines

- Study of human and their environments.
- Anthropometric survey.
- Bio mechanics.
- Mechanical engineering.

- Industrial design.
- Information design.
- Kinesiology.
- Physiology
- Cognitive psychology
- Industrial and organisational psychology

Ergonomics comprises of three main fields

- Physical
- Cognitive
- Organisational ergonomics

Physical ergonomics include visual ergonomics depends on principles used designing for consumer and industrial products.

Cognitive ergonomics includes usability e.g. Sewing machine/ computer with human interaction (User) such as perception, memory, reasoning and motor responses.

Organisational ergonomics include socio-psycho technical procedures and structure of organizations e.g. team work, virtual organization and quality management etc.

Weakness of ergonomics methods

- More time consuming
- Highly effort planning
- Longer study period is required
- Longitudinal in nature.

Importance of safety & precautions

Safety Precautions: Safety is important to all and it is our responsibility to maintain a safe workspace. To maintain a safe environment everyone should explore safety rules and practice them at all times.

Health and safety precautions

Health

1 Keep hands away from the needle when the machine is operating.

2 Do not place your fingers into the thread take up lever while machine is operating.

3 Never leave the machine running and unattended to avoid accidents.

4 During operation, never place your head, hair or hands in the proximity of hand wheel. V-belt bobbin winder or balance wheel.

5 Do not operate the machine with any safety guards removed.

6 The machine should only be used by trained persons.

7 If oil grease comes in contact with eyes or skin, immediately wash the affected area and consult a physician.

8 Pass sharp objects, handle first to another person.

9 Do not leah your face to close when stitching in case the needle breaks.

10 Do not touch hot iron except on the handle.

Safety

1 Keep pins in a pin cushion, never in clothes.

2 Keep shears and scissors in closed position when not using.

3 Carry all sharp and pointed tools or objects with the sharp end in a downward position.

4 Use a slow speed when learning how to use the machine.

5 Children should not allowed while working in the machine. Do not let them handle machines and tools.

6 When not in use, tools must be stored in a dry location to inhabit rust. Always lock up tools and keep out of reach of children.

7 Do not wear loose clothing or jewelery as they can be caught in moving parts.

8 Keep proper footing and balance at all times. Do not reach over or across running machines.

9 Watch what you are doing, do not operate when you are tired.

10 before using and product, any part that appears damaged should be carefully checked determine that it will operate properly and perform its intended function.

Care, maintenance and storage

1 For your safety, service and maintenance should be performed regularly by a qualified technician.

2 Do not handle the machine or its tools roughly.

3 Use only the branded or recommended machine parts to avoid the damage of machines.

4 Keep needles sharp and tools clean for better and safer performance.

5 Clean the machine with a clean, damp cloth. Don't use solvents or thinners.

6 When not in use, cover the machine and store in a clean and dry location.

7 Clean areas at the end of each class or working. Sweeping the floors, wiping off work surfaces to pick up lint, thread clippings and fibers.

8 When servicing, use only identical replacement parts. Use of any other parts will void the warranty.

9 Use naphthalene balls at cloth cupboards to prevent damage of fabric by insects.

10 Do not dry clothes in sun light continuously for more time, as it will damage the fabric soon.

11 Always place the pins used for pattern works in a pin cushion.

12 Store the necessary tools like screw drivers and oil can in the machine tool box.

13 Keep all the sewing threads in a thread box.

14 Maintain a needle box set with all types and sizes of needles used for stitching.

15 Keep all the sharp tools like scissors, shears, trimmers in a safe place and also with in reach.

Tools and equipments - sewing

Needles

1 Use the suitable needle for suitable hand stitches.

2 Fix the machine needle - flat needle at the flat side of the needle bar.

3 Use only sharp needles.

Thread

1 Do not thread too lengthy threads for hand stitches.

2 Don't use old or damp threads.

3 Place the thread spool in correct direction to assure free flow of thread while sewing.

4 Use hole maker to pierce holes for making eyelet stitches.

5 Do not use this to make holes in any other hard marten as it will blunt its sharp edges.

Scissors

1 Use scissors for cutting paper pattern, handle them with care.

2 Trim threads and cut light fabrics like seam allowances using scissors, before cutting.

Shears

1 Hold the shears with the thumb in the smaller ring and the other fingers on the other used to cut 2 to 4 layers of fabric.

2 While cutting follow the pattern lines and use only sharp shears.

Chalk

1 Use marking chalk to suit the colour of he fabric.

2 Always mark using chalk on the wrong side of the fabric.

Thimble

1 Wear thimble while working hand stitches.

2 Use thimble of suitable size for your fingers.

Measuring tape

1 Always follow any one of the measurement centimeters or inches.

2 Make sure while measuring that the zero point of the tape is placed exactly at the point of the measurement.

Seam ripper

1 Do not use seam ripper for any other purpose than what it is intended.

2 handle them with care to trim the unwanted short threads stitching the garment.

Tools and Equipments

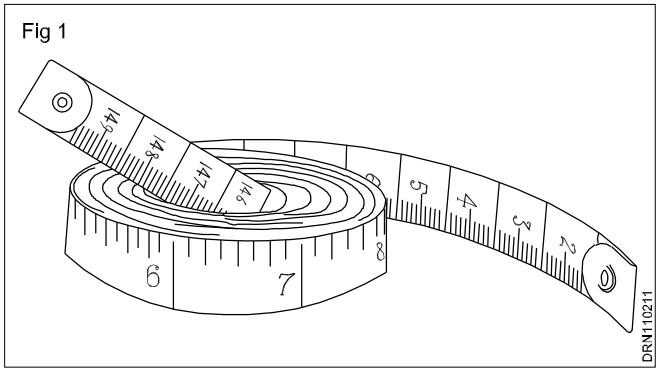
Objectives: At the end of this lesson you shall be able to

- **state various types of**
  - **measuring tools**
  - **drafting tools**
  - **marking tools**
  - **cutting tools**
  - **sewing tools.**

Measuring tape

Flexible fiber glass or fabric measuring tape that is ideal for taking body measurements, measuring patterns and layouts as well as general measuring. Fabric types tend to stretch after prolonged uses. It has marks of inch and centimeter only. Its width is 5 points. It is a measuring ribbon made on scientific base knowledge about the use of fundamental for tailoring. (Fig 1)

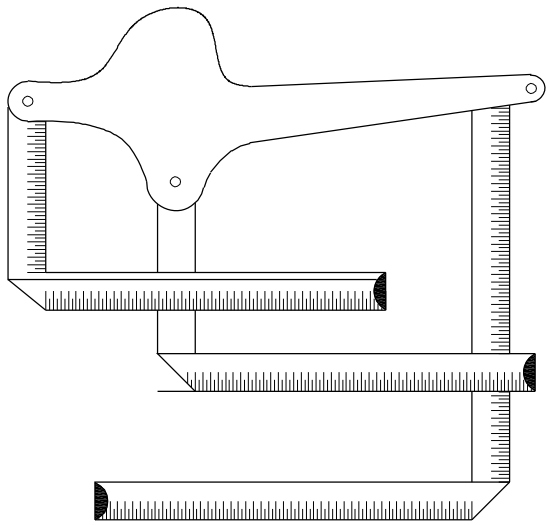
Fig 1



CPG measuring tape

It has been named after the name of its inventor. It is specially used for measuring a coat, by its tape three measurements may be taken at a time – shoulder, chest and depth of side. Apart from this over shoulder is also measured by help of this CPG measuring tape. (Fig 2).

Fig 2

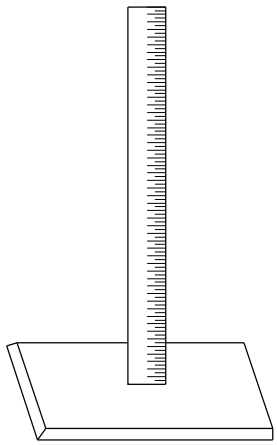


FDN110312

Measuring stand

This stand is used to measure long garments as over coat, ladies nighty, gown etc., as well as to check the flare of enriched garments. (Fig 3)

Fig 3



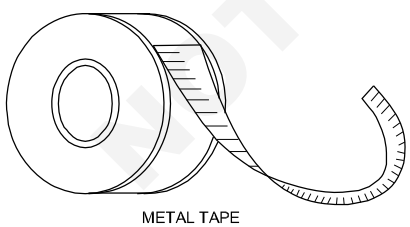
FDN110313

Metal tape

It is convenient and flexible for measuring form or figure.

It is made of flexible metal. (Fig 4)

Fig 4



METAL TAPE

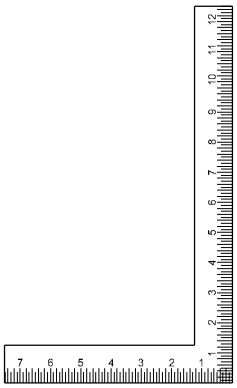
DRN110213

Drafting tools

'L' scale

It is made up of wood or iron, it is called try square also. Its one arm is 12" in length and another is 24" in length. Each inch contains 8 marks. Wooden try square is used in tailoring. (Fig 5)

Fig 5

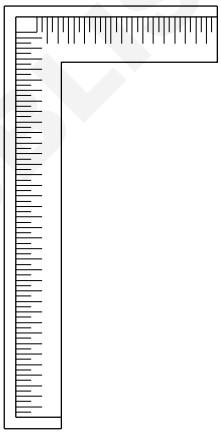


DRN110214

Graduated square

It is also 'L' square scale, but here inch mark are given on the one side and on the other side with ½" marks are in the denomination of ¼, 1/7, 1/16, 1/32 and ride with 24" marks are in the denomination 1/3, 1/6, 1/12, 1/24, 1/48. These marks are used for drafting the patterns. (Fig 6)

Fig 6

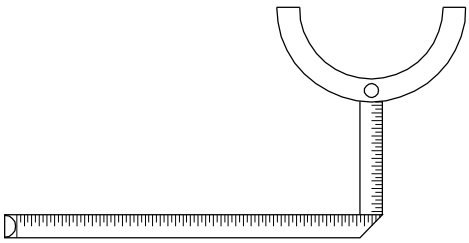


DRN110215

Leg shaper

It is a tape for measuring inner part of the leg. It is made of wood in the shape of crescent and a measuring tape is fixed at the centre of the circle. Circle is entrapped with leg to measure inner portion of leg by tape. (Fig 7)

Fig 7

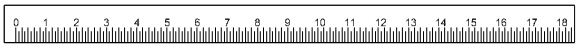


FDN110317

Measuring stick

It has marks of inch and centimeters. It is flexible stick used for checking the grains of the fabric and marking the hems. (Fig 8)

Fig 8

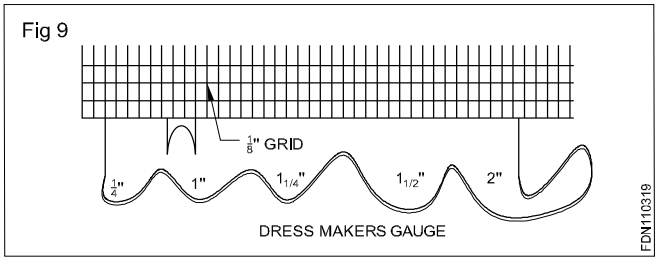


FDN110318

Dress marker's gauge

It has one side with scallop edges and the other side with straight edges. Scallop edge side contains ¼", 1", 11/4", 11/2", 2" where as the other side with straight edge contains 1", 2", 3", 4". Scallop edges used for measuring pleats, tucks etc., and straight edges are used for measuring the button holes. (Fig 9)

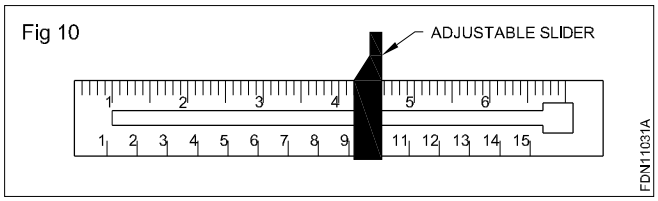
Fig 9



Seam gauge

Seam gauge is 6" ruler with a sliding rod marker has many uses. It is used to mark lens, buttons and button holes as well as design details such as pleats and tucks. (Fig 10)

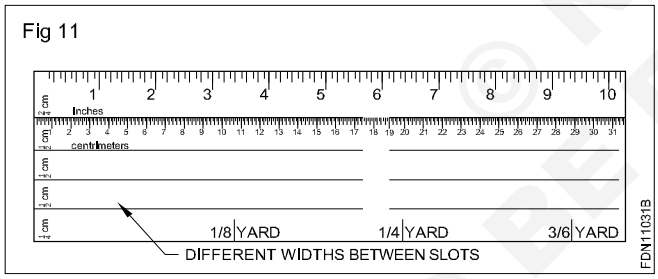
Fig 10



Transparent ruler

It is made of plastic, it has marks of inches and centimeters. It is used for measuring straight or bias lines. (Fig 11)

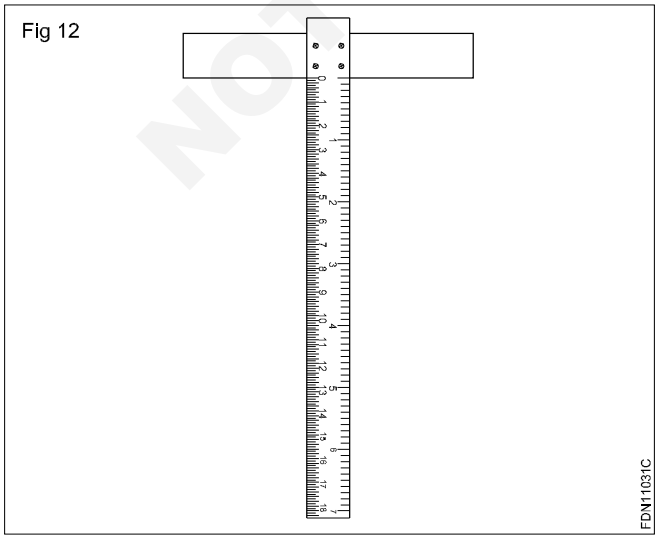
Fig 11



T – square

It is transparent with easy to read the markings. It has marks of inches and centimeters. It is used for measuring the square off straight edges. (Fig 12)

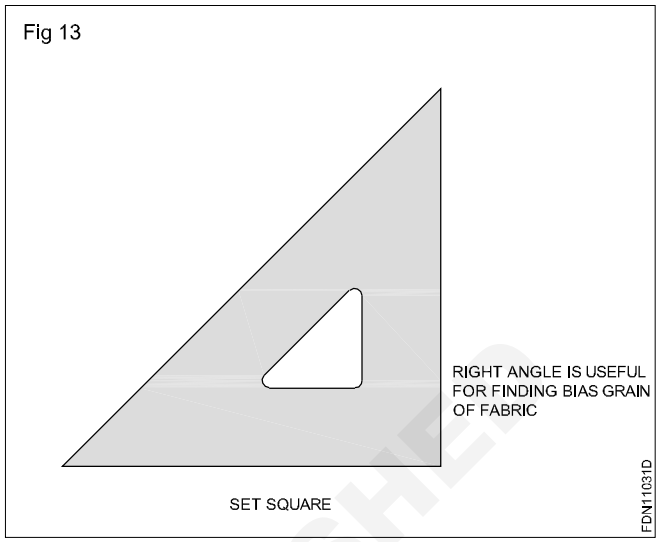
Fig 12



Set square

Set square made of crystal clear, shatter proof synthetic material, metal or wood. They are used in the design and pattern departments. (Fig 13)

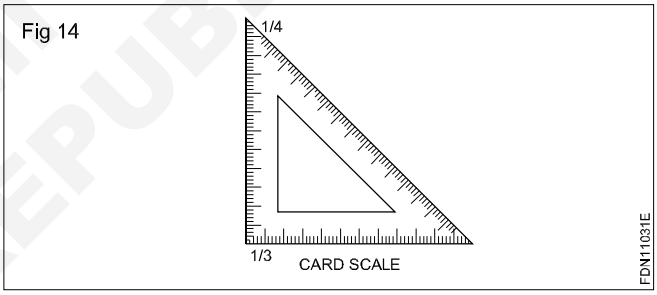
Fig 13



Card scale

It is made up of paper card board. It is commonly used for small drafting in the record note books. (Fig 14)

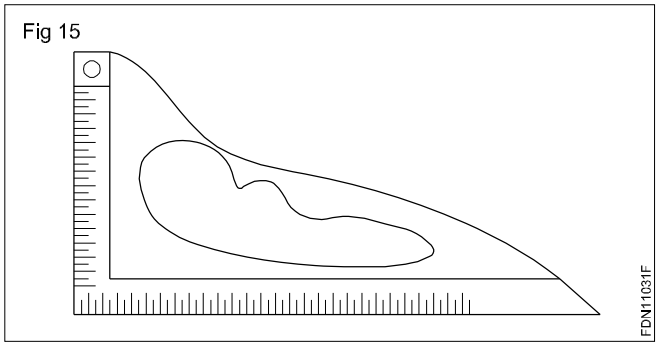
Fig 14



Tailor's art curve

It is made up of wood, plastic and steel. It is also of 'L' shape but other side is closed also and is curved in circles. It contains marks of ½ centimeter on the one side and that of 1/5 centimeter on the other side. (Fig 15)

Fig 15



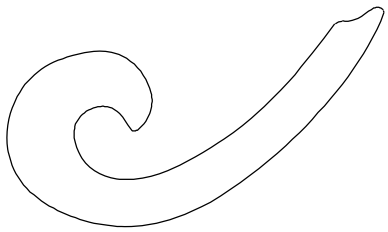
French curve

These are made up of transparent plastic. It is a set of 12 tools in tailoring only 3 or 4 is commonly used. It helps in drawing the shapes of neck, armhole depth, side and bottom. (Fig 16)

Flexible curve

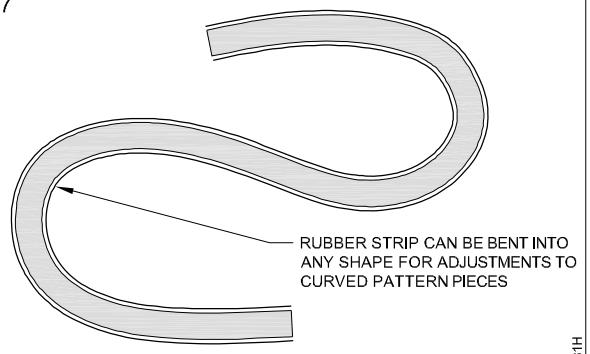
These are made of flexible rubber. It can be bent into any shape of adjustments to curved pattern pieces. (Fig 17)

Fig 16



FDN11031G

Fig 17



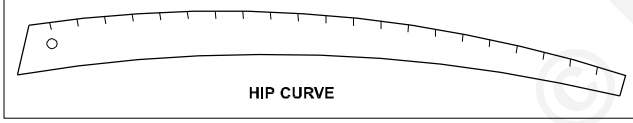
FLEXIBLE CURVE

FDN11031H

Hip curve or Curve rulers

It is made of wood or plastic. It is a slightly circled rod, it is used for drafting the side shape like shirt, pants etc., (Fig 18)

Fig 18



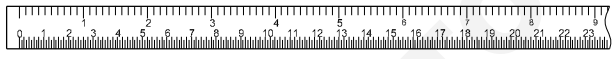
HIP CURVE

FDN11031I

Long rule

It has marks of inch and centimeter. It is used for drawing the straight lines. (Fig 19)

Fig 19

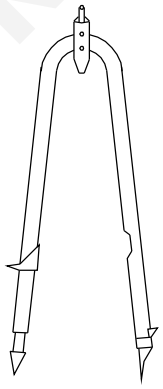


FDN11031J

Compass

It is made of metal and it is used for drawing circles and arcs, in tailoring it helps only for make curve in an umbrella frock. (Fig 20)

Fig 20



FDN11031K

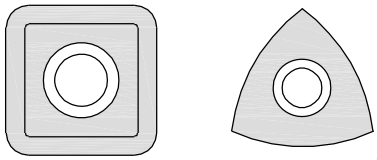
Drafting tools

The most common drafting tools are

Tailor's chalk

This is available in many forms at sewing motions. Tailor's chalk is hard chalk is used to make temporary markings on cloth. Marking pen may be self erasing after 2 to 8 days or can be removed either by wash or by ironing. It is useful for marking on the top of the cloth eg. Pocket position. (Fig 21)

Fig 21

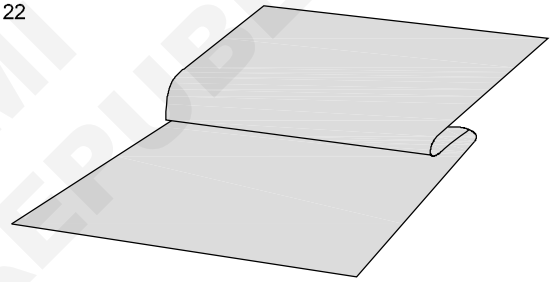


FDN11031L

Tracing paper

Tracing paper is named as such for its ability for an artist to trace an image onto it. When tracing paper is place onto a picture, the picture is easily viewable through the tracing paper. (Fig 22)

Fig 22

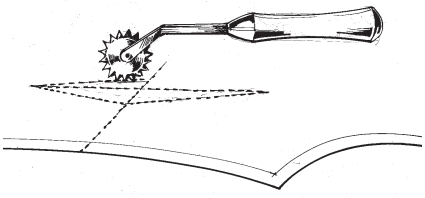


FDN11031M

Tracing wheel

A tracing wheel is with serrated teeth on a wheel attached to a handle used to transfer markings from pattern on to fabric with or without tracing paper. Such markings might include pleats, darts, button holes or placement lines for appliances or pockets. There are two basic types of tracing wheels are available to the modern sewing machine one with a serrated edge and one with a smooth edge. (Fig 23)

Fig 23



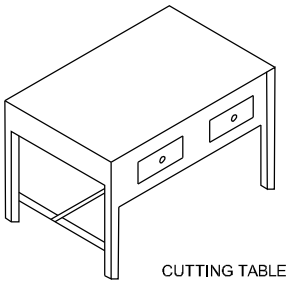
FDN11031N

Cutting table and cutting board

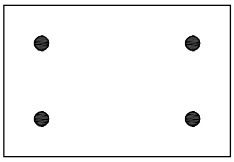
Cutting table is 6 feet wide and 3 feet , one meter height. People who work in standing position use table and those who work in sitting position use board. (Fig 24)

Pins: Straight pins range in length from ½" to 1 7/8" look for sharp, smooth, rustproof pins that can bend with out breaking. (Fig 25)

Fig 24



CUTTING TABLE



CUTTING BOARD

FDN111031O

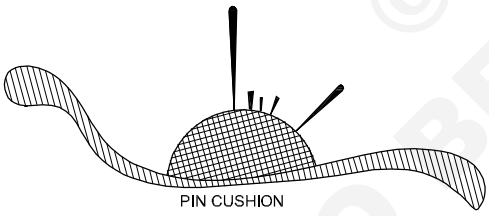
Fig 25

FDN111031P

Pin cushions

Pin cushions are in variety of styles. It sharpens and cleans pins and needles, a rectangular, wrist band pin cushions mounted on a plastic wrist band that is perfect for pin filling and marking hems and magnetic 'grabber' types net marks for easy pin catching. (Fig 26)

Fig 26

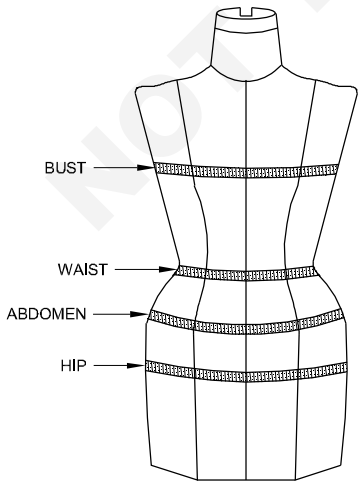


PIN CUSHION

FDN111031Q

Dress form (Fig 27)

Fig 27



BUST

WAIST

ABDOMEN

HIP

FDN111031R

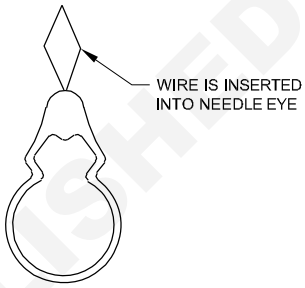
Dress form is used to give a three dimensional view on the article of clothing that is being sewed. They come in all sizes and shapes for almost every article of clothing can be made.

When a piece of clothing is made it can be put on the dress form so one can see how the piece of clothing will turn out. Then one can make alterations up on the clothing on appearance of the dress form.

Needle threader

A needle threader is a small device for helping the thread through the eye of small needles. Most familiar today is the needle threader of Victorian design consisting of a small tinned plate stamped with queen's head and with a diamond shaped steel wire attached. (Fig 28)

Fig 28



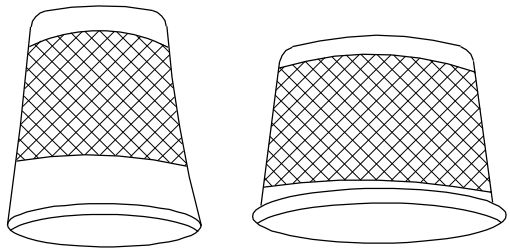
WIRE IS INSERTED INTO NEEDLE EYE

FDN111031S

Thimble

Made of metal, rubber or plastic. This small protective cover slips over the index or middle finger. When hand sewing or quilting a thimble protects the finger tip from pin pricks and it is used to push the needle through multiple layer of fabric. (Fig 29)

Fig 29



FDN111031T

Sewing needles

A sewing needle is a long slender rods with a pointed tip. A needle for hand sewing has a hole called the eye at the non – pointed end to carry thread or cord through the fabric after the pointed end pierces it. Needle rings is defined by a number on the packet.

The convention for sizing is that the length and thickness of a needle increase as the size number decreases. For example, a size 1 needle will be thicker and longer, while size 10 will be shorter and finer. (Fig 30)

Sewing needles and finger protection

Sewing needles are classified by their length and thickness. The usual types are "standard" and "long". (Fig 31)

Fig 30

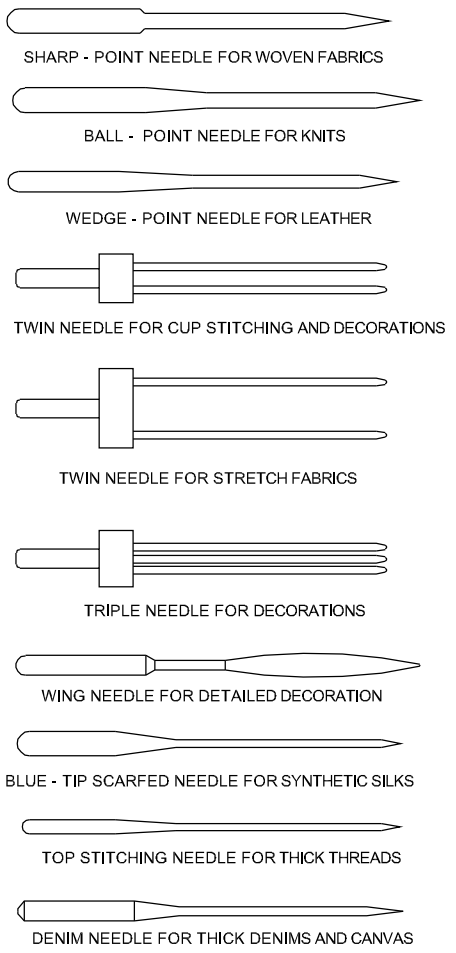
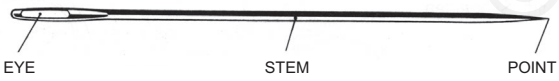


Fig 31

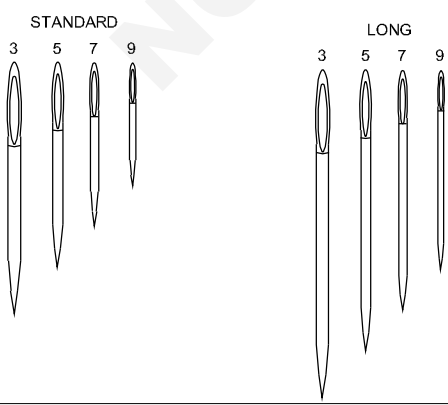


The numbering system is not directly related to the length or thickness of the needles; it serves only to distinguish one needle from another.

The length and thickness of a needle will be chosen according to the fabric to be sewn, the thread to be used and the sewing technique.

Sewing needles are made of nickel-plated steel. They have to be flexible, smooth and sharp. (Fig 32)

Fig 32



The needle has to be able to penetrate the material being sewn, without damaging it, by pushing the yarns aside. Solid materials, such as leather or plastic, will be holed. Sewing machine needles of various types are available. according to the application.

Selection of the needle type will depend on the characteristics of the material, the size of the sewing thread, the type of seam and the stitch type.

Characteristics and Terminology

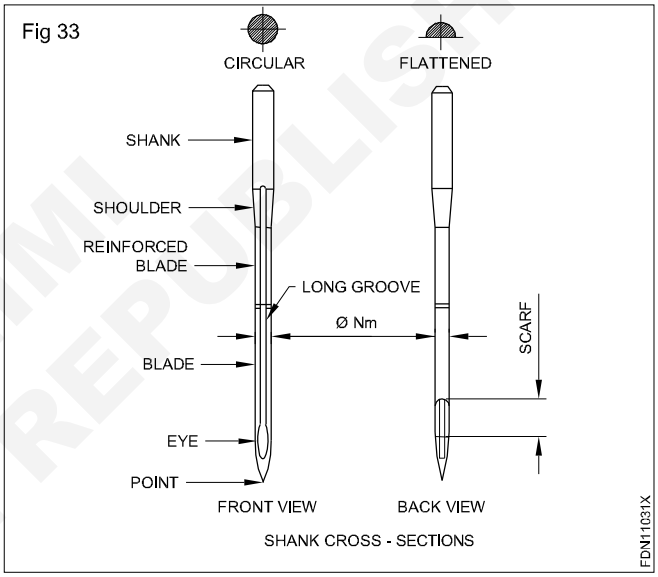
The **shank** locates the needle in the needle bar. The following types are found:

Shanks with a circular section

Shanks with a flat side which serves to locate the needle in a specific position.

Needles in which the thickness of the shank is maintained all the way down the blade. They are used in specialty machines. (Fig 33)

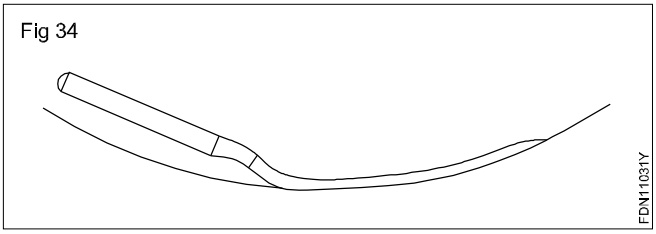
Fig 33



The **blade** of the needle runs from the end of the shoulder to the beginning of the eye. Often the blade will increase in thickness, in stages, from the eye to the shoulder. This reinforcement of the blade increases its stiffness. Moreover, by widening the stitch hole, it tends to reduce the friction between needle and material the upstroke which can help to avoid overheating of the needle.

There are also needles with curved blades (Fig 34) which are used, for example, in blind stitch machines.

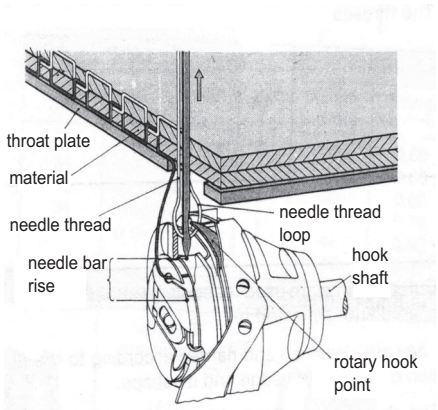
Fig 34



On the threading side of the needle is the **long groove.** Its function is to guide the thread while forming the stitch and to protect it against excessive friction.

Above the eye there is usually a recess or **scarf** across the whole face of the needle. This facilitates the passage of the hook into the loop and reduces the danger of missed stitches. (Fig 35)

Fig 35



The shape of the **eye** is always extended in Its length, because the needle thread has to pass diagonally through the needle in the length direction. The width of the eye is the same as that of the long groove.

Needle sizes

The metric size" Nm" of a needle defines the diameter of the blade (in 1/100 mm) at a point above the scarf.

Fine needles have a size up about 70; medium needles are about Nm 80 or Nm 90; thick needles have a size greater than about Nm 110.

Forming the Needle Thread Loop : First, the needle thread is carried all the way through the material to be sewn and beyond the underside. As the needle begins its upstroke, the thread is retarded by friction between it and the material so a loop is formed in the needle thread. The loop is caught by the point of the rotary hook, enlarged, and passed around the under-thread The needle thread is then withdrawn whilst the stitch is tightened by the movement of the take-up level. These vertical movements are extremely rapid, so the efficient functioning of the long groove, in permitting smooth passage of the thread, is critically important.

Needle Points : Needles are manufactured with a wide variety of needle points appropriate for the differing properties of materials which have to be sewn The needle point can be located either centrally or eccentrically.

There are two basic classes of points, namely Round Points and Cutting Points

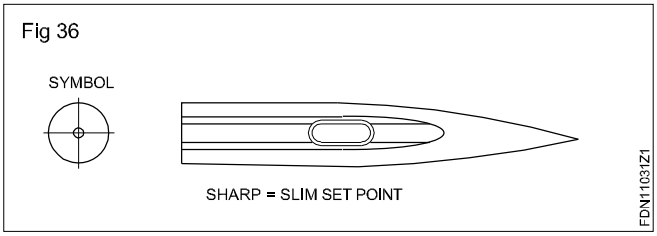
Round Points

Round points have 3 circular cross-section but may have Set points

Slim set points (Fig 36)

Slim set point needles can penetrate the yarns of the material being sewn. They are used for blind stitches and for fine, densely woven fabrics. They are not suitable for knitted fabrics.

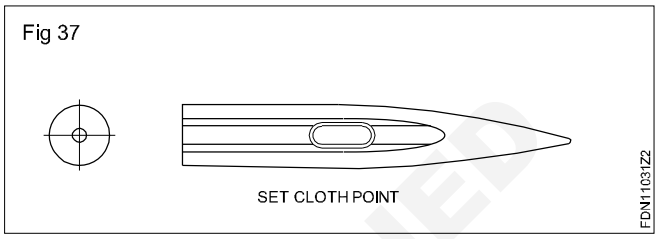
Fig 36



Set cloth point (Fig 37)

The set cloth point is slightly rounded. It displaces the yarns of the material being sewn without damaging them. This is the most versatile point shape

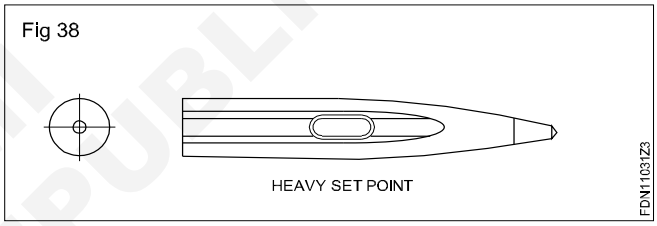
Fig 37



Heavy set point (Fig 38)

The heavy set point is strongly blunted. It is especially used for button sewing machines.

Fig 38

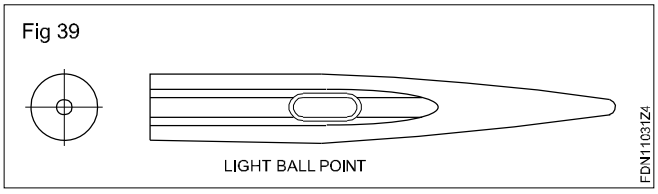


Ball points

Light ball points (Fig 39)

Light ball points are used for sensitive fabrics such as knits, to prevent damage to the loops.

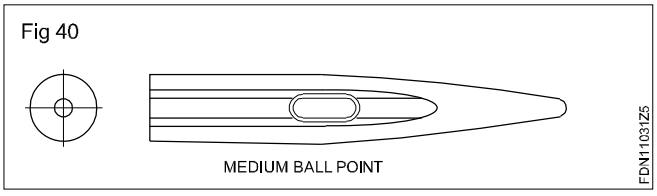
Fig 39



Medium ball point (Fig 40)

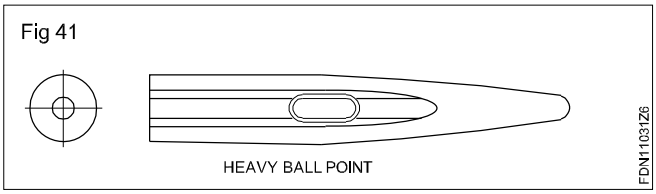
Elastic materials containing rubber or elastornetric threads are sewn with medium or heavy ball points. The threads are not pierced, but displaced .

Fig 40



Heavy ball point (Fig 41)

Fig 41



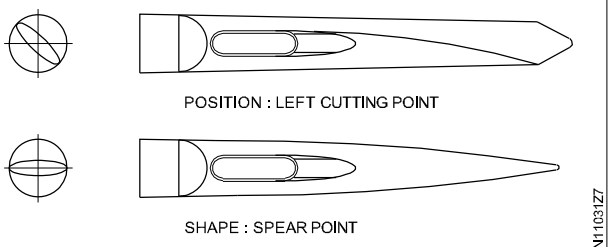
Cutting points (Fig 42)

Cutting points are used for sewing leather and films or coated and laminated textiles.

They are classified and named according to the position of the cutting edge and its shape.

The shapes are named with regard to the form of the cutting edge e.g. spear point, triangular point, diamond point.

Fig 42



Embroidery and Darning needles

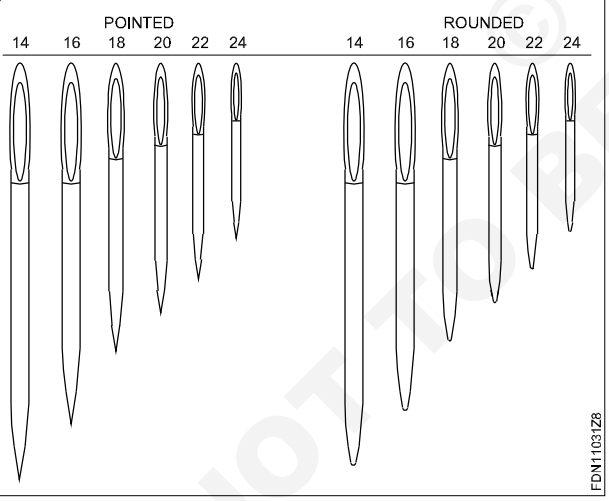
Embroidery and darning needles are particularly thick sewing needles. Material and yarn thickness determine the length and thickness, of the needle to be used.

The numbering system is not directly related to the length or thickness of the needles; it serves only to distinguish one needle from another

Rounded needles are used for coarse materials; pointed needles are used for finer materials.

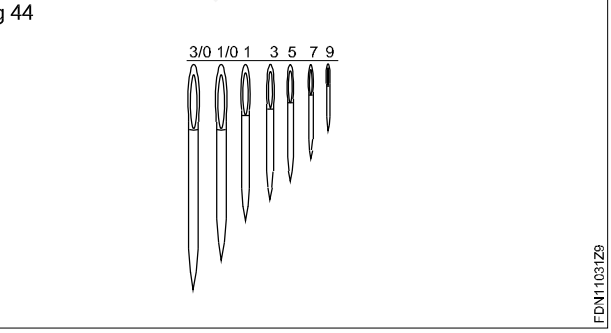
Embroidery needles (Fig 43)

Fig 43



Darning needles (Fig 44)

Fig 44

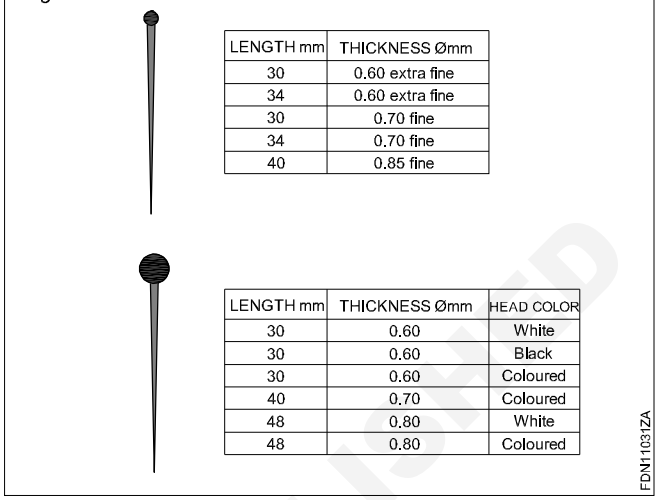


Pins (Fig 45)

Pins are made of steel or brass and may have plastic heads.

The length, thickness and type of pins are chosen depending on the type of fabric and the application (component assembly, decoration, packaging).

Fig 45



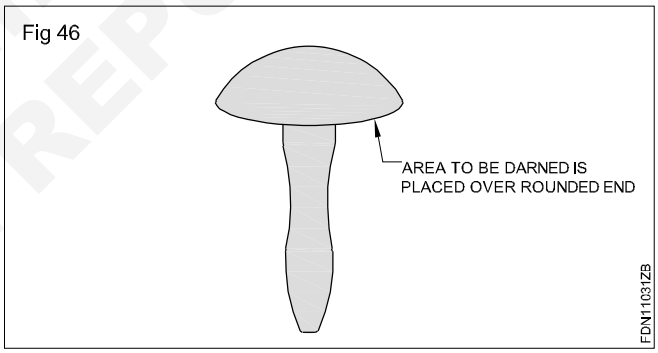
LENGTH mm	THICKNESS Ømm
30	0.60 extra fine
34	0.60 extra fine
30	0.70 fine
34	0.70 fine
40	0.85 fine

LENGTH mm	THICKNESS Ømm	HEAD COLOR
30	0.60	White
30	0.60	Black
30	0.60	Coloured
40	0.70	Coloured
48	0.80	White
48	0.80	Coloured

Darning mushroom (Fig 46)

It is a mushroom shaped tool usually made of wood. The sock is stretched over the curved top of the mushroom and gathered tightly around the stalk to hold it place for darning.

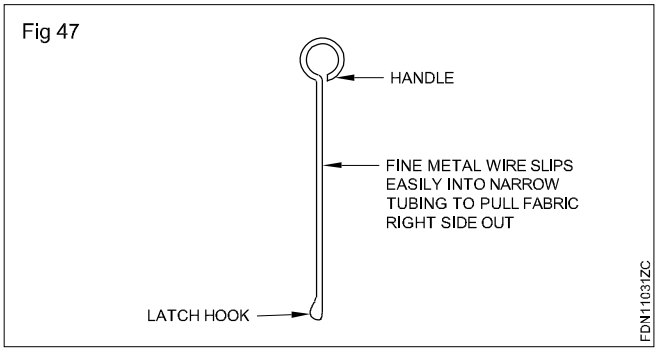
Fig 46



Loop turner (Fig 47)

It is one of the tools designed for turning the fabric tube right side out after it has been sewn. It is made of metal average about 12" (30.5cm) long. At one end they have a large circle through which hooks the fingers to pull them along and at the other side, is a latch hook that can be placed in the open or closed position.

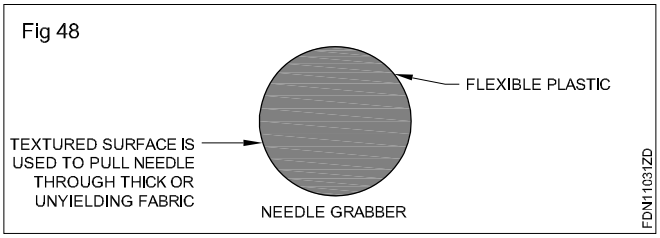
Fig 47



Needle grabber

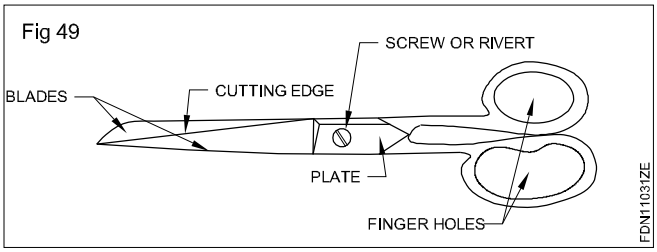
It is a 2 count rubber disc that grip and pull the needle through layer of fabric. It is useful when hand sewing heavier fabric. It provides protection for sensitive fingers. (Fig 48)

Fig 48



Scissors (Fig 49)

Fig 49

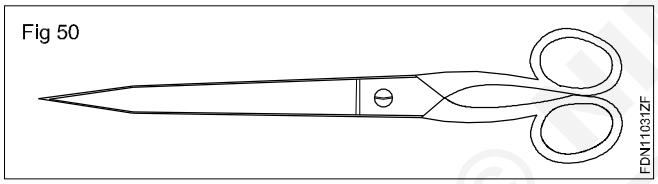


Paper shears (Fig 50)

Paper shears have long pointed blades. The blades are longer than the handles.

They can be used for accurate cutting of thin paper.

Fig 50

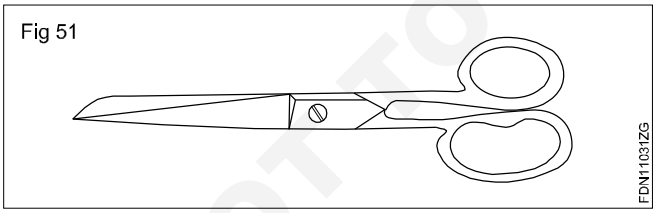


Hand scissors (Fig 51)

Hand scissors are designed to be easy to handle, with their differently-shaped blades and finger holes.

Hand scissors are used in all general purpose cutting operations.

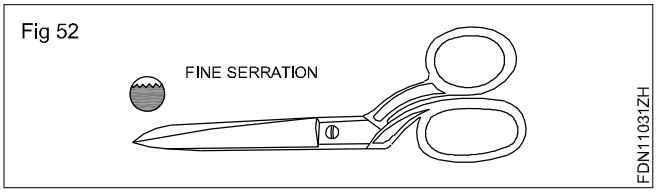
Fig 51



Tailors shears (Fig 52)

Tailors shears are large and stable. The finger holes are specially contoured, shaped and positioned to make it easier to cut thick fabrics. One of the blades is provided with serrations which helps to prevent smooth fabrics from slipping. Tailors shears are suitable for cutting garment components from single layers.

Fig 52

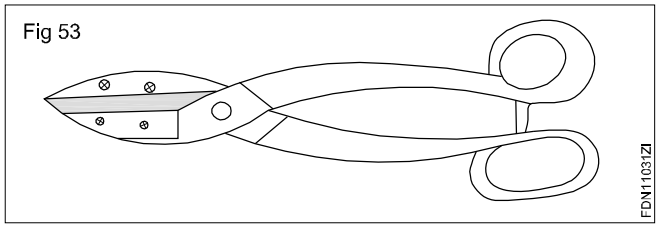


Pattern shears (Fig 53)

The handles, which are strongly contoured, are much longer than the short, strong blades. In heavy duty types the blades are screwed on and can be changed.

They are used for cutting out pat-tern templates from thick card-board, or plastic.

Fig 53

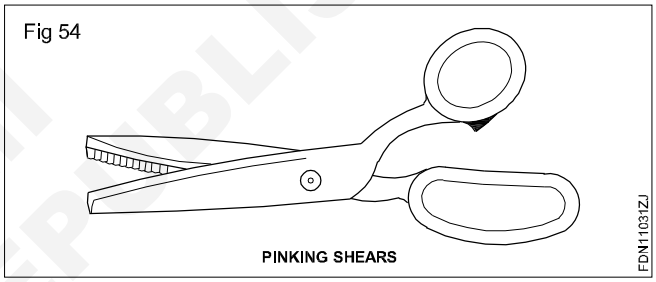


Pinking shears (Fig 54)

The shape and handling characteristics are somewhat similar to tailors shears, but the cutting edges have a zigzag profile.

The zigzag edge of the cut fabric reduces tile tendency for the cut edge to fray and may provide a more attractive trimming.

Fig 54

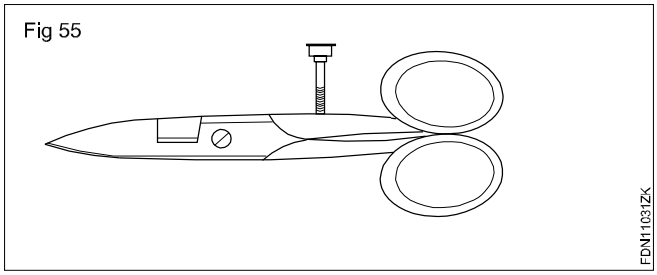


Buttonhole scissors (Fig 55)

A special gap in the blades allows short cuts to be made Inside the edge of the fabric.

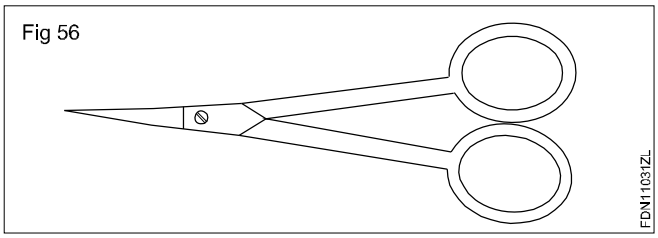
The length of cut can be adjusted by a screw

Fig 55



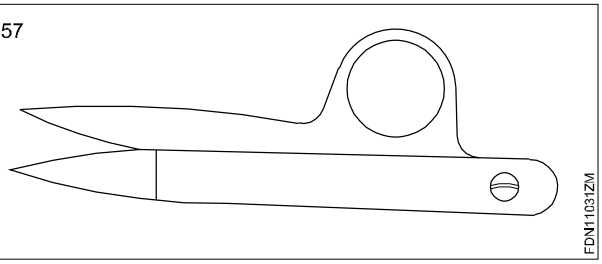
Embroidery scissors (Fig 56): The handles are longer than narrow and pointed blades. They are suited for catching and cutting fine, short threads.

Fig 56



Snippers (Fig 57): The small lightly spring loaded blades open automatically. Allows very rapid and easy snipping and trimming of waste thread, or removal of tacking stitches and opening of seams. Used e.g in fitting, final inspection, and reworking

Fig 57



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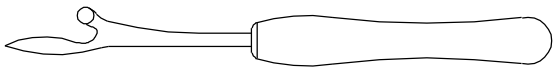
Other tools

Stitch cutter (Fig 58)

The stitch cutter has a hooked edge with an arrowhead. It is especially suitable for opening up machine made button holes.

Fig 58



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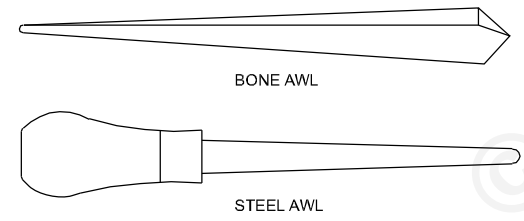
Awl (Fig 59)

An awl is made of bone, plastic or metal. It tapers to a point and has 2 smooth surface.

It is used for rounding off button eyes or draw string holes and for pulling out threads

Fig 59



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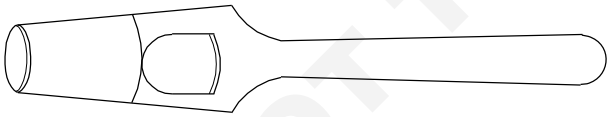
Hole punch (Fig 60)

Punches are available in diameters of 2 mm to 25mm.

The punch is generally used for making holes in cards or plastic pattern templates or cutting patterns.

Fig 60



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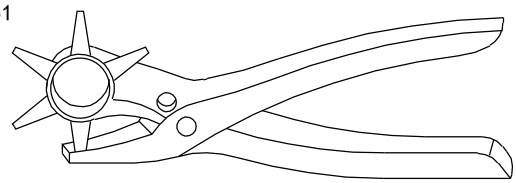
Revolving hole punch (Fig 61)

The revolving punch has a magazine of punches of different diameters.

It is used to make holes close to the edge of the fabric.

Fig 61



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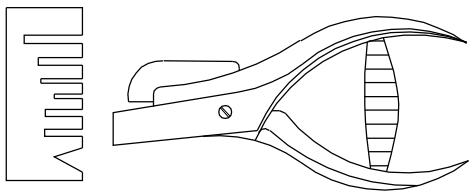
Notcher (Fig 62)

Makes notches of various shapes according to requirements.

Used for placing positioning marks on cutting patterns, e.g. balance marks and seam allowances.

Fig 62



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Bobbin (Fig 63)

Bobbin is a spindle or cylinder with or without flanges on which wire, yarn, thread is wound. Bobbins are used in sewing machines. It is used in spinning, weaving, knitting, sewing or lace making. The bobbin provides temporary storage for yarn and also made of plastic material.

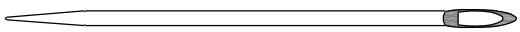
Fig 63

FDN11031ZS

Bodkin (Fig 64)

A sharp slender instrument for making holes in cloth or a blunt needle with a large eye for drawing tape or ribbon through a loop or hem.

Fig 64



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Plastic point turner (Fig 65)

The pointed end is used to poke the corner right side out when turning corners and its rounded end smooths out curves and seam. It gently helps for a nice, crisp corner, curve or seam.

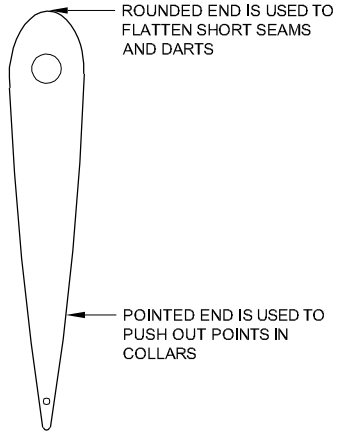
Bias binding maker (Fig 66)

It is used to finish off the edges of placemats, quilts and other items. It is used to create piping. It varies in sizes like ¼" and ½" tape makers.

Cutting tools & techniques

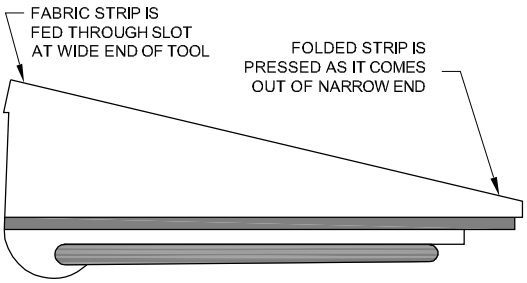
After the patterns are laid on the fabric lay, the outlines of the patterns are marked using marking chalk. Then the fabric lay is cut along the pattern mark using cutting machines. Cutting machines are generally used for cutting various parts of garments, lining fabrics, fusing fabrics, etc., Cutting machines are available in different forms, shapes and sizes with varying capacity and purpose.

Fig 65



PLASTIC POINT TURNER

Fig 66



Types of cutting machines

1 Straight knife cutting machine

2 Band knife or Roller knife cutting machine

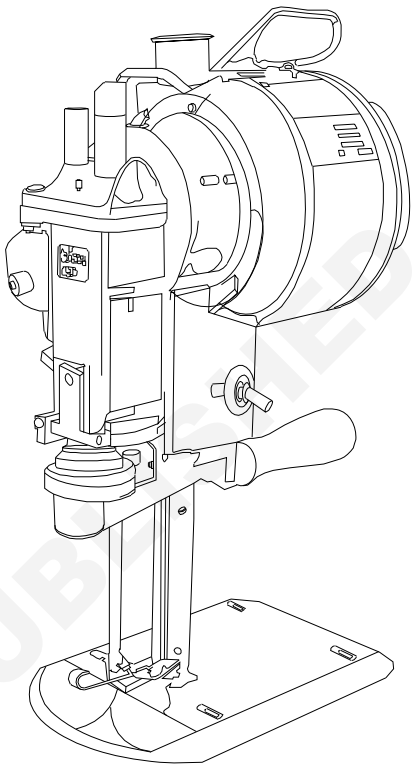
3 Round knife cutting machine

4 Die cutter

1 Straight knife cutting machine

The straight knife cutting machine consists of a base plate, an up right stand to hold the vertical blade, motor, a handle for moving assembly, a sharpening device and a handle to transfer the whole assembly from one place to another. Two kinds of power is required to operated a straight knife. Motor power drives the reciprocating blade and operator power drives the knife through the lay. Normally the available blade heights vary from 2.5 to 4.5 cm. The greater the blade movement the faster the blade cuts the fabric and more easily the operator can move the machine. The most important consideration is selecting a straight knife is the power required from the operator to move the knife through the lay, operator effort is affected by the weight of the motor, the shape of the stand, handle height, stroke, sharpness of blade and the base plate movement. The normal blade has a straight edge that varies from coarse to fine depending upon the type of the fabric being cut. Wavy eaged knifes are used to reduce the heat generation and hence can be used for cutting synthetic materials without fusing difficulties. The speed of the blades can also be adjusted by having variable speed mechanism. The straight knife is a common means of cutting lays in conventional cutting rooms because it is versatile, portable, chapter than a band knife and easy to maintain. Even if a band knife is used for main cutting operation, a straight knife will be used to separate the lay into sections for easier handling. (Fig 67)

Fig 67



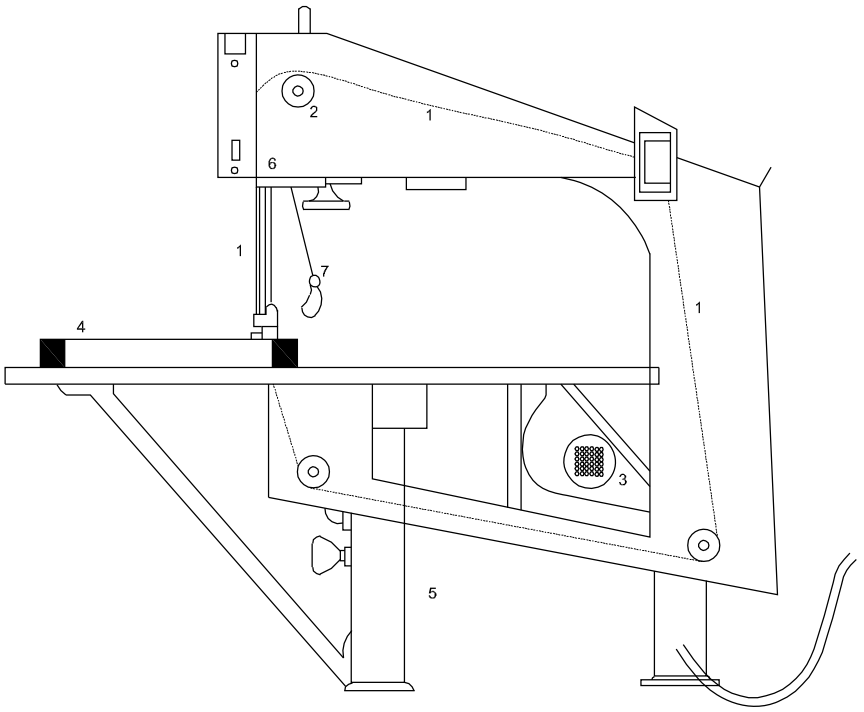
STRAIGHT KNIFE CUTTING MACHINE

2 Band knife or Roller knife cutting machine

A band knife comprises a series of three or more pulleys powered by an electric motor, with a continuously rotating steel blade mounted on then, one edge of the blade is sharpened. The principle of operation is different from a straight knife, in that the band knife passes through a slot in the cutting table, in a fixed position and the section of lay to be cut is moved past it. The blade is usually narrower than on a straight knife. (Fig 68)

Band knives are used when a higher standard of cutting accuracy is required than can be obtained with a straight knife. Space must be left around garment parts when marking so that they can be cut from the lay using a straight knife and then cut exactly using the band knife. When small parts such as collars, cuffs and pockets are cut, a template of metal or fibre board in the shape of the pattern piece may be clamped to the section of lay on top of the marking which is then drawn past the band knife blade, cutting exactly along the hard edge. Bard knife cutting machines are used more in mens wear than in women's wear and are often used to cut large garment parts such as the large panels of jackets and over coats.

Fig 68



1. BANDKNIFE
2. PULLEY
3. MOTOR
4. WORKING TABLE
5. STAND
6. SHARPENING DEVICE
7. HANDLE FOR SHARPENING

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Difference between Straight knife and Band knife cutting machines

S. No.	Straight knife cutting machine	Band knife cutting machine
1	It has straight blade.	It has endless blade.
2	Here the fabric lay is stable and machine lay is moveable.	Here the machine is stable and fabric is movable.
3	Less accuracy compared to band knife.	More accuracy compared to straight knife.
4	It is portable.	It is big size not easily transferable.
5	It is not having cutting tabled. It has base plate only.	It has a wide cutting table.
6	It is safer and there is no need of safety tools like gloves.	The machine needs safety measures like Iron gloves.

3 Round knife cutting machine (Fig 69)

Fig 69

The elements of a round knife cutting machine are a base plate, above which is mounted an electric motor, a handle for the cutter to direct the blade, and a circular blade rotating so that the leading edge cuts downwards into the fabric. Blade diameters vary from 6 cm to 20 cms. Round knives are not suitable for cutting curved lines in high lays because the blade does not strike all the plies simultaneously at the same point as a vertical blade does. Therefore a round knife is used only for straight lines or lower lays of relatively few plies. It is naturally much more difficult for a circular blade to cut a tight curve, such as an arm hole.

4 Die cutters (Fig 70)

Die cutting machines are having most accuracy than the other cutting machines like straight knife, band knife and round knife cutting machines. It is rarely used in the garment industries. The 'Die' is a knife made of iron in the

shape of pattern pieces like collars and cuffs. In a die cutting machine a small cutting table has been provided and above the table the dies are fixed with the help of iron bars. After laying the fabric on the cutting table, with the help of a switch we can activate the 'Die' for cutting. The die is moving fast from it's top position, presses the fabric lay and cuts the lay as per their shape. Hydraulic pressure is normally used to move the die.

Fig 70

Advantages

It has the most accuracy than any other cutting machines.

Disadvantages

1 The cost if the machine is very high.

2 It consumes more fabric and makes more fabric waste.

3 The dies are loosening its sharpness quickly and replaced with a new one. And also, the preparation cost or production cost of a die is very high.

Due to the above disadvantages the die cutters are not mostly used in garment Industries. In some Industries, it is being used for cutting non-woven interfacing for collars, collar bands and cuffs.

Fusing Technology

Fusing

Fusing is process of fixing the interfacing fabric (Commercially known as 'Canvas Fabric') with the facing fabric with the help of heat treatment. For that the used 'Fusible interfacing' has a gummy coating at one side which is applied to fuse and fix with the fabric. The machine which is used for fusing process is known as 'Fusing Machine'.

Fusing Machine

1 This machine is used to attach the fusible interfacing of Collar, Cuff with their respective fabrics by Fusing (Heating) action.

2 After the fabric with interfacing are placed on a part like tray, it is moved into a place where the fusing action is being done by heat pressing action.

3 We can adjust the temperature & Pressure according our requirements.

4 There are different fusing machine types are steam press, flat bed press, continuous fusing press etc.

5 These machines are suitable for both woven and knitted garments.

There are different types of fusing machines are used in garment industries. Following are the three important types.

1 Steam Press Fusing Machine

2 Flat Bed Fusing Machine

3 Continuous Fusing Machine

Pressing tools & techniques

Principles of pressing technology

It is important to press the garments during and at the end of their production for giving shape and better finish. Pressing is also very important to give luster to the garment for better presentation and packing.

Classifications of Pressing.

Pressing can be classified in to two types.

a Under Pressing

b Top Pressing.

a Under Pressing

This is the term used to describe the pressing operations performed on garments while they are being made up. For example. While manufacturing a shirt, Pocket should be pressed for getting good shape before attaching with the Front part.

b Top Pressing

This refers to the finishing operations which a garment undergoes after being completely assembled. Example, A completely sewn tops is pressed for packing process.

The above both groups involved a large no. of individual processes and their applications determined by the cloth, quality and design of the garment. But, the following basic components of pressing are the same.

Components of Pressing

1 Steam

Steam and heat are necessary to relax the fabric and make it pliable enough for fixing the correct shape and size of the garment. The combined effect of steam and heat is to slightly soften the fabric structure to get the required effect.

2 Pressure

When the cloth has been relaxed by steam, pressure is applied which sets the fibres into their new position. An example of the combination of steam and pressure is the pressing of a crease in a Trousers.

3 Drying

After the application of steam and pressure, the component or garment must be dried and cooled so that the cloth can revert to its normal moisture content and

stable condition. This is achieved by vacuum action which removes the surplus water in the fabric and cools it at the same time. For some pressing operations, hot air or infra-red heating is used instead of vacuum for drying.

4 Time

The length of time that the garment is subjected to steam, pressure and drying depends on the fabric and part being pressed, there is an optimum time for each component.

Pressing Machinery and Equipments.

The design and development of Pressing machineries and equipment is never ending since the invention of the first mechanically operated pressing machine in 1905. Today, there are over 500 different types of general and special purpose pressing machine ranging from those for one simple operation to combination machines capable of performing every operation required for a garment (Ex. Men's Jacket). Some of the items of machinery and equipment in general use are:

1 Electric Irons (Fig 71)

These are light weight irons weighing about 1.4 Kg with a heat range of between 70 and 240 degree Celsius and electronic temperature controls that have a reliable accuracy of + or - 3 degree Celsius. This type of iron is made in a variety of shapes and is mainly used for smoothing or finishing operations where steam is unnecessary. If, for some reason dampening is required, distilled water can be finely sprayed on to the area with spray pistol operated by compressed air.

Fig 71

Electric irons

2 Electric Steam Irons

Electric Steam pressing machines are widely used in industries. These are the most commonly used type of hand irons and carry out a wide variety of operations, especially those concerned with under pressing. A steam pressing machine consists of an iron box, a steam generating unit and an exhausting arrangement. Here pure water is converted into steam for pressing the garments.

The iron has a heating element, and steam is fed from a central or independent boiler into the steam chamber in the base of the iron. The steam is superheated by the element and released as required through perforations drilled in the iron soleplate. A micro-switch in a convenient position at the side of , or within the handle release the steam. Also an exhausting arrangement with a fan is used below the pressing table which is used to release the steam air by penetrating through the garment being pressed.

These machines are also equipped with well cushioned ironing table with sleeve board. The advantages of steam pressing machine are,

i Less Weight

ii Ladies also can easily operate

iii No need of applying water

iv Very good finishing

v Give very higher production

The main care of this machine is requiring proper maintenance. Otherwise severe accident will occur due to the burst of the boiler. (Fig 72)

Fig 72

Electric steam irons

3 Hot air irons

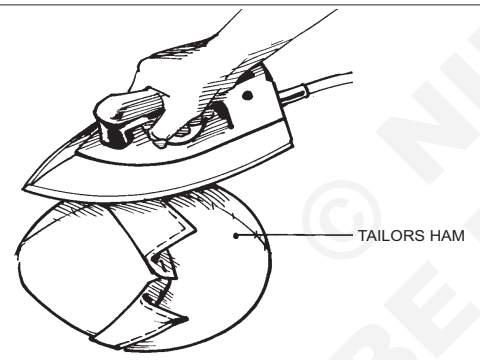
Here, air is heated and hot air is used for pressing. This is not a popular one because it less effect and complicated mechanisms.

Ironing board/pressing table (foldable)**:** It is a flat, hard board, made of either wood or metal. The board is stuffed with cotton and covered with cotton fabric and it is fixed on an adjustable stand to vary the height. (Fig 73)

Fig 73

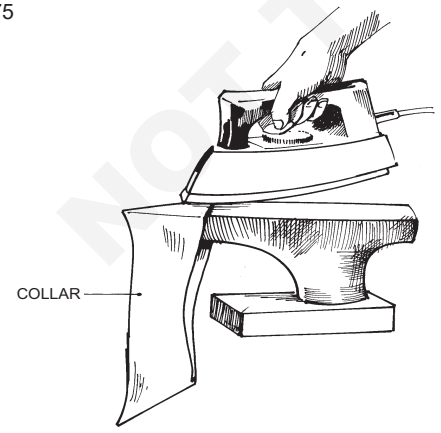
Tailor's ham: It is a firmly packed cushion with rounded ends. It is used for pressing shaped areas such as bust darts and curved seams; it is also used for moulding the corner. (Fig 74)

Fig 74



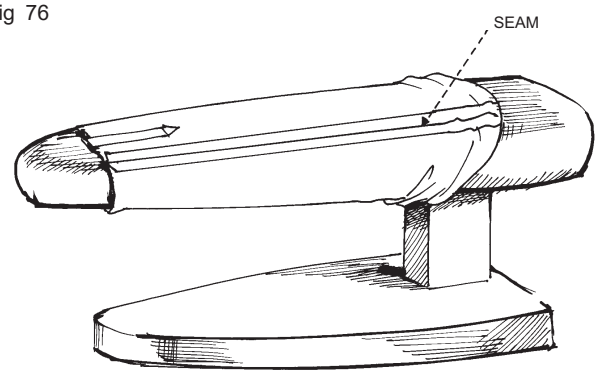
Point presser: It is a sharp pointed wooden board and is used for pressing seams in collars and for helping to bring out the sharp points in collars, cuffs etc. (Fig 75)

Fig 75



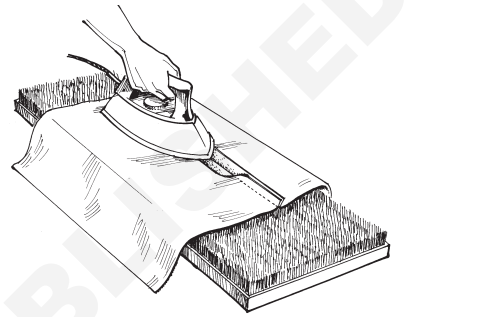
Sleeve board: It is a board with a narrow, long, flat surface on which the seams and details of the narrow sections of the garment, such as the sleeves and the legs of the trouser can be easily pressed. (Fig 76)

Fig 76



Needle board: It is a board with a collection of small needles fixed on a wooden board. It is used to press pile and nap fabric (e.g. corduroy, velvet) (Fig 77)

Fig 77



Pressing is as important process during and after stitching. Pressing will remove wrinkles, sharpen creases, flatten bulky layers and open seams. Pressing can shrink or stretch a fabric.

The main factors involved are heat, pressure and humidity. These factors have to be harmonized with the fabric which shall be pressed.

Pressing is done

– During the construction of a garment (press flat seams, darts, press components in shape etc.)

– For finishing of a garment after stitching.

Differences between **ironing & pressing**: Ironing is the process by which the iron is pushed along the fabric in lengthwise or crosswise direction. The ironing process is used for garments after they have been constructed.

Pressing is the process by which the iron is lifted up and set down on the fabric in a series of up and down motion, in the lengthwise and crosswise direction. Pressing is done for all garments during the process of constructing.

Safety precautions

– Do not let iron cord drag over your work.

– Either use the iron stand or tilt the iron when not in use depending on the type of iron you have.

– Do not scorch the ironing board cover.

– If starch is stuck to the iron, let it cool and then scour with soap or non-scratching scouring powder or baking soda.

– Use distilled water for steam irons; empty the same when you have finished your work.

– Make sure that there is no leakage of electricity in any part of the iron, the wire and plug pins.

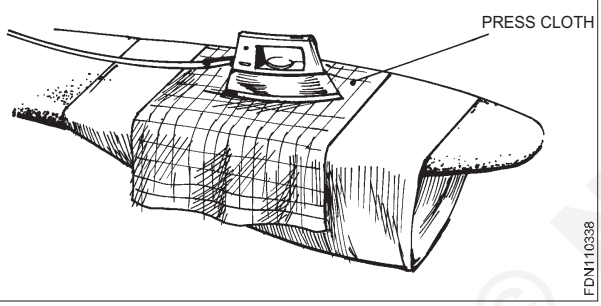
– Never leave the heating surface of iron on the ironing table or on the cloth when in rest, the iron must be kept in erect position.

Set the regulator or control on your iron correctly for the less heat resistant fibre in your fabric. Temperatures are not always clearly marked on the iron dial but should be graded from hot to cool in this order: linen - cotton - rayon - wool - silk - nylon (and other artificial fibres).

Wet pressing can easily be done with a steam iron. Otherwise sprinkle water directly on the fabric and leave it for a minute before ironing.

Another method of wet pressing can be done with the help of a damp cloth. It is used for linen or wool fabric. For some fabrics like spun rayons, embossed and glazed fabrics its better to press dry. (Fig 78)

Fig 78



Techniques for pressing during construction

– Pressing over basting is frequently necessary along edges with enclosed seams, pleats or hems. After a first light dry pressing, clip the basting, remove and press again with dampness before the marks made are set on the fabric. Never press over pins.

– Press with the grains, also on bias components press along the grains.

– Have scissors handy at the pressboard to release any pull from points that are not sufficiently slashed. Corners or curves that are to be trimmed or slashed closely are less likely to fray if they are dampened and well pressed before cutting.

– After a piece of garment is pressed, keep it pinned up on a coat hanger or spread out carefully to dry so that you won't have to give it another pressing.

– Gathers are pressed by folding firmly at the stitching line in your left hand. For slow work reduce the heat.

– Hold the side of the iron closely parallel to the stitching line when fullness is to be shrunken out.

– Press-buttons, embroidery, lace, beading, braiding are to be pressed from the wrong side over a soft pad such as layers of turkish towel.

– Press collars, cuffs, belts and pockets first on the wrong side then finish them on the right side very lightly over a press cloth. Press first along the edges firmly, remove basting, press again. Work from the outer edges towards the inside.

Finishing and folding

Objective: At the end of this lesson you will be able to
• explain the importance and basic technique of finishing a garment.

Finishing is a very important operation after stitching a garment. It adds to the quality because it gives a better look. Finishing can be grouped into trimming, ironing and folding. Sometimes washing of a garment is also done during the finishing process.

Trimming: Trimming is a process of cutting off unnecessary threads from the finished garments. For each garment there is a sequence that should be followed in order not to miss out any section. Start from the upper sections to the lower section, eg. in case of a shirt the trimming starts from collar, to yoke, sleeves, bodice front and back, bottom hem and fasteners.

In the lower garment, start from the waist line (waist band) to plackets, pocket mouth, fork and hip line, side seams, inside leg to the bottom hem line. Before trimming, check the garment for missing stitches. At the end of trimming all loose cut threads must be removed from the garment.

Ironing: The main purpose is to remove creases which are formed during sewing. This gives a better look to the garment.

Folding: In case the dress cannot be placed on a hanger it has to be folded. Basic techniques are described below. The **shirt** is placed on the table back side up.

– Both side seams are folded on the back so that they meet in centre.

– Sleeves are placed in the length of the shirt on either side.

– Bottom is folded back to a narrow width then the piece is folded to its half (lower folded edge should be slightly below the collar). (Fig 1)

Trouser (with center crease line): Before folding set the trouser by holding it on its waistband and let the pocket pouch and legs hang straight. Then hold the legs and match the inside seam and side seam of each leg. Then bring both legs together. And set the placket opening flat in its place. Then make three folds on the length. (Fig 2)

Fig 1

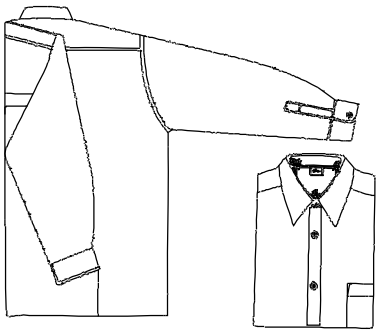


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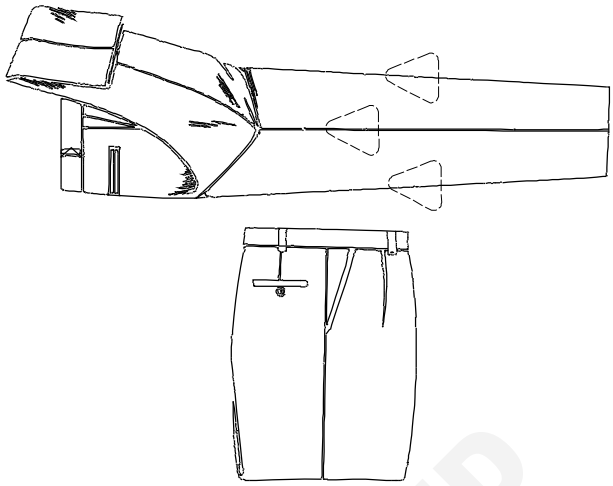
Fig 2



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Sewing machine types - parts - maintenance

Objectives: At the end of this lesson you shall be able to
- **define the parts of the machine and name their function**
- **explain all the required maintenance work for the proper functioning of the machine.**

Types of sewing machines: Sewing machines are various models such as domestic model, tailor model, industrial model, portable model and cabinet model are available in the market. When you buy a sewing machine, select one that is made by a well-known manufacturer. They may be operated by hand, treadle or electric motor. Good work can be done in a hand machine but it is slower than a treadle, which leaves also both hands free to manipulate the fabric. An electric sewing machine is ideal, being less strenuous and quicker to use because the hands are free to manipulate the fabric. If you are interested in fancy sewing, you may select the new models with decorative stitching attachments. A beginner will find the foot or treadle machine easier to handle, since it is easier to control the speed.

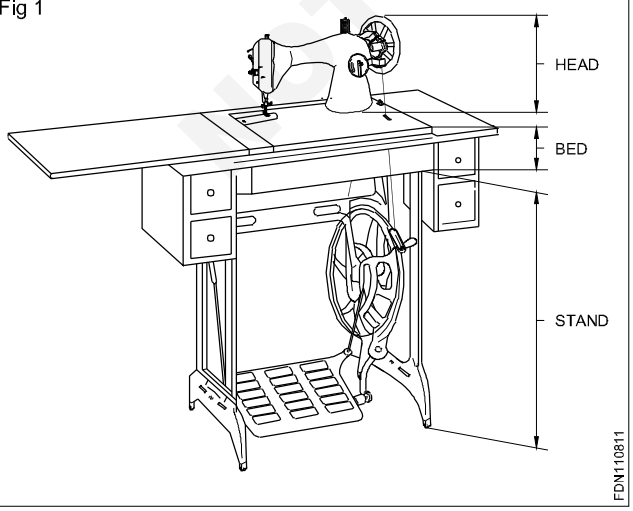
The invention of the sewing machine was a great progress in dress making since sewing became faster, seams were more durable, stitches were more even. Main feature of sewing with machine is the use of top and lower thread which are inter-linked in stitching progress.

If you have a hand machine, you need practice to turn the wheel smoothly with your right hand and guide the fabric with the left hand.

An electric sewing machine is operated by knee or foot control of an electric motor. A little practice is required to control the pressure needed to operate the machine at any desired speed with an even regular rhythm.

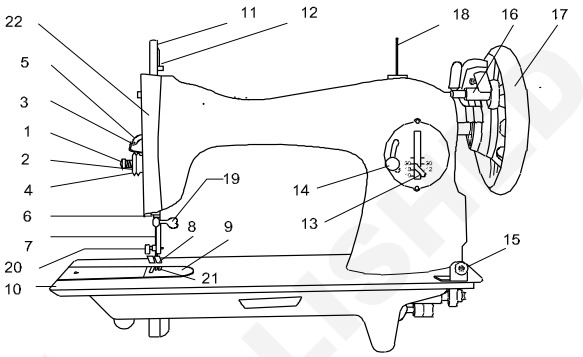
The treadle sewing machine and its parts: Most of the parts are common in all sewing machines. Each machine has a so called machine head and machine bed, while the stand and its part is a typical feature of the treadle sewing machine. (Fig 1)

Fig 1



The parts of the head are as follows. (Fig 2)

Fig 2



1. TENSION NUT	12. PRESSURE BAR
2. TENSION DISC	13. STITCH REGULATOR LEVER
3. EYELET	14.STITCH REGULATOR LOCK SCREW
4. THREAD TAKE-UP SPRING	15.BOBBIN WINDER THREAD GUIDE
5. THREAD TAKE-UP LEVER	16.BOBBIN WINDER
6. THREAD GUIDE	17.BALANCE WHEEL
7. NEEDLE	18.SPOOL PIN
8. PRESSER FOOT	19.NEEDLE CLAMP
9. NEEDLE PLATE	20.PRESSER FOOT SCREW
10. SLIDE PLATE	21.FEED DOG
11. NEEDLE BAR	22.FACE PLATE

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Spool pin (No 18) holds the spool of thread.

Thread guide (No 6) holds the thread in position from the spool to the needle.

Tension disc is a simple mechanism, where two concave discs are put together with the converse sides facing each other. The thread passes between the two. The tension of the thread is adjusted by a spring and a nut, which increases or decreases the pressure on the disc, ie. the thread. (Fig 3)

Take up lever is fitted to the body of the arm which receives its up and down motion from the front. At the outside end of the lever, there is a small hole through which the thread passes. There are two functions of this lever:

– To feed the thread to the needle

– To tighten the loop formed by the shuttle (Fig 4)

Face plate is a removable side cover which gives access o the oiling points on needle bar, pressure bar and thread take-up. (Fig 4)

Fig 3

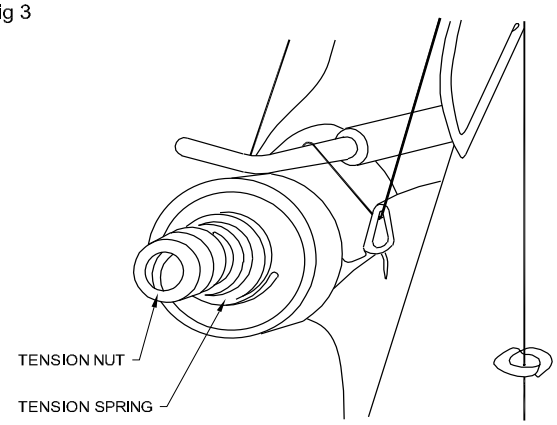
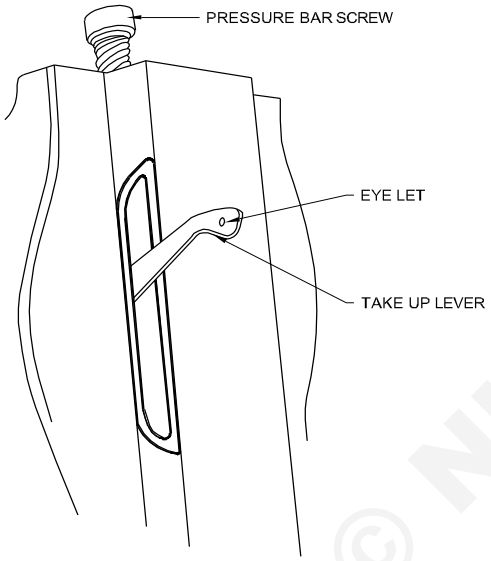
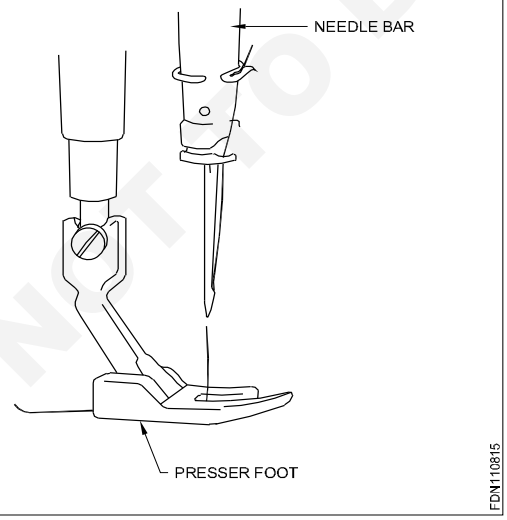


Fig 4



Needle bar is a steel rod, which holds the needle at one end with the help of the clamp. (Fig 5)

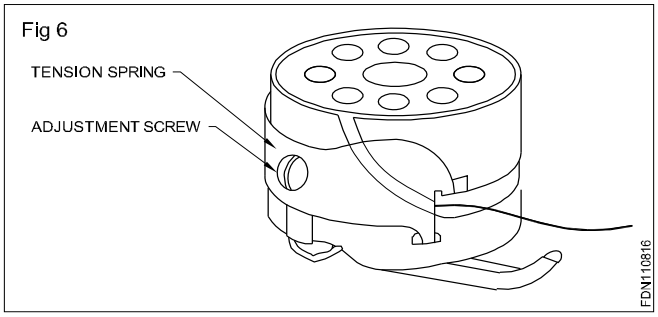
Fig 5



Presser foot is attached to the presser bar and it holds the cloth firmly in position, when lowered. (Fig 5)

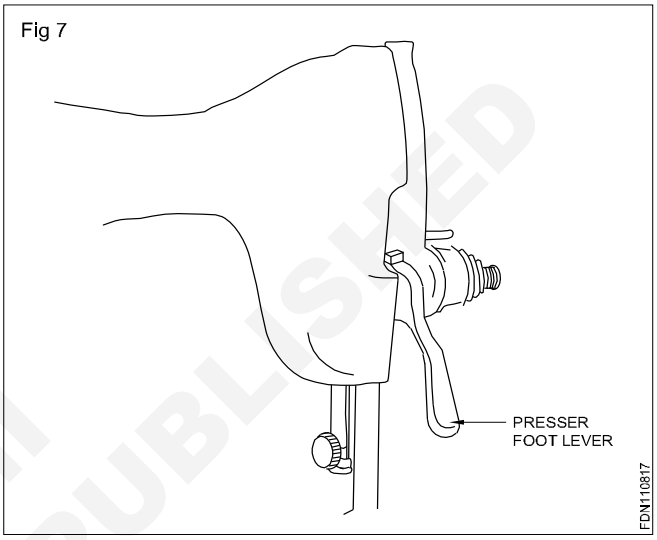
Bobbin case moves into position to catch the top thread and forms the stitch, as the needle is lowered into the bobbin chamber. (Fig 6)

Fig 6



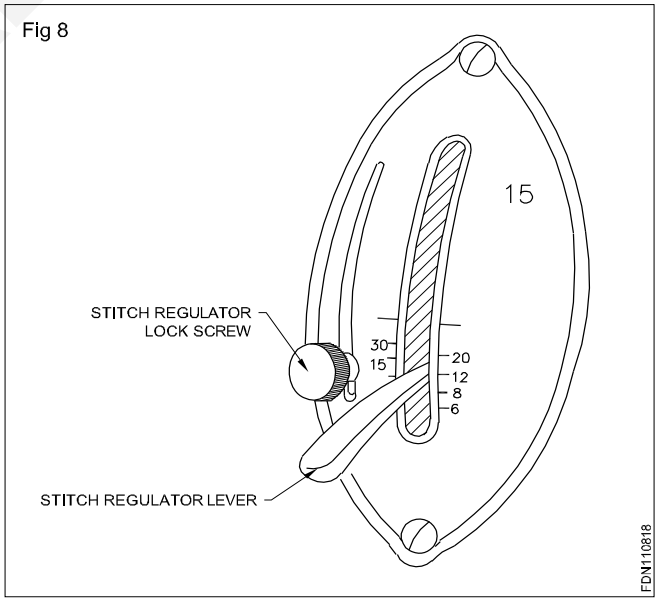
Presser foot lifter is a lever attached to the presser bar for raising and lowering the presser foot. (Fig 7)

Fig 7



Stitch regulator controls the length of the stitch. Some regulators can be set to stitch in reverse. (Fig 8)

Fig 8



Bobbin winder facilitates the winding of thread on the bobbin. Some are made to stop automatically when the bobbin is full. (Fig 9)

When the **flywheel** is made to rotate, it works the mechanism of the machine. (Fig 10)

Stop motion screw is in the centre of the flywheel and it engages and disengages the stitching mechanism. (Fig 10)

Fig 9

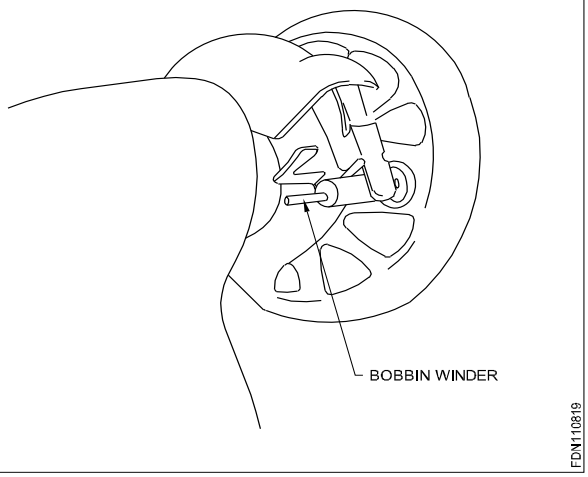
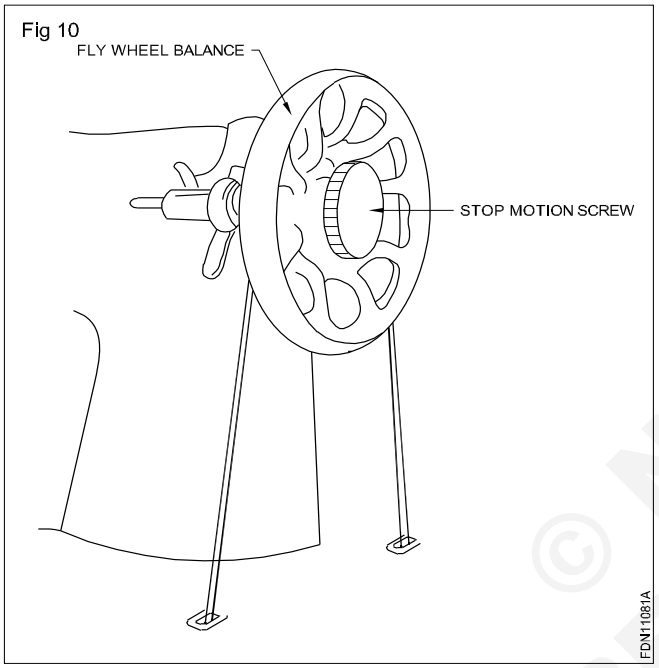
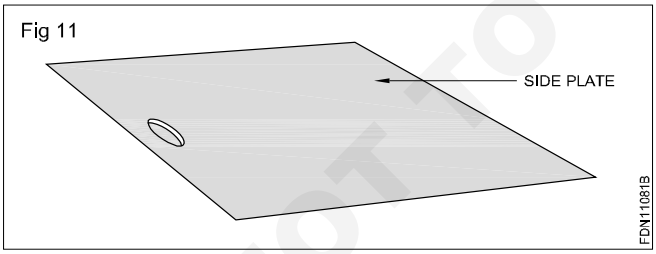


Fig 10



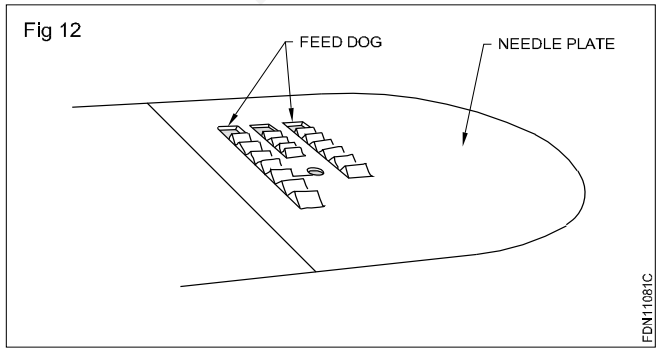
Slide plate is a rectangular plate that can be slide open to remove or insert the bobbin case. (Fig 11)

Fig 11



Needle plate or **throat plate** is a semi circular plate with a hole to allow the needle to pass through it. (Fig 12)

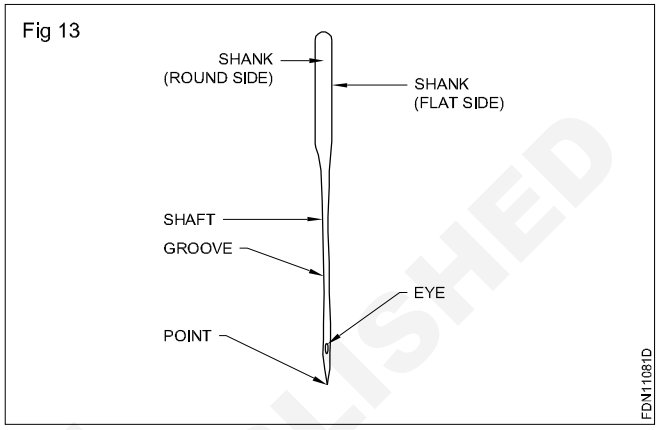
Fig 12



Feed dog consists of a set of teeth fitted below the needle plate. It helps to move the cloth forward while sewing. (Fig 12)

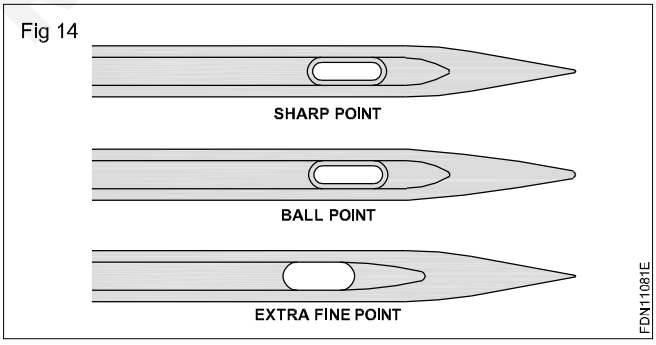
Sewing machine needles are of various types. Needles are selected according to their application. The sizes mainly depend on the structure of the fabric and the sewing threads used. The upper part of the needle is called the shank. The lower part is called the shaft. One side of the shank is flat and the other side is round. On the round side is the groove, which guides the thread while forming the stitch and protects it against excessive friction. (Fig 13)

Fig 13



The eye of the needle is just above the sharp point. It is always extended in its length because the needle thread has to pass diagonally through the needle in the lengthwise direction. The needles have different points; each designed for a particular type of fabric. The most commonly used are **sharp points** for woven fabric, **extra fine points** for twill, denim and heavy leather fabric and **ball point** for knit and stretch fabrics. (Fig 14)

Fig 14

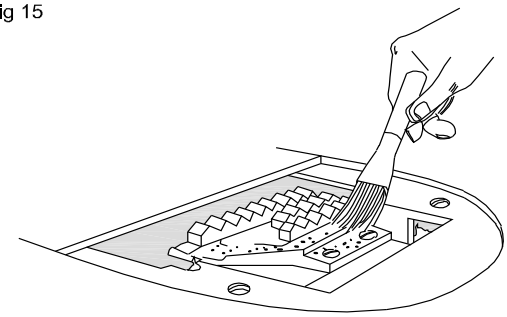


The needle sizes range from 9 to 19. When selecting the needle, remember that finer the weight of the fabric and thread, the finer the needle should be.

Care and maintenance of the machine: Regular cleaning, oiling and care of the machine ensures satisfactory sewing and a long life for the machine. When not in use, keep your machine covered to prevent dust from setting on it.

Cleaning: You should always remove lint deposits, dust and thread bits before oiling any part of the machine. Use a small dry brush or a toothbrush and a soft cloth to remove dust and lint. Use a pointed instrument like a needle to pick out bits of thread and lint that cannot be brushed out. To clean the feed dog remove the needle plate of the machine and brush off lint deposits and dirt sticking to the feed mechanism. (Fig 15)

Fig 15



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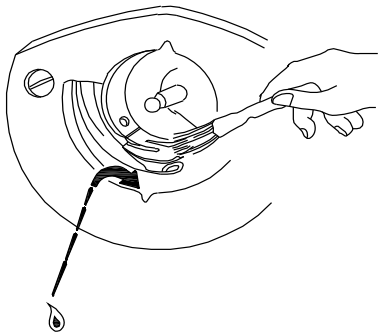
To clean the shuttle race, remove the two screws holding the shuttle race assembly to the machine, take out the shuttle race, wipe its groove free of dirt, fluff and broken bits of thread. Sometimes loose thread wind around the rivets of the treadle and make the machine hard to run. You should remove thread bits caught in the wheel and all lint and dust sticking to the treadle part. (Fig 16)

Fig 16



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Oiling: It is necessary to oil and lubricate the machine periodically. If the machine is used every day, oil it once a week. If you use it infrequently then once a month should be sufficient. To oil thoroughly, remove the upper thread, needle plate, slide plate, faceplate, bobbin case, needle and presser foot. Put special sewing machine oil in all oil holes and joints where one part rules against another. While oiling, turn the flywheel back and forth to help the oil flow to the moving parts. (Figs 17 & 18)

After oiling the points on the head of the machine, tilt the machine head back to oil the points on the bed of the machine. It is essential to oil the shuttle race. On a treadle machine, the belt will have to be released before tilting the machine head back. (Fig 19)

Fig 17

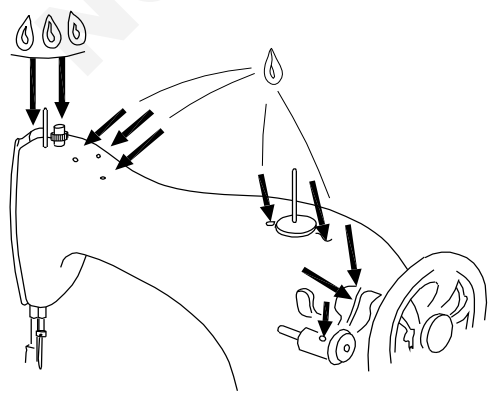

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Fig 18

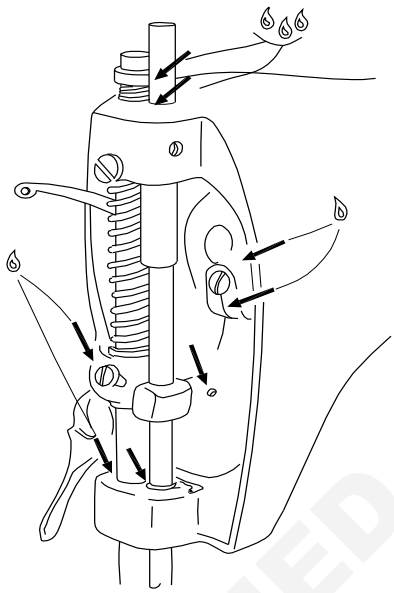

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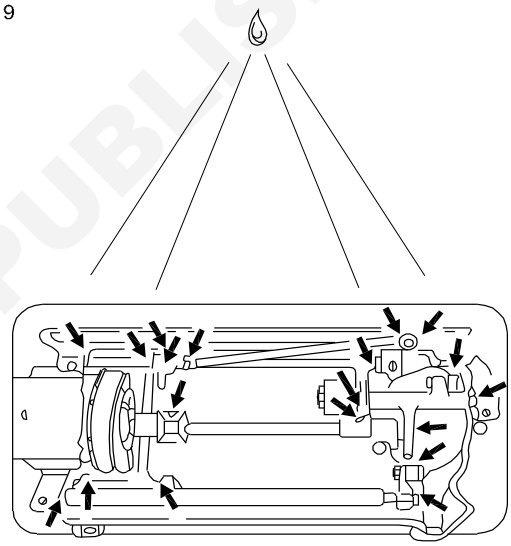
Fig 19



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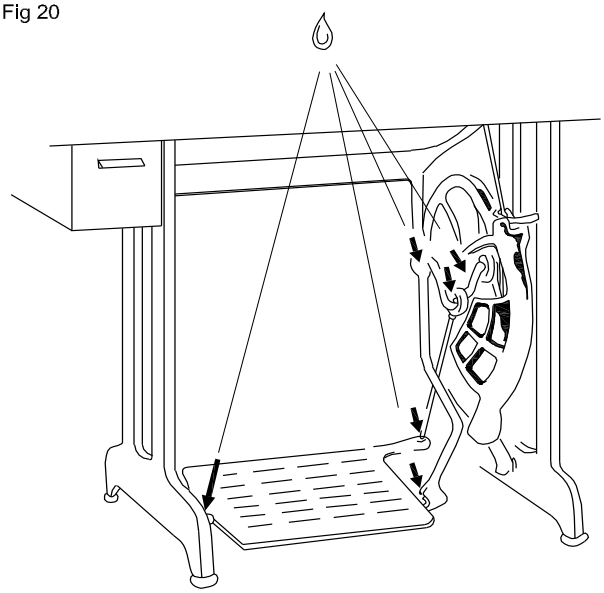
Do not forget to oil the machine stand (Fig 20)

Fig 20



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When the machine has been thoroughly oiled, wipe away excess oil and run it slowly for several minutes on a waste piece of material. Before you close the machine, place a scrap of material under the pressure foot and lower the needle. The fabric will absorb the excess oil that might drain down through the machine and will prevent formation of oil spots on your work, when the machine is used.

If there is excess oil in the machine, put a drop of kerosene or petrol in each oil hole and joints and run it rapidly for several minutes. Then wipe off the oil that oozes out with a soft cloth and re-oil the machine. It will need a second oiling within a few hours after this treatment.

Stitch formation/troubleshooting

Objective: At the end of this lesson you should be able to

- **explain the stitch formation, balance and stitch length**
- **explain machine troubles occurring while stitching with machine and name its rectification**
- **select needle and thread according to the fabric.**

Stitch formation: The needle thread loop, having been formed on the underside of the material by the needle, is interlocked with a second thread (under thread) by means of a hook.

The needle is inserted into the material. (Fig 1a)

As the needle moves upwards from its lowest position, the needle thread forms a loop which is caught by the point of the hook. (Fig 1b)

The hook enlarges the needle thread loop. (Fig 1c)

The needle thread loop is guided around the bottom thread spool. (Fig 1d)

Interlacing begins. (Fig 1e)

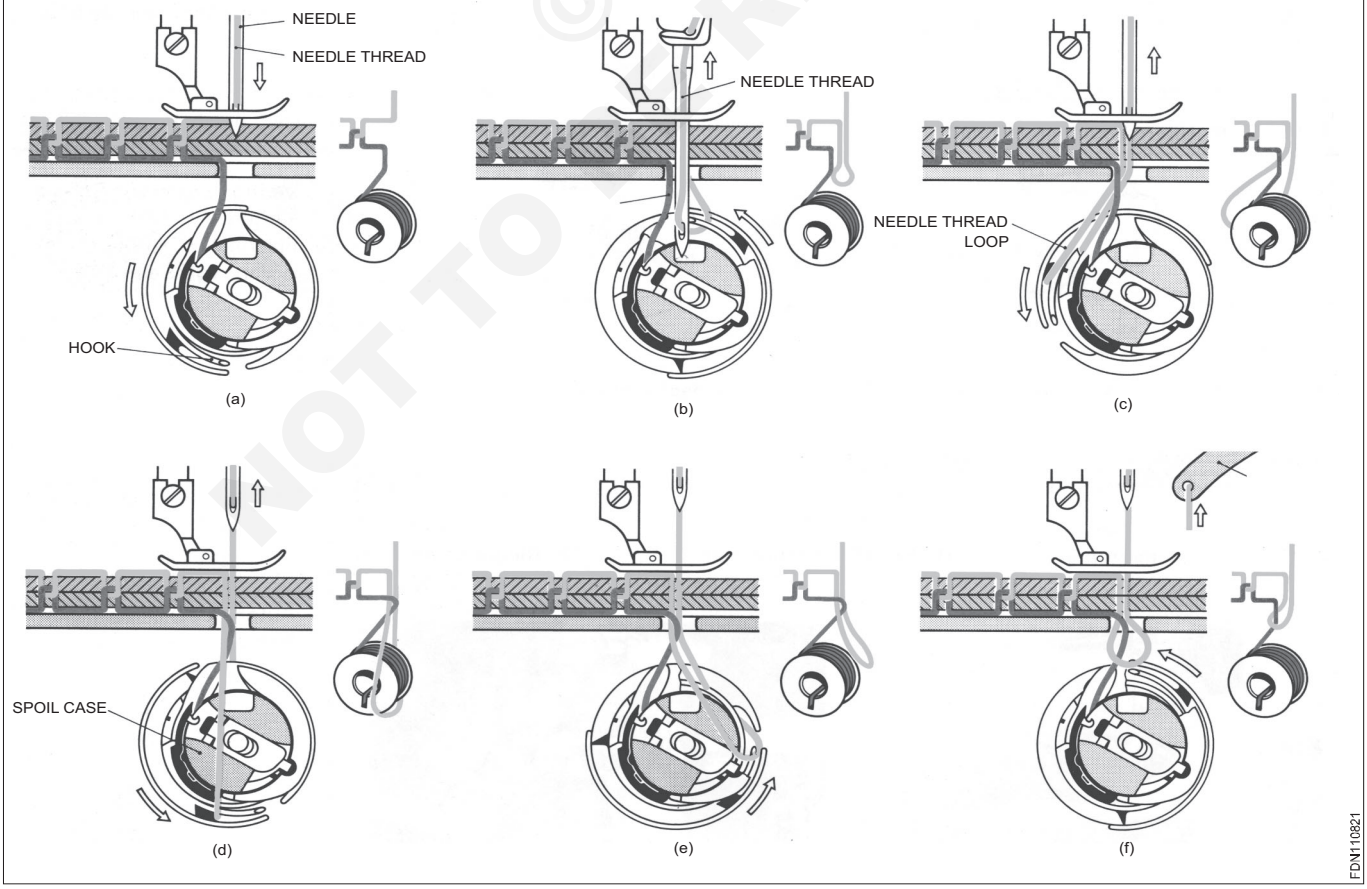
The take-up lever tightens the stitch into the material. The material is fed forward. (Fig 1f)

Stitch balance: Before regulating the tension, make sure that the threading of the machine - top and under threading - is correct. When there is perfect balance of tension between the upper and lower threads, the stitches lock or meet together in the middle of the thickness of the cloth. The stitches will look alike on either side of the work, both as to shape and tightness.

When the upper tension is too tight, the spool thread lies straight on top of the fabric and the under thread appears like loops on the upper side of the cloth.

When the upper tension is too loose, the under thread lies straight on the underside of the fabric and the top thread appears like loops on the underside.

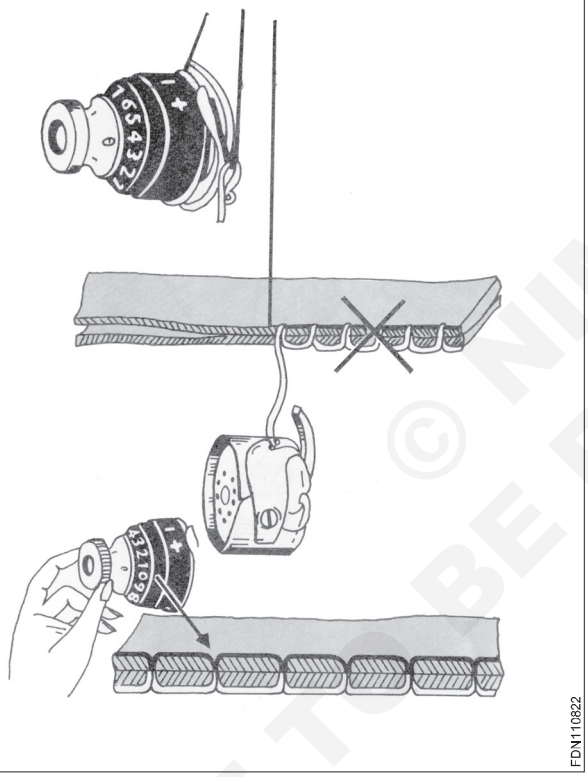
Fig 1



An easy method of recognising tension is to stitch diagonally across a square of the fabric folded on true bias and then to stretch the cloth firmly between your fingers until one or both threads break.

The broken thread always is the one with tighter tension. If the tensions are balanced, both threads break together and require more force to break. If it is found that the tension needs adjustment, it is better to try to adjust the upper tension. To increase or decrease upper tension, turn the screw on the tension regulator with the pressure foot down. In turning the screw remember that right is right and left is loose. Usually there will be numbers written on the tension dial. To increase tension, you should turn towards the higher numbers (Fig 2) and to decrease, towards the lower numbers (Fig 3). Do not move more than two numbers or a slight turn at a time. Then recheck the tension by stitching on a sample of fabric.

Fig 2



Avoid changing the lower tension unless you are sure that the tension cannot be corrected completely by adjusting the top one alone. The lower tension is adjusted by turning the small screw on the bobbin case using a screwdriver. Usually the screw is turned to the right to tighten and onto the left to loosen. Make a very slight turn only each time. (Fig 4)

Fig 3

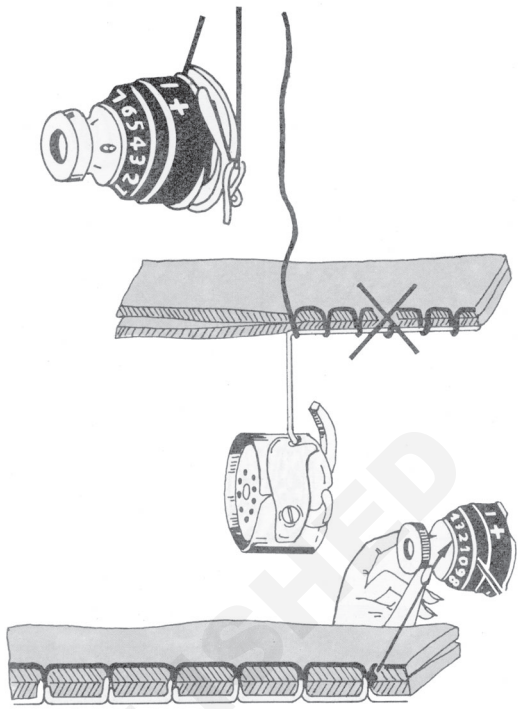
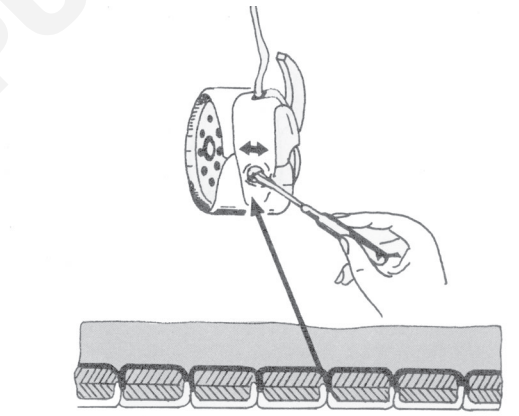


Fig 4



Adjusting the stitch length: The chart on this page gives the correct stitch length for various fabrics. In general, fine fabrics require a short stitch (16 to 20 stitches for 2.5 cm), medium weight fabrics, a medium stitch (12 for 2.5 cm) and heavy fabrics a long stitch (8 to 10 for 2.5 cm). For machine basting and machine gathering a still longer stitch (6 to 8 for 2.5 cm) is required.

Defects & Remedies

Objectives: At the end of this lesson you shall be able to
- **explain to know common trouble and their possible causes defect & remedies.**

Troubleshooting while stitching with machine

Common troubles and their possible causes are listed below. You can take care of most of these yourself and in case of major troubles, the help of a qualified mechanic should be obtained.

Fault	Causes	Remedies
Tangled thread at the beginning	Bobbin too full. Bobbin set in wrongly. Under thread not drawn up. Both threads not pulled back under the presser foot, machine not properly oiled and cleaned.	Fill the bobbin just below the outer rim. Set the bobbin in correct position. Under thread should be drawn out. Take out both threads through the hole in the presser foot and leave it under the presser foot. Oil and clean periodically.
Skipped stitches	Needle bent. Needle set to wrong side. Needle set with long groove turned inserted too high or too low in the needle bar. Needle too small. Needle threaded from the wrong side. Excess oil on shuttle.	Check and fix the needle in a correct position. Check whether it is threaded properly. Stitch with a scrap of material to remove excess oil.
Upper thread breaking	Poor thread. Machine incorrectly threaded. Needle set on wrong side. Needle too fine. for thread. Needle threaded from the wrong. side Upper tension too tight. Sharp edge on needle plate hole or shuttle thread. Take-up spring broken.	Select an appropriate (correct) thread and needle. Thread the needle properly. Check the upper tension and the hole in the needle plate (which should be smooth) and also for take up spring.
Lower thread breaking	Poor thread. Lower tension too tight. Bobbin case threaded wrongly. Sharp edge on the needle plate. Bobbin would too full or uneven. Dirt in the bobbin case.	Clean the bobbin case and select the correct thread and wind it uniformly. Check the lower tension and check for a smooth hole in the needle plate.
Fabric puckering Needle breaking	One or both tensions too tight. Stitches too long for material being sewn. Blunt needle. Incorrect size of needle for thread and fabric. Needle bent. Pulling of material while stitching. Presser foot incorrectly set. Crossing a thick seam using a too small needle.	Select the correct needle. Check for both tensions. Fix the stitch length accurate to the fabric. Set the presser foot properly. Select appropriate needle and thread to match the fabric. Fabric should not be pulled out while stitching.
Staggered stitches Uneven stitch length	Too little pressure on presser foot. Take-up spring weak, broken or missing. Incorrect presser foot pressure. Feed dog dirty or worn out.	Check the pressure on the presser foot and also for the take up spring. Check the pressure of the presser foot. Clean and check the feed dog.
Material not feeding correctly	Stitch regulator set too close to 'O' point. Dirt under needle plate near feed dog. Incorrect presser foot pressure. Bent pressure foot.	Stitch regulator should be set to a correct number to match the fabric. Clean the feed dog and the lower side of the needle plate. Check the presser foot and its pressure.
Machine	Lack of oil. Thread wound around the wheel runs or treadle bearings. Belt too tight. Bobbin heavily winder pressed down. Thread jammed in shuttle race. Gummed oil or dirt on bearings.	Oil the machine periodically, clean the wheel and treadle bearing. Check the belt tension release the bobbin winder. Clean the shuttle race. Use only sewing machine oil.

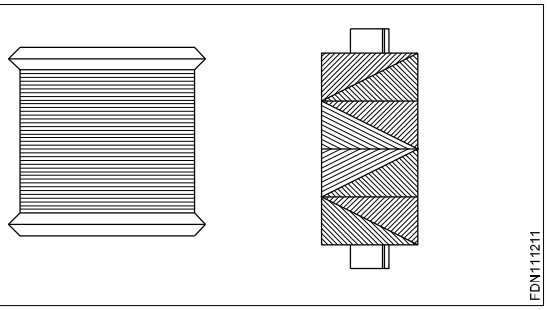
Sewing thread

Objectives : At the end of this lesson you shall be able to
- **state about the thread.**

Selection of thread and needle: A perfect stitch can be obtained only when the thread is selected to suit the material to be stitched and the needle is of correct size. For stitching on thin fabrics use fine thread and fine needle. For heavy fabrics, needle and thread size should be larger. The table will guide for the selection of appropriate needle and thread size. The last column in the table gives the approximate number of machine stitches per 2.5 cm.

Sewing thread (Fig 1)

Fig 1



Sewing thread is a small diameter yarn or twisted strand, usually treated with a surface coating or lubricant or both, intended to be used to stitch one or more material.

Choose a color thread that matches the most dominant color in your fabric. If unable to find a perfect match, select a thread that is one or two shades darker. Stitches made with a lighter shades of thread will stand out more.

The wrong choice of thread can cause the following needle breakage, pickering, slip stitches, etc.,

Sl. No.	Weight of the Fabric	Type of Cloth	Thread size	Needle size	Stitches per 2.5 cm
1	Light	Muslin, Cambric and other thin fabrics	50	9 - 11	14 - 20
2	Medium poplins, etc.,	Shirting, Sheeting,	40 - 50	14	12
3	Medium heavy brocade, corduroy	Light woollens,	40	16	10 - 12
4	Heavy upholstery fabrics	Woollen goods,		20	18 8 - 10

Needle guard policy: Needle guard policy is also known as needle control system. Needle control system is a part of product safety compliance.

As per the survey reports United States and European countries have strict regulations for children's clothing. These regulations require the retailers, among other things, to ensure that broken parts of needles or any other metal object do not find their way into the garment or its packaging, can cause injury to the customers.

Therefore, factories are required to put in place reliable procedures to prevent needles, pins or other sharp metal objects from entering the final products. Similar precautions are also required for under garments.

Factories need to ensure that each and every needle in the factory is accounted for. There should be no needles in the factory anywhere except the ones attached to machine and those in the stock. Broken needles parts should be collected and kept safely for record.

Garment manufacturers should adopt a policy and a set of operating procedures to prevent and detect a metal contamination in the garment. A factory can take the following measures to establish an effective needle control system.

The needle control can be done by the following steps

1 The factory should keep the entire stock of new needles under lock and key and away from sewing area.

2 They can maintain the broken needles record.

3 All the parts of broken needles should be collected immediately and disposed properly.

4 The factory should not allow the operators to keep spares needles.

Drawing tools and different types of lines

Objectives: At the end of this lesson you shall be able to
- **explain the method of using tools for drawing**
- **explain precaution for drawing**
- **demonstrate the usage of lines in his design.**

Pencil

A pencil is a writing implement or art medium usually constructed of a narrow, solid pigment core inside a protective casing. The case prevents the core from breaking, and also from marking the user's hand during use.

Scale

A ruler-like device which facilitates the production of technical drawings.

Pencil Drawing and Mark-Making (Fig 1)

Fig 1

FAD901T0114

In this pencil drawing lesson, we'll focus on the importance of mark-making. Mark-making is the expression we use to describe the process of applying pencil to paper. You can improve your pencil drawing skills by carefully considering your pencil and how it hits the page.

Shading using normal pencil

Controlling and exploiting the possibilities of the mark is an important step in developing as an artist.

Color Pencils (Fig 2)

Fig 2

FAD901T0115

This introduces some basic color pencil strokes which will be useful in your drawing. It is a good idea to spend some time exploring the color pencil medium with small pieces before attempting a major drawing.

As with graphite pencil, there are a range of techniques which you can employ when drawing with colored pencil. Which one you choose will depend on the final effect you are aiming to achieve

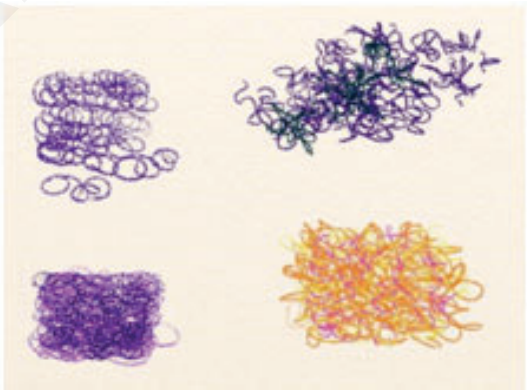
Shading: Using a straightforward side-to-side shading motion, a smooth even layer of color is built up. A very light touch can be used to deposit the faintest amount of pigment for graduated shading.

Hatching: Rapid, regular, evenly spaced lines are drawn, leaving a little white paper or underlying color showing.

Cross-Hatching: Hatching overlaid at right-angles. This can be done with different colors, or carried through multiple layers, to create a textured effect.

Scumbling (Fig 3)

Fig 3



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The 'brillo pad' method, tiny overlapping circles rapidly drawn. Again, it can be used to build up a single color or different colors.

Directional Marks: Short directional lines which follow a contour, or the direction of hair or grass or other surfaces. These can be densely overlaid to form a rich textural effect.

Incised Marks: Incised Marks: Two thick layers of color are overlaid, then the top color gently scratched into with a blade or pin to let the lower layer show through.

Burnishing: Burnishing is simply layers of colored pencil overlaid with strong pressure so that the tooth of the paper is filled and a smooth surface results. This image shows a burnished surface compared with a basic overlay of color. With some colors, especially with waxier pencils than the watercolor pencils used for this example, a quite translucent and jewel-like effect can be obtained with careful burnishing.

Standard Precautions for Drawing

- Sharpen your pencil before drawing
- Be clear about the image to get the exact effect
- Use a support under the sheet while drawing to avoid disturbances
- Get branded pencils to avoid breakage of pencil and pencil nibs.

Understand Basic Drawing Techniques

Drawing is a form of visual art that makes use of any number of drawing instruments to mark a two-dimensional medium.

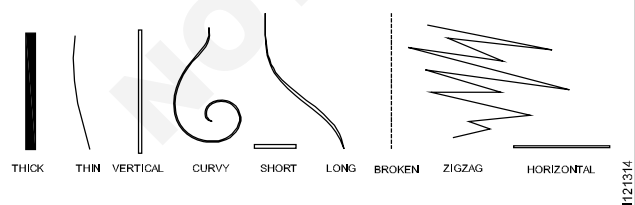
Instruments used include graphite pencils, pen and ink, inked brushes, wax color pencils, crayons, charcoal, chalk, pastels, various kinds of erasers, markers, styluses, and various metals (such as silverpoint). An artist who practices or works in drawing may be called a draftsman or draughtsman.

A small amount of material is released onto a surface, leaving a visible mark. The most common support for drawing is paper, although other materials, such as cardboard, plastic, leather, canvas, and board, may be used.

Temporary drawings may be made on a blackboard or whiteboard or indeed almost anything. The medium has been a popular and fundamental means of public expression throughout human history. It is one of the simplest and most efficient means of communicating visual ideas. The wide availability of drawing instruments makes drawing one of the most common artistic activities.

There are several categories of drawing, including figure drawing, cartooning, doodling and shading. There are also many drawing methods, such as line drawing, stippling, shading, etc., (Fig 4)

Fig 4



Line is the most basic design 'tool'. A line has length, width, tone, and texture. It may divide space, define a form, describe contour and suggest direction.

Shading & Lighting

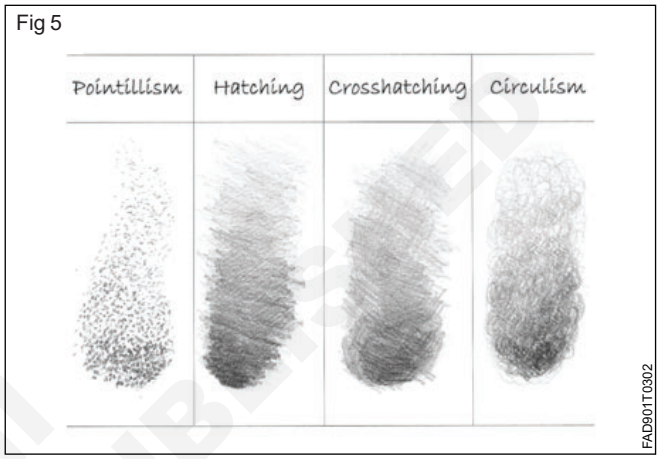
Shading refers to depicting depth perception in 3D models or illustrations by varying levels of darkness.

Shading is a process used in drawing for depicting levels of darkness on paper by applying media more densely or with a darker shade for darker areas, and less densely or with a lighter shade for lighter areas.

There are various techniques of shading including cross hatching where perpendicular lines of varying closeness are drawn in a grid pattern to shade an area. The closer the lines are together, the darker the area appears. Likewise, the farther apart the lines are, the lighter the area appears.

Light patterns, such as objects having light and shaded areas, help when creating the illusion of depth on paper. (Fig 5)

Fig 5



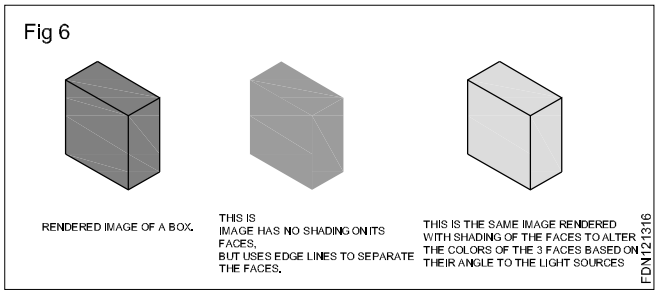
Shading alters the colors of faces in a 3D model based on the angle of the surface to a light source or light sources.

The first image below has the faces of the box rendered, but all in the same color. Edge lines have been rendered here as well which makes the image easier to see.

The second image is the same model rendered without edge lines. It is difficult to tell where one face of the box ends and the next begins.

The third image has shading enabled, which makes the image more realistic and makes it easier to see which face is which. (Fig 6)

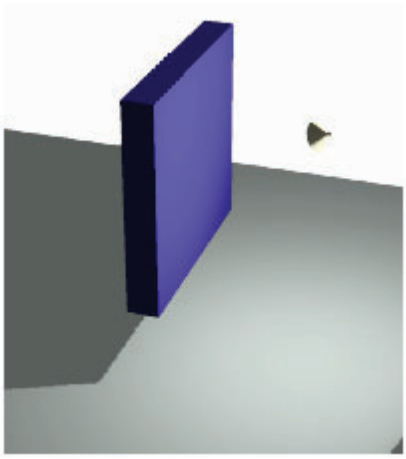
Fig 6



Lighting (Fig 7)

Shading is also dependent on the lighting used. Usually, upon rendering a scene a number of different lighting techniques will be used to make the rendering look more realistic. Different types of light sources are used to give different effects.

Fig 7



SHADING EFFECTS FROM FLOOD LIGHT

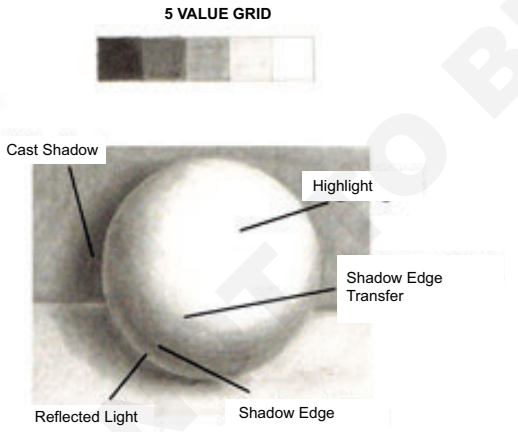
FAD901T0304

Ambient lighting

An ambient light source represents a fixed-intensity and fixed-color light source that affects all objects in the scene equally. Upon rendering, all objects in the scene are brightened with the specified intensity and color. This type of light source is mainly used to provide the scene with a basic view of the different objects in it. This is the simplest type of lighting to implement and models how light can be scattered or reflected many times producing a uniform effect.

Shading is interpolated based on how the angle of these light sources reach the objects within a scene. Of course, these light sources can be and often are combined in a scene. The renderer then interpolates how these lights must be combined, and produces a 2D image to be displayed on the screen accordingly. (Fig 8)

Fig 8



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Drawing lines

Lines drawing and painting colours are the two very important steps towards sketching. Constant practice of drawing lines and curves gives confidence to the student in sketching. Painting stocks on the paper on the colour wheel will give a knowledge of colour itself and learn the combination of colour.

This exercise will help the student to implement his ideas with lines and colours in this designing.

To start with this, exercise a student has to practice drawing lines and constantly being corrected by the instructor which will take him on the right way.

Lines provide a visual dimension of length and width. Lines offered a path of vision. When a (person)(customer) wears an outfit.

Types of lines are:

- Horizontal lines
- Vertical lines
- Diagonal lines
- Curved lines

Horizontal lines

These lines add width of the garments and cut the height.

Example

A wide contrast belt with shorten the height of the figure by divide the garment (dress) into two segments. But wearing a self colour belt will not give this effect. This trends to show tall person short.

Vertical lines

These lines add height to the garment and cut the width. A contrast colour vertical band in the centre front or from the shoulder till the neckline gives an added height to the outfit. This trends to show short person to tall.

Diagonal line

These lines add or cut the height depending on their slope. These lines direct the vision through the diagonal weaves or prints which makes the figure slim.

Curve line

This line reflects the shape of a natural body. Curve lines shows both slim and bulkiness of a design or body. These curved lines also shown in circular motion or way appear slightly straight. These lines give gracefulness to the eye when seen. Most of the curves lines can be seen on diagonal direction denoting(showing)folds(pleats)ruffles (frill) drape (tall of fabric on a dummy).

The way of arranging vertical, horizontal, diagonal, curve lines creates movements like opposition, transition, radiation.

When in designing or drawing, oblique lines are used which is the combination of Horizontal and Vertical lines.

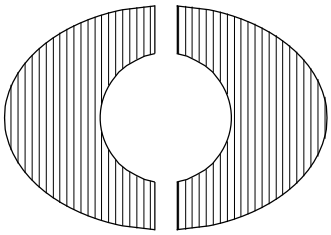
Curve line drawing give the effect of transition. When a line slips through another transition is seen.

Collar with Pin tuck stitches (Fig 9)

When lines highlights the stitching or folds, drapes, it gives the effect of radiation (attract attention).

Line provides a path which the eye travels. The objective of this Exercise is how to use lines and to show what type of human body, curve lines shows naturally human body, Vertical lines slimes the human body, Horizontal lines bulk the human body.

Fig 9



COLLER WITH PIN DUCK STITCH

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Designing in organising or creating a design to communicate an innovative idea. In this field clothing in divided into two division.

Structural Designing

Decorative designing

These are the factors designing.

Structural Design

This defines the garment designed. Different part of a garment in drawn separately to make sample pattern in the industry by the pattern master. This work is done by the designer in the buying house which specifies the construction, colour, thread, trimming and measurement, cuts used. This system in used in industry.

Decorative design

This defines the garment detail which in designed in boutique (shop) which is custom made or one to one required design. Specification of this design is not prepared and standard measurements are not used. This is made for an individual.

Fundamental and basic of colour

Objectives: At the end of this lesson you shall be able to
- **state about implementing of colour & learning of colour combination.**

Colour

The life giving element in fashion designing. Colours play a very important part in human life. Choosing effective colour scheme is more important.

Colours have to balance the harmony and rhythm in the design to give proportionate effect on a design. They make a design attractive and lively and various emotion and feeling can be expressed by colours.

Colours give both physical and psychological ef
fect to the eye.

There are some colour which are associated with emotion such as-

Red

Colour of blood, flame, and symbol of love when we come in contact of red it is attractive and it speeds up the body's metabolism.

Red is preferred colour indicated on valentine's day some arranged function specious items (kumkum, bangles, beads chain)

Yellow

Gives happiness, sunshine, flowers, and cheerfulness. Colour of spring . When your friend or you say are emotionally sad that when you see yellow than your mind stabiliser.

Green

Tranquil and colour of tree and grass (fertility) gives life. This colour is also dangerous because it is colour of poison and jealousy (felling, bad for somebody) Olive green gives a sophisticated (elegant) look only to some people.

Blue

Colour of sky sea. Light blue gives a younger look. Dark blue has a dignified look.

Purple

An elegant colour used by royal people, fashionable colour used informal evening wear. Though it is an artificial colour the lighter shades of purple is used for women wear.

Brown

Soil and rich fertile gives sad and wistful feeling (day feeling). It can be a romantic colour if used colourfully while designing.

White

Denote purity, innocence, peace this colour denote with winter but use of this colour in large scale given depression.

Black

Night, death, evil, black magic, orthodox colour an elegant colour for party and evening wear, the light colour for winter.

(list the other reasons and uses of the above given colours).

Colour is divided into 3 elements (dimensions)

Hue, value, intensity

Hue

Another name for colour.

Value

Lightness or darkness of a colour.

Intensity

Brightness or dullness of colour.

Colour Wheel

Colour wheel has 12 colours and main or key colours on the wheel are primary colour,

Secondary colour, tertiary colours. This colours are used to establish their relationship with each other.

What is Primary colour?

Primary colour are natural colours which cannot be got by mixing any colour. They are Red Yellow, Blue.

How do you get secondary colour?

When two primary colour are mixed in equal proportions we get secondary colour.

Red (1 drop) + Yellow (1drop) = Orange

Yellow (1drop) + Blue (1drop) = Green

Blue (1drop) + Red (1drop) = Violet.

How do you get tertiary colour?

Mixing of one primary with secondary gives tertiary colours.

Mixing colours with proportion

Red (2drop) +Yellow (1drop) = Red Orange

Yellow (2drop) + Red (1drop) = Yellow Orange

This stage we can see the family colour of Red.

(Red, Reddish orange, Orange, Yellowish Orange, Yellow).

Yellow (2drop) + Blue (1drop) = Yellow green

Blue (2drop) + Yellow (1drop) = Blue green

There we see the family of green

(Yellow, Light green, green, Blue, Green, Blue)

Blue (2drop) + Red (1drop) = Blue violet

Red (2drop) + Blue (1drop) = Red violet.

We also get to see the family of Blue

(Blue, Royal Blue, Violet, Purple, Red)

Mixing of colour must be proper given proposition which will give the actual colour.

What is Value?

When white colour or black colour is added to the natural colour we get to see lighter or darker shades of one colour.

(Take one colour of your choice from the colour wheel, start adding small drops of white colour to the natural colour step by step fill you gets white colours.

We can see the difference of one colour step by step from natural to white).

On the colour wheel

When all the 12 colours are painted it is divided into 2 as warm colours and cool colours.

Warm colours are from purple to yellow and cool colours are from light green to violet.

Warm colours are used in winter season reason these colours keep you warm in cold weather. Cool colour are used in summer season reason these colours keeps you cool in sunny weather.

Colour schemes or relation

Selecting of 2 colour that are equally place on the colour wheel are called Diad colour .

Example

Red with orange

Yellow with green

Blue with violet

Selecting of 3 colour that are placed equally on the colour wheel is called Triad colour.

Example

Red, yellow, blue, orange, green, violet.

Selecting of 4 colour or more on the colour wheel is called tetrad.

Combination of one colour with the opposite colour is called Complementary colour.

Example

Orange and blue

Yellow and violet

Green and purple.

Choosing of four colour on the wheel in split complimentary color

Example

Yellow with yellow green

Blue violet with violet.

Colours without colour or natural colour are Achromatic colour

Example

White, Black, grey

Using various value and intensity of a colour is Monocromatic colour.

What is the quality of colour?

The combination of light, dark of a colour is called as quality of colour.

1 Tone
2 Light colour
3 Dull colour
4 Dark colour
5 Vivid colour

Tones

Mixing white or black to the base or natural colour this give the brightness to a colour . It dullness to a colour has to be given then grey (combination of black and white together) should be added to the natural colour.

Light colour

Mixing white with natural colour. Here you can see the lighter shades of a colour. You can find these lighter colour in the women collection of dresses.

But these colours denote catch the eyes, but have their own vale in the group of colour scheme.

Dull colour

Reducing the brightness of a colour by adding grey to the natural colour. These colours reduce tension. Adding of less grey gives diffuse or blue effect and adding more of grey gives muddy effects.

Dark colour

Dark colours relate to royalty. Adding of black give weight to the colour and the dress. Most of the gents/men's wear have these colours. We can see in suits and formal wear. When lighter colour are paired or combined with this dark colour it is more conventional and comfortable in use.

Vivid colour

Vivid colour as surprising colours. Bright and powerful. The usage of these colours by a personality has a tendency of standing a part among the other colour.

Example

Orange and blue

Yellow and violet

Green and purple.

Choosing of four colour on the wheel in split complimentary color.

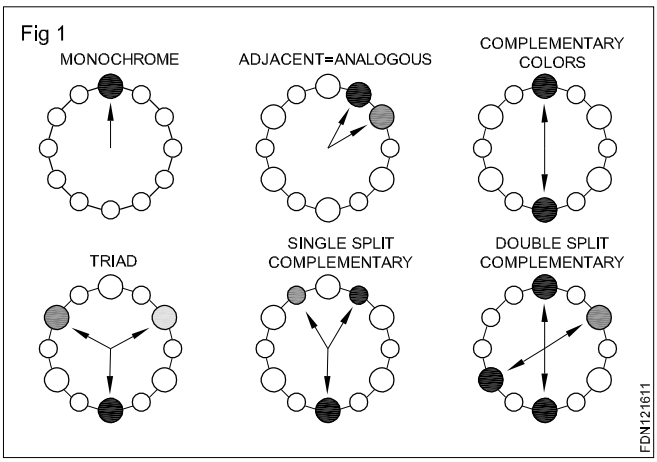
Example

Violet,orange,yellow,blue color placed adjacent to each other analogous color.

Colour scheme

Objectives: At the end of this lesson you shall be able to
- **explain feature of color harmonies.**

Color Schemes (Color Harmonies) (Fig 1)



Monochrome (meaning "one color") color harmonies include only one color in different value (i.e.) the lightness and darkness of a color and intensity (i.e.) the brightness or dullness of a color. An example of a monochrome color scheme includes any color mixed with white, gray, or black. For example, red, rose and pink (red mixed with white) are monochrome.

Adjacent colors are also known as called analogous colors. They uses colors that are adjacent to each other on the color wheel. An example is a color scheme that includes various values and intensities of blue and violet.

Complimentary colors are the colors opposite each other on the color wheel. For example, violet and yellow, red and green, and blue and orange are examples of complimentary colors.

A single split complement uses a primary color with colors on either side of its complement. An example is a color scheme that includes various values and intensities of violet, yellow - green and orange - yellow.

A triad uses the colors at the points of an equilateral triangle (i.e.) three colors spaced equally on the color wheel. These are also known as balanced colors. An example of a triadic scheme could be red, blue, and yellow; green, orange, and purple, etc.

A double split complement are also called tetradic, uses two pairs of complements, one apart on the color wheel. An example is red, green, orange, and blue.

Warm Colors and Cool Colors

The warm colors include reds, oranges, and yellows, these colors create the feeling of being closer; the cool colors include blues, greens and violets, these colors have a tendency to feel like they are receding or backing away from you and they create cool tones.

Color schemes

Monochromatic color scheme

A monochromatic color scheme uses a single color mostly. In this type of scheme, various darker shades, grayer tones, and tints of the main color may be included in coloring. In addition, the one color is often paired with white or another neutral.

Analogous color scheme

Analogous colors are colors that are adjacent to each other on the color wheel. Some examples are green, yellow green, and yellow or red, orange and yellow. This color scheme is often found in nature and are pleasing to the eye. The combination of analogous colors give a bright and cheery effect to the design. When using the analogous color scheme, one should make sure there is one hue as the main color.

Complementary color scheme

Colors that are opposite each other on the color wheel, such as blue and orange, red and green, purple and yellow. Complementary color schemes creates a more energetic feel. The high contrast between the colors creates a vibrant look.

Split-complementary color scheme

A color scheme that includes a main color and the two colors on each side of its complementary (opposite) color on the color wheel. These are the colors that are one hue and two equally spaced from its complement. To avoid fatigue and maintain high contrast, this color scheme should be used when giving power point presentations, or when using a computer for an extended period of time. Additionally, certain colors should not be mixed, like red and green. Colors that should be used are red/purple and yellow/green.

Tetradic color scheme

Tetrads or quadrates is the color scheme of any four colors with a logical relationship on the color wheel, such as double complements.

Neutral color scheme

A color scheme that includes only those colors that are not found on the color wheel are known as neutrals. Beige, brown, white, black, and gray are the examples of neutral colors.

Warm and Cool Color Schemes

A color scheme that does not include blue at all its Warm color scheme. Whereas, the color scheme that do not include red at all is known as cool color scheme.

Grey colours

Objectives: At the end of this lesson you shall be able to
- **define white and black colour.**
- **explain Grey colour using by white and black colour.**

Black colour

Night, death, evil, black magic, orthodox colour on elegant colour for party and evening wear. The right colour for winter.

White colour

Denotes purity, innocence, peace, this colour denotes with winter but use of this colour in large scale given dipression.

When white colour or black colour is added to the natural colour we get to the lighter or darker shades of one colour black + white = grey color.

Black, White and Grey are not true colours. They are considered to be neutral a chromatic colours.

Light colours or Grey colour

Mixing white with black colour. Here you can see the lighter shades of a colour. you can find these grey colour in the dress.

Tints shades and gradation

Objectives: At the end of this lesson you shall be able to
- **state the features of gradation and shades**
- **explain tints of color.**

Gradation

1 Gradation of size and direction produce linear perspective

2 Gradation of colour from warm to cool and tone from dark to light produce aerial perspective.

3 Gradation can add interest and movement to a shape.

4 A gradation from dark to light will cause the eye to move along a shape.

Shades

Shading- The darkening or colouring of an illustration or diagram with parallel lines or a block of colour is know as shading.

It creates a very slight variation typically in colour or meaning. It is development or the next stage of the drawing art.

Shading gives life to the design /sketch this process is used in drawing for depicting levels of darkness on paper by applying media more densely (or) with a darker shade for darker areas and less densely or with a lighter areas to create variation. It increases the volume and depth of the drawing/design and expresses the effects of light and dark as well as the more suitable reflections of light.

Shading makes the drawing look realistic and natural. The closer the lines of shading are together, the darker the appears. Likewise the further apart the lines are the lighter the area appears. It is also used to give three dimensional effects to the design/sketch.

Even shading, directional shading, open shading shaded gradation and graduated tones are the different type of basic shading methods in practice. A part from different shading method use of different grades of pencil also creates varied effects in shading. The texture (i.e) hardness or smoothness of the pencil used play an important part in delivering the desired effect to the sketch. The simplest method is to vary the pressure exerted on the pencil, so that the line appear as different tones of gray.

Tints

Tints is the mixture of a colour with white which increase lightness and a shade is the mixture of a colour with black which reduce lightness.

A tone is produced either by the mixture of a colour with gray or by both tinting and shading. Mixing a colour with any neutral color (including black, gray and white) reduce the chroma or colour fulness while the hue remains unchanged.

Texture

Objectives: At the end of this lesson you shall be able to
- **explain texture**
- **expalin variety of texture.**

Fashion drawing or illustrator it is very necessary to display the texternal surface. Texture is the perceived surface quality of work of art. It is an element of two dimensional and three dimensional design. There are two varities o texture

1 Physical texture

Physical textur also known as actual variations upon a surface.

2 Visual texture

Visual texture is the illusion of having physical texture.

Different fabric textures create illusion to the figure of the wearer of the fabric. Bold prints, checks, thick pile and cordenoy make the figure look bigger coarse fabric like jute and funs give an enlarging effect to the figure. Light weight fabric like satin,linen etc,. stiff fabric like organze stand away from the body.

Different textures can be illustrated as follows

1 Lace

Lase should be done with a delicate pen line scallop edging is usually incorporated into the design of the dress

2 Velvet

Velvet has dense colour depth of the pile. It absorbs light rather than reflection. It appears almost dark with light only around the edges of the garment and where there are folds or edges as the velvet round and turns in to illustrate velvet use and wet surface using the darkest roll in the centre and let it fade out at the edges.

3 Satin

Satin is a reverse of velvet, reflecting light, rather than absorbing darker tones are found at the edge and in the folds.

knits of wool,cotton to illustrate this it should be rendered with sharply defined grace in transparent colour. In sweaters, there are almost on outline of shading and grey tones.

Corduroy

Cordenoy fabric has raised piles of cross wise yarns. these are usually vertical in composition. To illustrate cordenoy fell the base of garment with bright colour wash and thick make almost uniform parallel lines either with pointed objects and re-colour the surface.

Chiffon

Chiffon is a thin and transparent fabric. All the folds and drapes are depicted by darker lines. A layer of skin colour can also be used to show the transparent effect water color and poster colour medium are base suited for illustration of chiffon fabric

Denim

Denim is rough and study fabric. A dry brush with poster colour or mixing two three shades water crayons or pencil colours can be used to illustrate the denim texture. We can also illustrate by using poster colour and give it the diagonal shading of white colour.

Elements and principles of designing

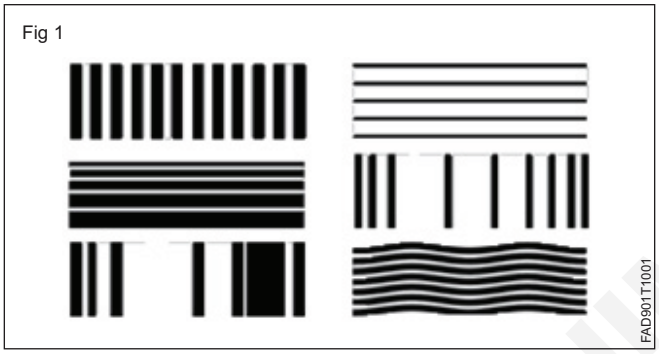
Objectives: At the end of this lesson you shall be able to
- **define designing**
- **explain method elements & principles of designing**
- **describe designs for dresses**
- **choose designs for dresses.**

Elements of Design: Definition

The elements are components or parts which can be isolated and defined in any visual design or work of art. They are the structure of the work, and can carry a wide variety of messages.

Direction of Lines (Fig 1)

Fig 1



FAD901T1001

Vertical Line

Vertical lines communicate a feeling of loftiness and spirituality.

Horizontal line

Horizontal line suggests a feeling of rest or repose. Objects parallel to the earth are at rest in relation to gravity. Therefore, compositions in which horizontal lines dominate tend to be quiet and restful in feeling.

Diagonal Line

Diagonal lines suggest a feeling of movement or direction. Since objects in a diagonal position are unstable in relation to gravity, being neither vertical nor horizontal, they are either about to fall, or are already in motion. Thus if a feeling of movement or speed is desired, or a feeling of activity, diagonal lines can be used.

Curve Line

Curved lines do vary in meaning, however. Soft, shallow curves suggest comfort, safety, familiarity, relaxation. They recall the curves of the human body, and therefore have a pleasing, sensual quality.

Shapes

A shape is an enclosed object. Shapes can be created by line, or by color and value changes which define their edges.

Shapes are geometric figures made up of lines in different formation, Shapes give appearance to a fashion figure. It is an important element of a design. The variation in sizes and arrangement of lines and curves form different types of shapes, square, rectangle, triangle, oval, circle are basic shapes used in fashion sketching.

Natural design

Natural shapes are found in nature or they can be manmade shapes. Leaves are an example of a natural shape. An ink blob is a natural shape. Natural shapes are often irregular and fluid. Natural shapes can add interest and reinforce a theme. Rather than a plain box, frame text with a coiling rope or a spray of leaves or flowers. Use a freeform, non-symmetrical shape to convey a feeling of spontaneity.

Stylized Design (Fig 2)

Fig 2

FAD901T1002

The Designs which are used to present in a conventional way from natural designs are known as stylized designs. Some abstract shapes are almost universally recognized and easily 'read' even when the text is in an unfamiliar language. The stylized wheelchair, the male and female symbols for restrooms, and the jagged steps for stairs or an escalator are some examples

Geometric Design (Fig 3)

In addition to the basic square, circle, and triangle discussed so far, other geometric shapes have specific meanings, some culturally-based.

Abstract Design (Fig 4)

Abstract shapes are stylized or simplified versions of natural shapes. A symbol found on signs, such as the stylized wheelchair shape for handicapped access, is one example.

Fig 3

FAD901T1003

Fig 4

FAD901T1004

Illusion (Fig 5)

An illusion is a distortion of the senses, revealing how the brain normally organizes and interprets sensory stimulation.

While illusions distort reality, they are generally shared by most people.[1] Illusions may occur with more of the human senses than vision, but visual illusions, optical illusions, are the most well known and understood. The emphasis on visual illusions occurs because vision often dominates the other senses.

Fig 5

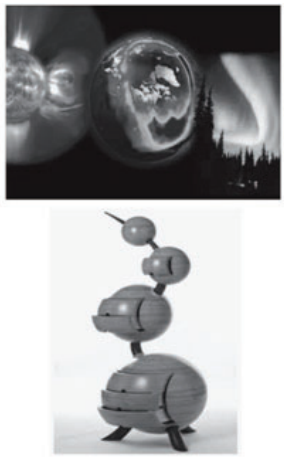
FAD901T1005

Space (Fig 6)

In a picture, the shapes that the artist has placed are considered the positive shapes. The spaces around the shapes are the negative spaces.

It is just as important to consider the negative space in a picture as the positive shapes. Sometimes artists create pieces that have no distinction between positive and negative spaces.

Fig 6



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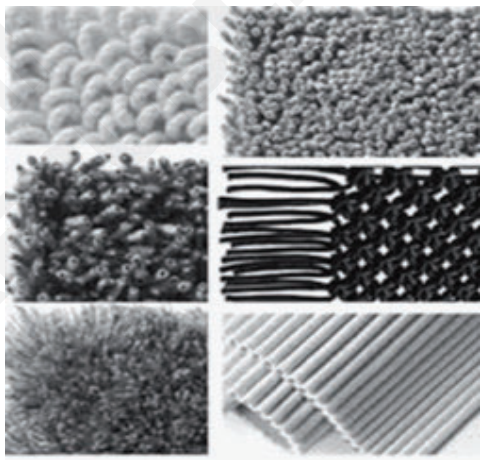
Since objects in our environment look smaller when they are farther away, the easiest way to show depth is to vary the size of objects, with closer objects being larger and more distant objects being smaller.

As well, we perceive objects that are higher on the page and smaller as being further away than objects which are in the forefront of a picture. (Fig 7)

Fig 7



FAD901T1007

Texture

Texture is the quality of an object which we sense through touch. It exists as a literal surface we can feel, but also as a surface we can see, and imagine the sensation if we feel it.

Texture can also be portrayed in an image, suggested to the eye which can refer to our memories of surfaces we have touched. So a texture can be imaginary.

Bristly, rough, and hard – this is what we usually think of as texture, but texture can also be smooth, cold and hard, too.

Smooth, soft, and/or warm and Wet or dry are also textures; in fact, any tactile sensation we can imagine is a texture.

In other words, all surfaces can be described in terms of texture. Many artists and designers make use of texture as a dominant element in their work.

This is particularly evident in craft media, such as fibers, metal, wood and glass, where the tactile qualities of the material are a major feature.

Color, Value and Hue (Fig 8)

Fig 8

FAD901T1008

Color is one of the most powerful of elements. It has tremendous expressive qualities. Understanding the uses of color is crucial to effective composition in design and the fine arts.

The word color is the general term which applies to the whole subject - red, orange, yellow, green, blue, violet, black and white and all possible combinations thereof.

Hue is the correct word to use to refer to just the pure spectrum colors. Any given color can be described in terms of its value and hue. In addition, the various physical phenomena and psychological effects combine to affect our perceptions of a color.

Colour is an element of design with endless variety. Colour is a mixture of 3 primary colors, red, yellow and blue.

Secondary colours are a mix of any 2 primary colors, orange, green and purple.

Tertiary colours are a mix of the 3 primary colours, red, yellow and blue. Many different colours can be made by changing the amount of primary colours used.

Colour has temperature - reds and oranges feel warm like the sun or desert. Cooler colours like blues and greens go more with water and ice.

Intensity of colour is its strength and purity.

Hue is the quality that separates one colour from another. Tone value is the degree of lightness or darkness of a colour, yellow is light, blue is dark.

Tints are made by adding white to a colour. Shades are made by adding black to a colour.

Principles of design

Harmony

Harmony means pictorial elements of the same type that "go" together.

Harmony can be made where the eye is used to seeing objects together, so they form a group eg. Flower pot and plants. (Fig 9)

Fig 9

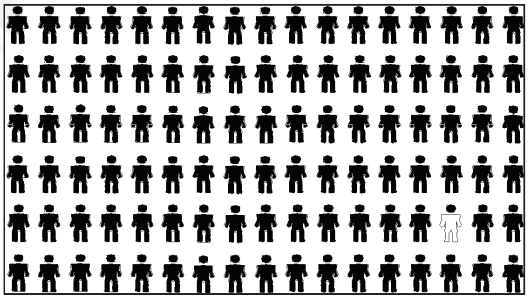
FAD901T1009

HARMONY can create feelings, similar elements can seem calm and pleasing eg. Blues and greens, rectangles and squares or groups of organic shapes, while contrasting elements create energy, vitality, tension or anger eg. triangles with circles and squares

Emphasis (Fig 10)

Emphasis is the part of the design that catches the viewer's attention. Usually the artist will make one area stand out by contrasting it with other areas. The area will be different in size, color, texture, shape, etc.

Fig 10



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Balance

Balance involves the distribution of elements in a work of art.

Balance is the control of the elements in attracting attention. This attention must be evenly or unevenly spread over the area to make sure interest is kept up, all the way through the art work, without being static or chaotic.

Balance can be symmetrical or asymmetrical

Balance can create movement, tension or calmness.

Balance of the pictorial elements can act like a see-saw or lever.

The elements can be balanced around a vertical, horizontal or diagonal

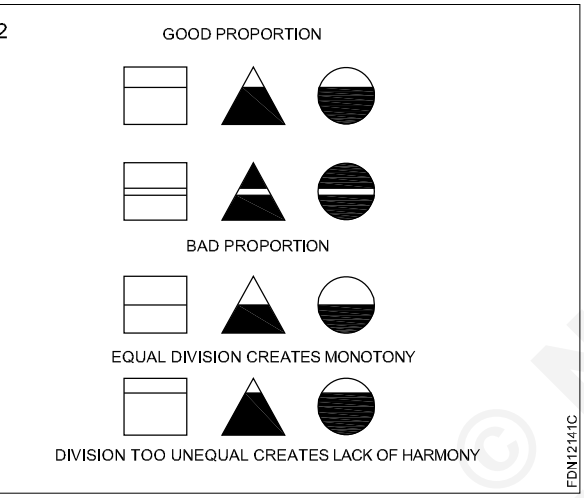
Imbalance/Asymmetrical balance/informal balance (Fig 11)

Fig 11

Asymmetrical, or informal, balance is usually much more interesting than symmetrical balance. In asymmetrical balance the imaginary central pivot point is still presumed to be present; however, instead of mirror images on each side of the picture area, the subject elements are notably different in size, shape, weight, tone, and placement. Balance is established by equalizing the element forces in spite of their differences

Proportion (Fig 12)

Fig 12



Proportion is the feeling of unity created when all parts (sizes, amounts, or number) relate well with each other. When drawing the human figure, proportion can refer to the size of the head compared to the rest of the body.

PROPORTION involves the relationship between sizes - scale.

PROPORTION is about realistic relationship or ratio. As an illustration, the ideal human proportion is eight heads high and the shoulders are two heads wide so artists can change these relationships or proportions for dramatic or comic effect or to emphasize a feature or quality. In cartoons the head and hands are emphasized by enlarging them beyond realistic scale.

PROPORTION is familiar to us all so artists can use the warping or normal proportions to suggest emotions or affect the status of a subject.

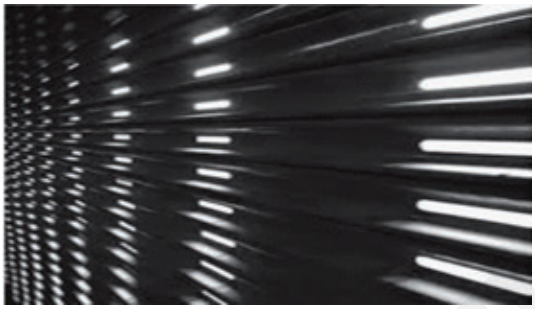
Rhythm

Rhythm is created when one or more elements of design are used repeatedly to create a feeling of organized movement. Variety is essential to keep rhythm exciting and active, and moving the viewer around the artwork. Rhythm creates a mood like music or dancing.

Rhythm through Lines (Fig 13)

RHYTHM is about the rate the eye moves throughout the work of art. This is usually because the eye moves, jumps or slides from one similar element to another in a way similar to music.

Fig 13



Rhythm through Gradation (Fig 14)

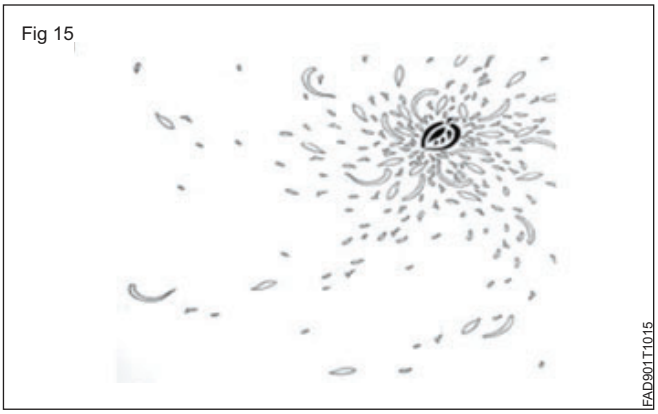
Rhythm may be in the form of GRADATION where the repeated elements slowly become smaller or larger.

Fig 14

Rhythm through Progression (Fig 15)

The designs when it is progressed by any form of size, color or shape repetitively then it is called rhythm through progression.

Fig 15



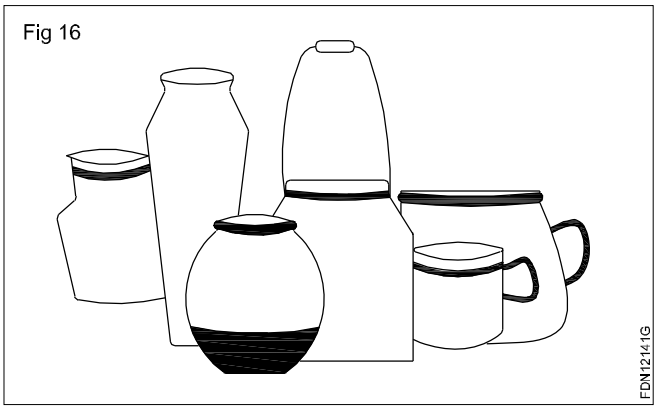
Rhythm through Repetition

REPETITION is the use of similar or connected pictorial elements. For example, similar shapes, colors or lines that are used more than once.

UNITY (Fig 16)

Unity discusses the need to tie the various elements of a work of art together. Unity is a measure of how the elements of a page seem to fit together - to belong together. A unified work of art represents first a whole, then the sum of its parts.

Fig 16



Ways to Achieve Unity

Proximity

The simplest method of making objects appear to belong together is to group them closely together. This allows us to see a pattern.

Repetition

Another method often used to promote unity is the use of repetition. Repetition of color, shape, texture or object can be used to tie a work together.

Continuation

A much more subtle method of unifying a work involves the continuation of line, edge or direction from one area to another.

Selection of dress according to age season, occassion

Objectives: At the end of this lesson you shall be able to
- **explain different factors to be considered while designing garments.**

Season

Normally we are wearing cottons in summers and woolens in winters. As we know woollen clothes are expensive and proper care is needed for their maintenance. People living in cold climate need to wear woollen clothes to keep warm. People living in very hot climates as in deserts need to wear turbans of thick cloth to protect their heads and wear long robes to stay cool.

Occasion

The garments to be designed according to the Occasion. When functions like marriage, the dresses should be in bright colours often accompanied by bright accessories like bangles, chain and earrings. These elaborate dresses could not be worn on busy routine days. We would rather feel comfortable in a dress which fits us well and allows for ease of movement. Simple clothing with minimum accessories like a formal salwar kameez will give a more professional look for an interview. Sari, formal trousers, shirt, tie would be a good option that will make us feel active and confident.

Infant wear: The clothing requirements from birth to 12 months of age are few. The major requirements of the newborn are for warmth, comfort and cleanliness. Clothes should be soft and light as babies have tender and delicate skin. Since they are sleeping most of the time their clothes should be simple to put on and take off. It is also important that they should be easy to maintain. Cotton shirts that slip on or that have double-breasted front opening with snaps are some easy to wear styles. The diapers should be made of absorbent and soft cotton material.

3.2. School going children: Children of this age group are in the growing stage. They like to run about and play and are very active. Hence, their clothes must be made of strong and durable fabrics which can take a lot of wear and tear. While constructing the garments, we have to take care to make that there is adequate cloth inside the seams which can be opened up to fit rapidly growing children. The clothes must also be easy to launder as they get dirty frequently.

3.3 The later teen years: This is the age when one starts going to college. Teenagers are very conscious about clothes and want to wear the 'latest' styles. They like to have variety in their clothes because they do not want to repeat the same dress every day. For them, fit and style are important qualities of clothes and construction is not often considered. It is advisable to select clothes which they can mix and match so that they can achieve variety with few clothes e.g. few colours of Skirts and Tops. Similarly, if a teenaged boy gets a couple of pair of jeans and a few T-shirts, he can combine them to achieve variety in his wardrobe.

Age group relation to design various categories of mens wear, womens wear, kids wear

Objectives: At the end of this lesson you shall be able to
- **explain factor that influences selection of design**
- **explain about designs and colours of the dresses preferred by different groups.**

Introduction: Appearance is the most important factor in our daily life style. In current society personal appearance, dressing and clothing does matter a lot. Clothes are said to be the reflection of a person's personality. Wearing clothes also carries specific cultural and social meanings and in this process designs play an important role. Clothing can be divided in to apparels (shirting and suiting fabric, ladies suits etc.) and accessories (Stole and shawl, handkerchief, bag and purse, belts, head dress, foot wears). Designs on apparels and accessories vary according to type, shape and size of the clothing though they are interdependent. Designs communicate on behalf of the wearer. Therefore, selection of designs for clothing is a very important consideration. Various factors influencing the selection of designs are as follows:

Age: Growing up means our clothes and designs on them change as well. Something we wore when we were ten years old may not look appropriate at present. Different designs are required for different age groups. Therefore, care should be taken in selecting designs on clothes for a particular age group.

i **Infants:** Infant's clothes are to be washed quite often, hence, the prints should be durable. Small floral prints, polka dots, etc are more appropriate.

ii **Children :** Animal and cartoon prints for casual wear are preferred by kids. Hazy and dull colours should not be selected for children. Rather bright gaudy colours are good for them.

iii **Adolescents:** Adolescents like distinctive colours. Designs with bright colours reflecting enthusiasm, cheerfulness and liveliness should be used for them. Designs should be creative, stylized, abstract and according to the latest fashion.

iv Adults: Simple and elegant designs on clothes are desirable for mature and elderly. In this age, more emphasis should be the profession, occasion, and price than on the prevalent fashion.

v Old age: Clothes having prints on white or pastel base are preferred by elderly. Floral, traditional and ethnic designs in subtle colours are often used by women for routine wear and simple stripes and checks in pastel colours for men are preferred.

Sex: In India there is a definite demarcation of clothing for both sexes in case of colours, styles and designs. Usually subdued colours are used in the designs for men whereas for women pure hues are mostly preferred. Floral prints are generally considered suitable for women while checks and stripes are considered for men shirts.

Personality: People with calm and quiet personality generally prefer simple prints with light colours whereas person with dynamic personality like bold and gay colour prints.

Figure type: Designs should be chosen after analysis of the colour of the skin and body figure. Tall-thin figure may select horizontal lines, large prints whereas vertical lines and small prints are more apt for short-thin figure.

Value/ attitudes/interests: How we choose a design affects our attitudes and actions. People have their own values that they associate with each design. It's a known fact that people select designs on clothing according to their preference which is according to the way they feel or how they think they're going to feel when they put them on. If clothing makes us feel more powerful, outgoing, beautiful, handsome, mysterious, quirky, or humorous, it will subconsciously reflect in our personality. We choose designs on clothes because we want to feel a certain way and clothes help us to achieve that goal.

Social Status: Social status is a pervasive issue in any social context, and manipulating designs in clothing may be useful to negotiate social status within groups and institutions. Wearing expensive clothes having designs of brocade or zari work can communicate wealth or image of of wealth and in turn signify the social status.

Geographic location: This is one of the important factors that affects the choice of design. Different geographic locations have their own set of art and designs for clothing. People of a particular area identify with the designs belonging to that place. Example Kashmir residents can be seen wearing designs of Chinar leaves, saffron flowers etc.

Cultural background: People belonging to different cultures have different preferences for design. They have their own ideologies and standards that have to be met. Indian market has wide range of traditional designs like kalka motif, lotus, fish etc. whereas western markets prefer bold and abstract designs on dress. But by the advent of media, education and acculturation has reduced this line of distinction.

Different occasions: As there are different dresses for formal, informal, festive occasions and ceremonies, likewise the design on the dresses also vary according to the occasion. Simple designs for formal while elaborate designs for festive occasions and ceremonies

Occupational clothes: Different occupations affects the design in clothing. For example, academicians will prefer plain or checked shirt, plain dress material with slight embroidery or simple prints, politicians generally wear clothes made of white colour fabric which signifies purity with self-designs of different weaves, flowers, geometric designs etc., while professionals wear plain colour clothes with generally no design or self-design.

		Formal wear	**Informal wear**	**Occasional wear**
Men's wear	Designs/patterns	Plains, stripes, check, plaids, gabardine, twills, dobby patterns	Plain, printed, knitted, calligraphic prints	Printed, self designs, extra figuring, brocades, machine embroidered designs especially small motifs.
	Colours	Tints and shades of blue, green browns and neutral colours	All most all hues and their tints and shades	All most all hues
Women's wear	Designs/patterns	Plain, printed with varieties of patterns (mostly floral prints, all over patterns, buties, polka dots), embroidered, tie & dyed, and batik designs knitted	Knitted, stripes and checks, abstract, stylized & geometrical, figurative motifs, natural objects and motifs	Satin, jacquard patterns, extra yarn figuring, zari & sequins work, appliqué work, embroidered, all in both small and large motifs
	Colours	All most all hues and their tints and shades	Mostly bright colours like red, orange, yellow etc. But all colours are used	Mostly bright colours like red, orange, yellow etc. But all colours are used
Children's wear	Designs/patterns	Plain, stripes, checks and printed	Printed with floral stylized, cartoon, animal and nursery prints	Jacquard, extra yarn figuring, machine embroidered & zari work
	Colours	Mostly bright colours, generally dull shades are avoided	Mostly bright colours, generally dull shades are avoided	Mostly bright colours, generally dull shades are avoided

Readymade garment industry

Objectives: At the end of this lesson you shall be able to
- **explain illusion effect using fashion details**
- **explain about sewing & finishing in mass production process.**

Introduction to garment technology

"Garment Technology" is the term normally can be defined as the study of technical particulars about the works and processes of Mass Production in Readymade Garment factories. Now a days, Lot of garment industries are emerging in India, and they are manufacturing and exporting different types of Gent's, ladies' and Children's garments to various foreign countries. Also, readymade garments are constructed for domestic market all over in India. A garment technology student should study the entire process and applications of various machineries in garment industries.

Working behavior of export houses

Export Houses in India are playing the vital role in Indian economy as well as in Industries. The export houses are getting orders from foreign countries which are in different types of garment styles like Shirt, Ladies House Coat, 'T' shirt, Trousers, Bermudas etc. With the help of the garment manufacturing units, the garments are manufactured and packed and sent for shipment to various countries all over the world.

The export houses get orders from foreign buyers through various types of communications like Internet, contacts, trade exhibitions etc. After the order confirmation, the patterns are prepared in required sizes and according the measurements and specifications. With the help of the Pattern grading, the patterns are grades into various required sizes. The samples are prepared in the required sizes with the required buyer's specifications including the type of fabric and packing and sent for buyer's approval. After the sample confirmation, the purchase department will purchase the required raw materials and accessories for the particular order. The received raw materials are inspected in the stores and the fabrics are sent for cutting section.

In cutting section, the fabrics are arranged one above the other for bulk cutting and this process is known as 'Spreading'. After the spreading, the patterns are arranged on the laid fabric and the arrangement of patterns on the fabric lay is known as 'Patten Layout". The peripherals of the patterns are marked with the help of the marking chalk and the cut with the help of cutting machines. In modern Industries, computerized Pattern making, grading, marker planning and cutting all can be done in a single process. The cut components have been given serial numbers in Numbering process to avoid the shade variation in sewing. Then the cuts have been transported to the Sewing Section.

In sewing section, the sorted cut components of a garment are assorted and made as a bundle in the assorting process. The bundles are issued for sewing. The sewing department is also known as 'Production Department' which is deciding the actual manufacturing status. With the help of various types of sewing machines, the cut components are constructed as a garment. After sewing, the extra, uncut protruding threads have been removed in the trimming section. Then all the garments are primarily checked and the sewing defects are rectified with required alteration. If washing required, the garments are shifted to washing section and washed.

Then the garments have been transported to the Finishing Section. There, the garments are again checked and this inspection called as 'Mid Inspection'. The garments are pressed in the Pressing Section and packed neatly as per the buyer's specification. The Final Inspection process has been done both by the export house as well as buyer. After getting buyer's clearance, finally good are taken for shipment. The total process can be easily understood with the help of the following flow chart.

Process flow chart

Orders from Buyers
↓
Pattern Preparation
↓
Pattern Grading
↓
Sample Preparation
↓
Sample Confirmation
↓
Raw Materials Purchase
↓
Fabric & Raw material Inspection
↓
Spreading
↓
Pattern Layout
↓
Marking
↓
Cutting
↓
Numbering
↓
Assortment
↓
Sewing
↓

Trimming
↓
Primary Checking & Alteration
↓
Washing
↓
Mid Inspection
↓
Pressing
↓
Packing
↓
Final Inspection
↓
Shipment.

Bar tacking machine

1 This is the variation of lock stitch machine which few a number of stitches across the point to be reinforced and then sew cornering stitches over and right angles to the first stitches

2 The machine having the facility of making stitches from 18 to 42 stitches and we can change the stitch density according to the requirement.

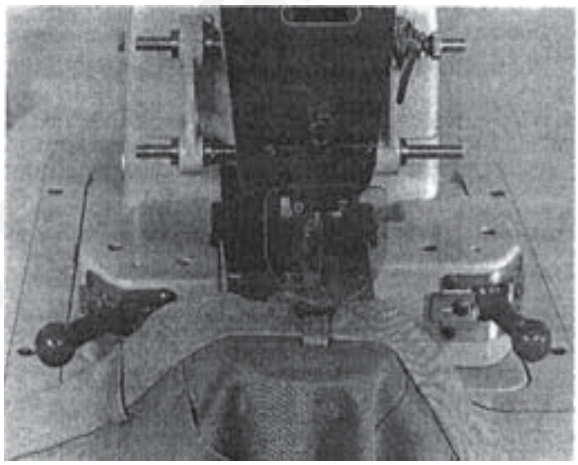
3 The machine has a normal speed of 3200 stitches per minute.

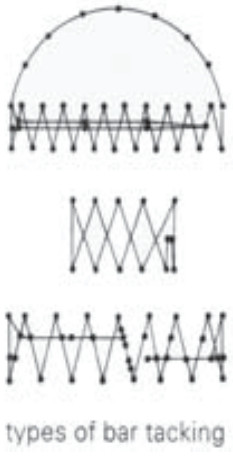
4 In some machines a mechanism which signals audibly and usually when the bobbin thread is below a certain level.

5 This machine is mainly used at the edges of pockets, flaps, Belt carriers etc.

6 Some special type of bar tack machines are used for sewing small decorative tucks and shapes. (Fig 1)

Fig 1





types of bar tacking

Feed off arm machine

1 The machine name suggests the shape of the machine which is having a bend towards the feed mechanism.

2 It is a double needle machine used to form chain stitches for this the needles are fixed diagonally and provided with the device for lubricating the thread.

3 It is having lapped seam folders used to produce lapped seam or flat fell seam.

4 The maximum speed ranges from 4500 to 5500 SPM (Stitches per Minute).

5 This is used for side closing in women garments and producing covering stitches in knitted garments covering stitches in heavy fabric are especially made by this machine.

6 The advanced machines are available with three needles with thread trimming and sucking device. (Fig 2)

Fig 2

Snaps fixing machine

1 This machine is used to fix the snaps (press buttons) easily in the garment.

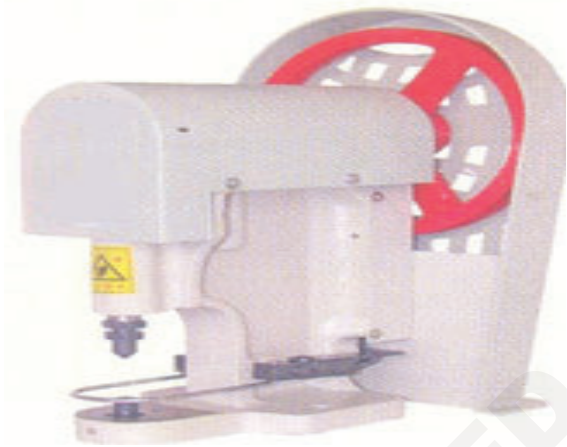
2 It fixes the four parts a cap & socket for outer portion and a knob & post for inner portion.

3 It is used to fix the snaps easily by the pressing action actuated by air pressure.

4 This machine is used to fix different type and sizes of snaps.

5 This is used to fix snaps for both women and knitted garments. (Fig 3)

Fig 3



Collar turning machine (Fig 4)

1. This is used to turn the Collars in mass production.

2 Here, two moving parts are acting and the collar is placed on one part and with the help of the other part the collar has been turned successfully.

3 It is used to maintain the sharp collar points.

4 There are different types of machines like manual, semi automatic and automatic machines.

5 It is saving the time by avoiding the process of putting thread inside the collar to get sharp point.

Fig 4

Embroidery machines (Fig 5)

1 This machine is used to create different types of embroidery patterns both on woven and knitted garments.

2 There are different types of embroidery machines used in the garment industries according to the requirements. There are electronic controlled embroidery machines, Microprocessor controlled embroidery machines, and computer embroidery machines are available.

Fig 5

3 In advanced computer embroidery machines, we can create different type of embroidery stitches with different patterns with best quality and accuracy. There are also giving high production in minimum time.

4 In advanced machines there are maximum twelve heads and a long embroidery frame is used with 10 needles per each head. With this, we can produce the embroidery pattern per head , the size of 75 Cms. Length and 50 Cms. Width.

5 A computerized embroidery machine can store up to 2,59,000 stitches and produce any type of embroidery pattern.

6 Now embroidery machines are also used for making cording stitches, Couching, Sequence work etc.

7 The maximum cost of computerized machine will be 50 lakhs to 2 crores depending upon the specifications.

8 Mainly three types of stitches are used in computerized embroidery machines are Running Stich, Satin Stitch and Filling Stitch.

9 These machines having the different frame sizes i.e., 9", 12", 15", 18" & 25".

10 The notable computerized embroidery machine brands are BROTHER, TAJIMA, NELCO, HAPPY 2SK etc.

Types of sewing production systems

There are 3 types of production systems are being followed in Garment Industries. They are,

1 Group System or Assembly System

2 Band System or Conveyor System

3 Individual Production System or Piece rate System

1 Group System

In this type of system, the sewing machines are arranged in Group wise and each group will do one operation of a garment. For example, if one group is doing Back with Yoke attaching of a Shirt then the next group will do front placket for a Shirt. And one group will do the assembling operations like collar attaching, sleeve attaching etc.

Merits

- We can get very good quality
- Semi skilled operators can also be utilized.

Demerits

- We can't see the finished garment on the same day. Last day only we can get all the garments bulkily.
- This will create quality problems.

2 Band System

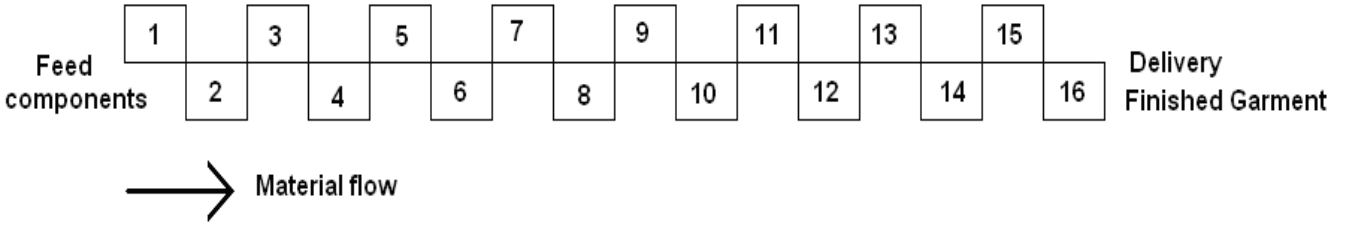
This system is widely followed in garments industries. The machines are arranged one after the other as shown in the figure and formed like a band. The First operator will do the first operation of the garment while at the end of the band, the garment is completely finished.

Merits

- We can see the garment in full finished form within a short period. Hence we can easily do the quality control.
- No accumulation of the materials.

Demerits

- . If one person or machine has problem, then the entire band will be affected.
- Skilled operators only be needed and semi skilled operators affect the flow of material.



3 Individual Finishing System

Here only one person completely sews the garment. In this system, normally wages are fixed according to the no. of garments stitched per day. Hence, It is called as "Piece Rate System". The only merit of this system is we can get more production. But the demerits are, Poor Quality, requirement of skilled labours, chance of raising disputes among workers etc. (Fig 6)

Fig 6

Garment finishing

The garment finishing mainly has the processes of Trimming (Thread cutting), Laundering, Stain removing and Packing.

Trimming: In this process, First the large hanging threads and small protruding threads are removed my manually with the help of a Thread clippers. They are used to cut the larger and small threads manually.

Thread Sucking Machine is extensively used to remove dust particles and all loose thread from finished garments and textile products. These are scientifically designed to remove all loose thread and dust particles from finished garments, through a specially designed suction operation simultaneously creating an oscillation, similar to dusting of garments. They are suitable for all kinds of light and heavy garments, home furnishing items and even heavy bath rugs. They have easily removable lint filter provided for collection of all lint, loose thread and dust particles. The machine can handle more than 2000 pieces in an average 8 hour shift. (Fig 7)

Fig 7

Laundering

In mass production, some buyers need washed garments. For that, the garments are manufactured with shrinkage allowances and then washed, pressed and packed. For washing, and drying works, Washing and Drying machines are used in the washing section. The whole process is known as "Laundry" in commercial term and the following equipments are used for laundry.

1 Washing Machines

2 Hydro extractors

3 Drying Machines

1 Washing machines

Washing machines are used to wash the garments in mass production. Two types of washers are available,

i Agitator Type

ii Cylinder Type

The washing machine contains "wash tubs" are made of anodized aluminum or porcelain enameled stainless steel from inside and synthetic enamel on the outside. Conventional washers have round tubs, though square tubs with rounded corners are also frequently used. Few models have double walled tubs for preventing rapid cooling of wash water. Below the agitator is a "Sediment trap" which prevents settled dirt from circulating back into the clothes. Lid of tub is usually separate though it may also be attached to a side to tub. At the bottom of tub is usually attached an opening for drainage of wash water, when required, to be used either directly or through a "drain Plump".

The latest type washing machines are having timer and speed control, to keep the agitator in motion for a desired period or to regulate the agitation frequency. A water extractor is provided for extraction of wash water from the garments. This is a perforated metal drum, enclosed in a "drain tub" and is rotated at a speed between 300 and 1100 revolutions per minute. Excess water is centrifuged out and then drained out by the drain pump. This is provided on the side of main washer, as a single unit or may be separate.

"Wringers" are also provided which are actually two rubber rollers provided at the top of the machine. Clothes or garments are passed under pressure through the two rollers, which while rotating extract to leave a maximum of 32% of the water retained in the clothes. (Fig 8)

Fig 8

2 Hydro Extractors

The Hydro extractors are used to remove the water from the fabrics or garments after washing. These are used to remove the water by centrifugal force instead of squeezing the garments. After hydro extraction, then the garments are taken to drying machines. (Fig 9)

Fig 9

3 Drying Machines

Drying Machines which are simply called "Driers" are used to dry the garments quickly in the garment Industries. It is also looks like washing machine, but which is having a cabin for putting garments and hot air has been passed through the cabin which quickly dries the garments. The temperature and time of hot air passage can be set according to the requirements. Now a days time and automatic temperature control are also provided in the latest models. A small drying unit is also provided in the latest domestic model washing machines. But in Industrial models, due to the large quantities, separate big type driers are used for drying the garments. (Fig 10)

Fig 10

Packing

Packing is the process of presenting the garments to the buyer in a well secure and safety state. The garments are pressed and packed individually and after that the individually packed pieces are bulkily packed in cartons or containers.

Types of individual piece packing

The main types of Individual piece packing or folding the piece are,

1 Hanger Pack

2 Dead Man pack

3 Flat Pack

4 Stand up pack.

1 Hanger Pack

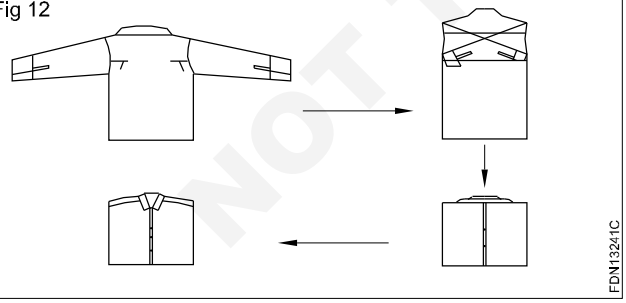
In hanger pack, the garment is pressed and packed with hanger in a ploy bag without folding. (Fig 11)

Fig 11

2 Dead Man Pack

This type of pack is suitable for Shirt only. Here, the Sleeves of the garment are folded and joined in the front or back portion like a dead man and the entire garment is folded in lengthwise centre direction. (Fig 12)

Fig 12



3 Flat Pack

In this type of folding, the garment is packed as per the given folding size with supporting materials like, Back support, Tissue Paper, etc. But the Collar portion should not have any supports like, Butterfly, Band etc. (Fig 13)

Fig 13

4. Stand-up Pack

This is similar to Flat back but, the Collar portion should be in Stand condition with the help of the supports like, Butterfly, Band etc. It is suitable for garments which are having the collar part. (Fig 14)

Fig 14

Packing materials

For doing different types of packing, things like back support, tissue paper, pins etc. are used. These are called as "Packing Materials". These are used for several purposes and used to improve the quality of the packing. The different types of packing materials and their usage in packing have been given in the following paragraphs.

a Poly Bags

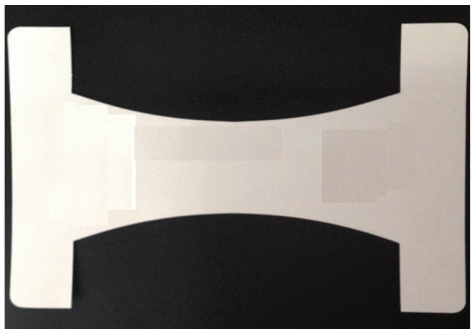
Poly bag is the important packing material used in all types of packing. It is the bag made of poly ethylene products used to protect the garment from dirt, water, dust and other foreign matters. The size of poly bag is determined by the types of packing and folding size. (Fig 15)

b Back Support Board

It is the important packing material used in Stand up and Flat pack used to achieve correct folding size. It is made of thick Card board and having the dimensions according to the folding size. It should applied the back portion of the garment and it is used to make easy for pressmen to achieve the required correct folding size. Also the back supports are giving strength and compact to the packed garments. (Fig 16)

Fig 15

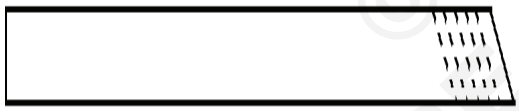
Fig 16



c Inner Collar Band

It is used in the inner collar portions of the garments like Shirt. It is made of card board and used in between the collar and collar band. (Fig 17)

Fig 17



d PVC collar Outer Band

It is very important packing material used in Stand up Pack particularly for Shirts. It is made of Poly Vinyl chloride and used in collar portions. This is used to give support to the Collar band in the outside area. (Fig 18)

Fig 18

e Butterfly

This is also used in standup pack of Shirts. It is made of PVC and used in neck portion at the collar pic area below the collar points. This is used to give a raised and beautiful appearance to the collar points. (Fig 19)

Fig 19

f Plastic Clips

This is made of thick plastic. It is used to hold the folded edges, used to join the sleeves in the centre portion. It is used in all types of packing for holding and joining the edges to protect the fold of the packing .(Fig 20)

Fig 20

g Pins

Pins are used to hold the edges of the folding and also used to join the two parts. It is used like clips to protect the folding of the packing in all types of packing. It is made of metal. (Fig 21)

Fig 21

h Hand Tags

The tags are applied to the pack after pressing and packing of the garment. In tags, the details of price, fabric, brand name etc., are printed and made hung with the pieces. According to the details printed on that, the tags are classified as Fabric tags, Price Tags, Brand Tags, Bar code tags etc. (Fig 22)

i Tissue Paper

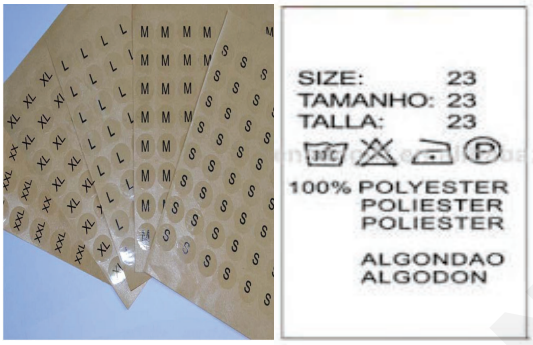
Tissue paper is the thin and white paper which applied inside particularly Steam pressed cotton garments. The tissue paper absorbs the excess moisture of the cotton garments and protects them from fungal problems. Also it is used to give slight strength and flexibility to the synthetic garments.

Fig 22

j Stickers

The stickers which made of polyethylene are stuck out side of the poly bags for displaying the printed information like size and usage of garment. The two important stickers types are, 1. Size Sticker - which has the garment size and 2. Warning Stickers - Having information regarding safety and protection of the garment. (Fig 23)

Fig 23



k Cartons

The carton boxes are used to pack the individual pack pressed garments. It is a box made of different no. of paper layers. According to the no. of layers, the strength of the carton is determined. There are different thickness of cartons available in market. The 3 ply, 5 ply, 7 ply etc. are referred the no. of layers. According to the no. of layers or ply, the strength of the box may be increased or decreased. The details like net weight, Gross Weight, dimensions of the carton, port etc. will be printed in the cartons boxes. (Fig 24)

Fig 24

l Cello tape

This is used to seal the carton boxes in the final stage of the packing process. It is made of poly ethylene product and are available in roll forms with different widths. (Fig 25)

Fig 25

Method of bulk packing

There are two methods of bulk packing. They are,

1 Carton Packing

2 Container Packing.

1 Carton Packing

This is the commonest method of packing. Carton Boxes are in various thickness like 3 ply, 5 ply to 9 ply used in this method for shipment. The folded pieces which are in poly bags are packed in the carton boxes for security. Gunny bags and poly sheets are sometimes used outside and inside of the carton boxes for extra safety. The carton boxes are closed with the help of Cello tapes and Nylon tapes. The carton box size and no. of pcs. Per Carton box will be as per the buyer's requirements. Some buyers are needed inner carton boxes which are smaller in size for extra protection. (Fig 26)

Fig 26

2 Container Packing

This is the easy method of packing. Here Big steel containers are used to pack the garments. With the help of this method, there is no necessity of using carton boxes and other supporting items. Specialized Containers are also available for garments packing. Here, big nylon ropes with many no. of loops are available and the garments which are in hangers will be straightly hung in the loops. (Fig 27)

Preparation of material before cutting, draping of garment

Preparation of fabric for cutting, draping and sewing involve the following steps.

- Straightening
- Shrinking
- Pressing

Fig 27

Straighten the grain of the fabric

The grain of the fabric should be checked thoroughly. The cross wise grain is composed of fabric threads that run parallel to the cut edges of the fabric. While the lengthwise grain on the other hand, is composed of fabric threads that run parallel to the selvedge edge, the self-finished edge of the fabric.

Knit fabric

In knit fabric, cannot be straightened by pulling a thread. To find a straight line, in knit fabric, contrasting colour thread is used to hand-baste across a crosswise loop. Then fabric is cut along the basted line. This gives a straight edge for folding the fabric and laying out the pattern.

Prewash the fabric (shrinking)

Most fabric need to be pre-washed because many of them including cotton, flannel and knitted fabrics can shrink significantly when washed.

It is important to wash such fabrics before use.

Pressing

Iron out the fabric after prewashing of fabric.

Appropriate amount of heat should be used on the fabric to remove creases and wrinkles.

Motifs

Objectives: At the end of this lesson you shall be able to
- **define motif its and hole use**

Introduction

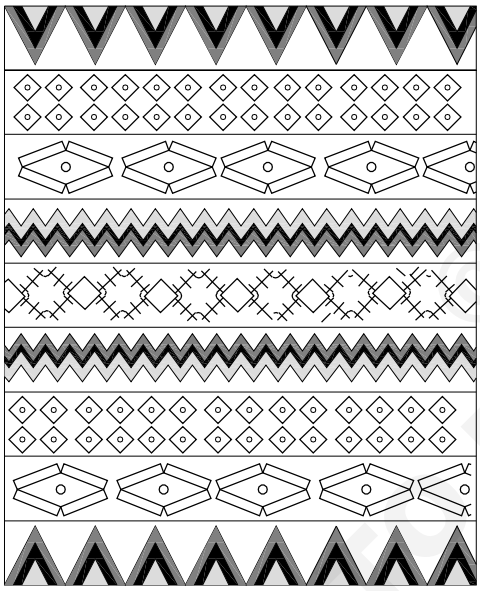
A decorative image or design, especially a repeated which forms a pattern like plaids, checks, circles, stripes, a pattern or design made on the garments for decorative purposes. Motif is the smallest or basic unit of the pattern. Its use enhances the beauty of the cloth as well as age.

Motif is repeated in different ways to form a pattern. These patterns are repeated to form a design. Motif has its independent identity in a pattern or design. Every motif is often developed by a geometric shape or a combination of different geometric shapes.

Classification of Motifs (Fig 1)

Motifs can be classified as follows

Fig 1



1 Geometric Motifs

These types of motifs include lines such as - horizontal diagonal and several other ordinary forms are included in the geometric motifs. A geometric motif is an abstract or non - representational motif. Geometric motifs are prepared during fabric making process (weaving and knitting).

Examples of geometric Motifs - Basket, chevron and herringbone weave design box, layout, check board, diagonal stripes, ogee pattern, plaid, polka dots, etc.

2 Natural or Realistic Motifs

These motifs represent the objects present in the nature. Some of the examples are flowers on trees, animals in the forest, human figurines and other natural objects. They are also known as novelty patterns. Since very less creativity of a designer can be seen in this type of motif and a three dimensional platform is required, hence such motifs have not found much acceptability in the dress designing.

Examples of natural motifs - Animals skin, fruits toys, mythological designs, vegetables, shell, forests, etc. (Fig 2)

Fig 2

Sources and Inspiration for Designing

Objectives: At the end of this lesson you shall be able to
- **define name and classify type of hand stitch**
- **state the uses of each type of stitches.**

Introduction

Inspiration and sources of inspiration play an important role in the designing process. For a designer everything or anything can be a source of inspiration. A good designer can The designers may seek inspiration from the photographs of industry. Designer gets help in creating his own designs from on gathering these sources of inspiration. A lot of time and money is spent on gathering these sources of inspiration. There is immense pressure on the designers, in the textile industry, for developing new ideas. The design should be according to the weather and mood. The quality of the design not only depends upon the talent of the designer but also on the quality of the inquest of design. The elaborate and extensive inquest help and make a designer capable of making modern style designs.

Here arises a question as in what way the design performance can be improved by the sources of inspiration. Anything that can impart an idea to the designer is a source of

inspiration. Sources of inspiration play an important role during the entire process of designing. However, different sources of inspiration are important at different stages.

Different sources of inspiration

Any visible object can be a source of inspiration for creating a design. Different sources of inspiration can be combined in a garment. Since the usage of different sources of inspiration is completely practical hence it is possible to identify different sources of inspiration while performing

1 Garments

Designers seek inspiration from new costumes by visiting various fashion shows such as premier vision etc. Besides, they study garments by shopping them from good fashion houses, Designers in particular keep an eye on the costumers designed by their competitors. Their end cavour is to create better designs than them. Designers seek inspiration from the historical garments also. Designers notice the people in parties, streets etc. and seek inspiration from street fashion Designers always keep their eye open for the interesting sort of garments. Designers should always take care of motifs and shape details while studying the garments. They should include them in their designs.

2 Photographs of Garments

All the designers study the fashion photographs published in the magazines. Although the actual composition of a garment cannot always be determined through a photograph, however it still provides correct information about the condition of the garment. A designer can get a clue about the contemporary fashion by viewing a photograph.

3 Natural Objects

The designers seek inspiration for several themes from nature. Designers are inspired by animals, plants and other natural objects. Besides they seek inspiration from natural phenomenon such as - storms, sunset etc. Designers gather light such as leaves, shells etc. and convert them into designs.

4 Artifacts and Images

Designers observe decorative patterns and motifs The textiles pattern They make sufficient sources of decorative patterns available. For example - embroidery, mats etc.

Designers pattern, other designer objects such as tiles, mosaic etc. also acts as a source of inspiration. designers often use historical designs such as - William Maurice wallpaper and fine art etc. As source of inspiration.

Designers never miss a chance sources of inspiration. Designers always create when they observe something suitable.

2 Role of Sources of Inspiration in the Design Process

The sources of inspiration are used during design process. Hence their role in designing can be understood as follows.

1 The designer can know about the possible designs by observing a garment or it photograph. Designer can determine what in fashion and what is outdated, what would appease people s mood and what would appear to be strange to them. Determining such things is the most important skill and expertise of the designer.

2 Designer can learn about important design features such as - neckline or pocket etc. by studying other garments. They are directly used in a design.

3 **Optical Illusions:** Illusions have been used in the garments for quite a long time. Optical illusion is used in the garments for providing an effect of false shoulder high waistline and puffed skirt. Some people demand the outfits in which they appear slim. This demand of the people is met by creating optical illusion in the fashion.

For example, an optical illusion was created by introducing white and black lines in the dress worn by Victoria Beckham in an event. This made her appear slim.

The modern day design experts are of the view That fashionable, real and several other illusions can be created by introducing stripes and lines in the costumes.

Types of Optical Illusion

1 **Optical Illusion through Lines-** The wise selection of lines in fashion designing can be create an optical illusion. Lines can be observed in garment details and garments features such as - pocket, collar, belt etc. are included in the details. Silhouette refers to garments shape and size. Silhouette depends upon the design of the garment and fabric used both detail lines and silhouette affect the optical illusion produced.

A person appears slim and tall using the vertical lines for examples - V neck, shawl collar, pleats etc. The placement of vertical lines is important in the garment. If these lines are placed close to each other in a garment, then the person will appear slim.

Horizontal lines emphasize more on the width. if the horizontal lines are present above or below the body in a garment then they create an effect of wideness. The garment then they create an effect of wideness. The horizontal lines should not be used at unappealing places. For example, if the hips are big in size then the horizontal lines should not be used there.

Curved lines emphasize more on the curve of the body. They provide soft and feminine look to the garment.

Diagonal lines provide a surprising slimming effect. These lines create a slimming effect on that part of the body where they have been used.

A good designed needs only a few types of lines among the above - mentioned lines to create a winning garment.

2 **Optical Illusion through colours** - Colour is one of the things that are primarily noticed by the people while purchasing the garments. The colours produced an illusion in the figure in the same way as is produced by the lines. The colours are selected according to the hair, skin, eyes and figure size.

Colours have been categorised as warm colours such as red, yellow and orange and cool colours such as - blue and green. Warm colours produced an illusion of large size whereas cool colours produce an illusion of small size.

The dullness, darkness, lightness and brightness of the colours also affect the optical illusion produced.

Dull and dark colours make a figure appear short whereas bright and light colours create a contrary effect.

The usage of contrasting colours at top and bottom make a body appear shorted whereas the usage of a single colour in the outfit produce an illusion of longer and slimming effect.

3 **Optical Illusion through texture** - There are various types of textures that affect the size and shape of the figure for example, soft and clingy textures emphasize more on the irregularities of the body whereas hard and stiff textured garments hide the irregularities of the body The stiffer fabric makes a body appear heavy and bulky textures add volume to the figure. The fabrics with such texture are considered good for tall, slim figures the persons having short figures should not wear fabrics with textures. Shinny fabrics make a figure appear taller and this type of fabric is good for a person slimmer than average slim person. Smooth fabric bides the irregularities of the body and looks attractive on most of the figures.

4 Silhouette - Silhouette refers to the outline of a garments silhouette is the most effect optical illusion element of the garment Fashion cycle usually concentrates on a specific silhouette however, a person can use various apparels in these modern day life with so much variation. Everybody does not carry the same silhouette, people carry different silhouettes according to different seasons, occasions and desires. Silhouette is determined by the texture of the fabric, cut of the garment length and which of the garment waistline length of the shoulder seam.

Silhouette can be categorised as follows

4.1 Slim Line Silhouette

Pants tight skirts, slacks, short etc., are some of the examples of this type of silhouette. There is very les space in between the garment and the body in this type of silhouette. It is skin tight. It is known as Classic Tailored Silhouette These silhouettes are quite comfortable for the women as business costumes. The optical illusion of tallness can easily be created by this silhouette using jeans, pants, slim fitted blouse etc. This silhouette is considered suitable for summers.

4.2 Shoulder Dressing Silhouette

Straight gowns, pleated skirts parallels, jackets, regular fit jeans, Bermuda, top etc. some of the examples of this type of silhouette. Soft, this and wavy fabrics are used for this type of silhouette. This type of silhouette describes the complete fit and comfort style. It is a silhouette to be worn during summers. This silhouette is usually prepared by light fabrics.

4.3 Shoulder Wedge Silhouette

Padding or fullness is provided to increase the width of the bodice at the shoulders in this silhouette. Light padding at the sleeves effectively balances the figure. The example of this type of silhouette are - coat, jacket, raglan sleeve, leg - o - mutton sleeves, dolman sleeves etc. This silhouette gained popularity for the women during second world war when they showed courage to be workforce. Crisp fabrics such as - silk organza is used to create wedge effect in the evening gowns.

4.4 Hourglass Silhouette

It is a feminine silhouette., Full flared skirt and gathered skirt fitted at the waist is worn with full sleeves top. It creates hourglass silhouette several types of fabrics are suitable for type of silhouette.

4.5 Extreme Volume Silhouette

Several layered garment are worn at a time to attain the look of this type of silhouette. This silhouette is considered suitable for cold weather in particular. For example - coat and outerwear etc. This silhouette is quite effective and has a good effect on tailor women. This silhouette hides several figure related issues quite easily.

Basic hand stitches

Objectives: At the end of this lesson you shall be able to
- **define name and classify hand stitches**
- **describe their use.**

Temporary hand stitches

Basic stitches are divided into constructive and decorative stitches which are used in embroidery. Constructive stitches are further divided into temporary and permanent stitches.

Temporary stitches: Basting or tacking is a temporary stitch used for holding two or more layers of materials together before the permanent stitches are made. Usually this stitch is horizontal and is worked from right to left. This is the only stitch, which is started with a knot. For basting use a contrasting colour thread so that it can be easily seen and removed. The length of the stitch will vary depending on the weight of the fabric and how securely the pieces are to be held together. To end basting make two stitches, one on the top of another. There are several types of basting stitches.

Even basting is used for short length of seams and folds.

Uneven basting is used for long length of seams and folds.

Diagonal basting is used when several layers of fabric are to be held securely.

Padding stitch is used in coats to hold the lining and inner lining.

Tailor's tacks – Thread marks are basically uneven basting stitches. They are used to transfer marks on a lower layer of fabric.

Permanent stitches by hand

Objectives: At the end of this lesson you shall be able to
- **define name and classify type of hand stitch**
- **state the uses of each type of stitches.**

Permanent stitches: In permanent stitches avoid using knots, while starting and ending the stitches. Begin with a small back stitch if it can be concealed under the permanent Permanent stitches or leave a short length of thread (about 2 to 3cm) extending on the wrong side which can be caught and held under the first few permanent stitches. To end the stitch take the thread to the wrong side and secure with loops.

This is the simples form of hand stitch used on almost every garment.

i **Running stitch** is the simplest of all the hand stitches. It is used for sewing delicate fabrics seams, tucks, gathering, shirring, quilting mending can be done with this stitch.

ii **Hem stitch:** This is used to secure down a folded edge of material. Hemming appears as slanting stitches on the wrong side and small at right side.

These stitches should be fine and spaced close enough to hold the told securely in place. Before starting the hem fasten the thread with several tiny stitches on top of each other. Finish the hemming with several stitches to fasten it securely.

iii **Slip stitch:** This is a type of hemming used to join two folded edges or to join one folded edge to the flat surface. This stitch is faster and easier to made a seam from the right side itself used to attach patch pockets, jacket lining, securing.

iv **Back stitch** used to attach two pieces of cloth together by using a handmade stitch. It is strong and sometimes substituted then machine stitching. Its right and wrong side stitches are different. It is used to repair a seam when you do not have machine.

v **Over casting:** It used on raw edges either single or double threaded or layer to prevent them from trading.

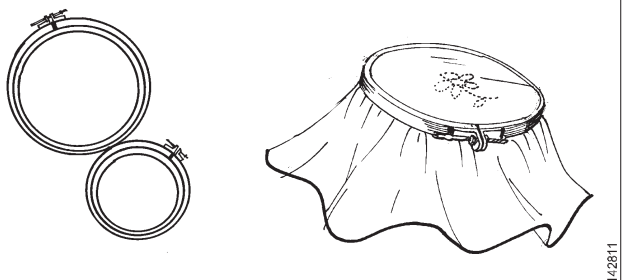
vi **Whip stitch:** This stitch is similar to over hand stitch used to finish edges. The only difference between is in overhead the needle is pushed slantingly and the stitch is formed straightly and in whip stitch to needle in pushed straight down forming slant stitches.

Introduction of decorative stitches

Objectives: At the end of this lesson you shall be able to
- **name embroidery accessories and their features**
- **explain the application of the main stitches.**

Tools for embroidery work: Embroidery **frame** is usually in circular shape. It consists of two rings, one inner and one outer. The fabric is placed in between the rings (Fig 1) and kept in tight position with the help of an adjustable screw on the outer ring (Fig 2). The frame helps to keep the fabric in an uniformly stretched position. This maintains uniform tension of the embroidery work.

Fig 1



EMBROIDERY FRAMES

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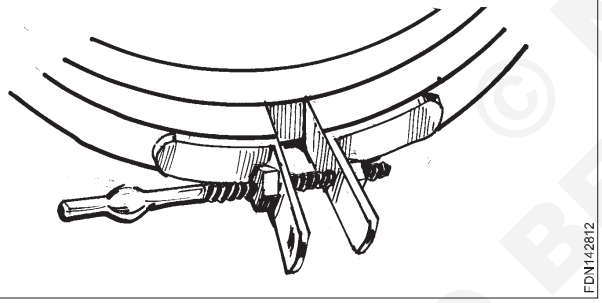
Fig 2



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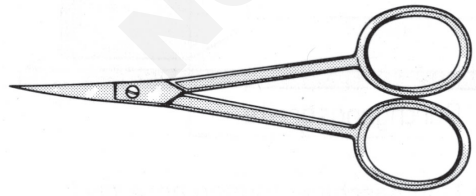
Round frames are available in 10 to 25 cm diameters. The larger sizes are generally made with clamps for attaching it to a table with a screw for adjusting.

Sharp pointed embroidery scissors are essential. The handles are longer. They have narrow and pointed blades. They are used for cutting fine and short threads. (Fig 3)

Fig 3



FDN142813

Embroidery **threads** are comparatively thicker than fabric threads. The best threads have a fairly smooth texture, which enhances the crisp character of the embroidery. Stranded cotton is lustrous thread made of six strands easy to separate. A single strand can be used for fine work and several strands for bolder effects. The threads are available in hundreds of colours. Pearl cotton thread is short with two plies, which are twisted to produce a beaded or pearl effect. Soft embroidery cotton thread is a thick thread, used on coarse fabric. Silk threads give a luxurious quality to the stitching, but are more expensive than the cotton threads. (Fig 4)

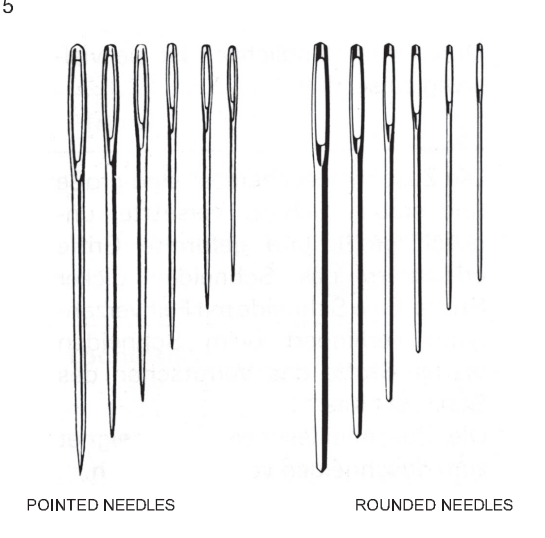
Fig 4

STRANDED COTTON PEARL COTTON SOFT EMBROIDERY COTTON

FDN142814

Embroidery needles have large eyes, to allow the stranded threads to pass through. They are shaped with pointed and round tips and the sizes are denoted by numbers from 14 to 24. (Fig 5)

Fig 5



POINTED NEEDLES ROUNDED NEEDLES

FDN142815

Transferring the design: After selecting the design for the embroidery work, the markings for the design should be transferred to the right side of the material without spoiling it. There are several ways of doing this besides the method shown in practical lessons. Some of them are Direct Method, Tacking Method, Transfer by Ironing.

Direct method: Fabric such as organdy, nylon, muslin, nylex, voil, etc.,can be laid over the design and traced directly with pencil.

Tacking method: This method is used on velvet, dark coloured cloth materials and all knitted fabrics. This method is worked by tracing the design on a thin tissue paper and tacking the design with the fabric by fine running stitch and then tearing the rest of the paper.

Transfer by ironing: Readymade paper pattern can be transferred onto the material by ironing. The transfer has the design outline in wax or ink on thin paper. The printed design is laid onto the material and moderately hot iron is applied to the back of the transfer. When the paper is removed, it is found that the design is transferred onto the material.

Embroidery stitches: Besides weaving and printing techniques, embroidery work gives an ornamental look to the fabric. There are different kinds of embroidery stitches, which are known by special names. For successful embroidery work, it is essential that you learn to work the basic stitches. In addition, you should acquire the ability to choose the right kind of stitches, designs and colour combinations suited to the type of fabric and for the purpose and use of garment or article, on which the embroidery is to be made. The stitches must be sufficiently taut, so as not to make loops and yet loose enough not to pucker the material. While beginning embroidery, the design must be outlined first. The outlining must always be done correctly or otherwise the design would loose its shape. Embroidery is a needle and thread are for ornamenting the base of fabric it has been classified.

There are different kinds of embroidery stitches, for example :

Flat stitch: When we make the stitches of fabric which are flat on the surface of fabric are known as flat stitches. Running stitch, back stitch, Pekinese back stitch, stem stitch, raised stem stitch, couching, detached couching.

Looped stitch: Looped stitches are those stitches which are formed by making a loop of thread on to the needle. Chain stitch, cable chain stitch, lazy daizy stitch, double lazy daizy, button hole stitch, closed button hole, cluster button hole, feather stitch, double feather stitch, closed feather stitch.

Cross stitch: Crossed stitches are those stitches which are form by making a cross of two stitches. The length of the stitches may vary but it has a crossing structure. Herring bone stitch, double herring bone, fish bone stitch, open Roumanian stitch, cross stitch, double cross stitch.

Knotted stitch: Knotted stitches are those types of stitches in which a thread is tied up with a knot with the help of needle. French knot, bullion knot.

Filling stitches: The stitches which are used for filling the entire area are known as filling stitches. It may have long floats of thread for filling. **For example:** satin stitch, long and short satin stitch etc,,..

Stem stitch is often used. It is one of the simplest stitches. It is worked on the traced line. It is a line stitch used for outlining designs, especially stems and leaves. It can also be used for filling small designs by working several lines side by side.

Blanket stitch is used as a decorative edging for blankets and other articles or as part of a design for which the blanket stitch makes up the border.

Closed blanket stitch is used mainly for scallop. The beauty of a scallop lies in the regularity of the stitches, which must be as close together as possible.

Buttonhole stitch is similar to blanket stitch. The difference is the stitches are close together and are of same height.

Fishbone stitch is used for large motifs. It is made by gathering the cloth slightly with the stitches.

The working of **straight feather stitch** is similar to that of blanket stitch, but the stitches slant towards a centerline from either side. You can make **double or triple feather stitch** by making two or three slanting on one side and then a similar number on the other side. It is used for border patterns.

Chain stitch is used for filling. It can be done side by side to fill large shapes or to work single lines. The result of this stitch is a loop, which will then form a link. The link can be of varied lengths, shorter the prettier.

Hem stitch is used as a decorative stitch on borders. Different designs can be created by working either single or double hem. Suitable fabric for this type of stitch is linen of even weave.

Lazy daisy stitch is done in the same way as chain stitch, the only difference being that the loop is held by a stitch taken across the end. It can be used to portray flowers and leaves.

Herring bone stitch is used as a decorative stitch as well as for finishing hems and raw edges of seams. On the wrong side, two rows of running stitches are seen. When worked closely on the wrong side, this stitch can be used to do shadow work.

Cross stitch is composed of two slanting stitches which cross in the middle. This stitch does not require any great experience. The beauty of the work depends mainly on regularity and the good choice of colour. Choose a fairly thick material in which the thread can be counted or used as a temporary canvas. It is commonly used for filling of a third design,

Seams

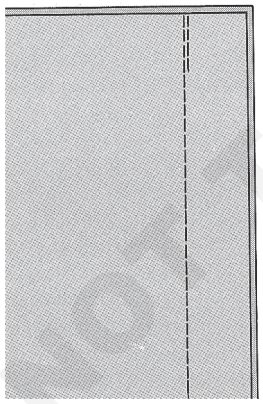
Objectives: At the end of this lesson you shall be able to
- **name the features and applications of seams and seam finishes**
- **explain the supporting techniques for a good seam construction.**

Seaming is a method of joining two or more pieces of fabric by a row of stitches. Stitching seam belongs to the basic and structural activities for construction of garments. If the purpose of a seam is mainly functional it is called a **constructional seam**, like side seam, underarm seam, waistline seam etc. These seams must be inconspicuous and as flat as possible. Beside of that, there are **decorative seams** which are made conspicuous to give a design or decoration to the garment, like piped seam, corded seam, flat and felled seam or topstitched seam.

The direction in which seams are stitched in general, is from the wider part of the garment to the narrower, because grain lines can be matched easier in this direction. A side seam of sleeve for example will be stitched from the armhole to the sleeve bottom. Only in piled fabric the seams are stitched always with the direction of the pile, irrespective of the garment being wide or narrow at the starting point. Most of the seams are stitched with right sides of the fabric together. Seams should be back stitched at the beginning and at the end for reinforcement.

Seams can be constructed in different shapes. The **straight seam** is the most basic and easiest to stitch. (Fig 1) The seam allowances can be pressed to one side and finished together (in light weight fabrics) or they are pressed open and finished separately.

Fig 1



STRAIGHT SEAM

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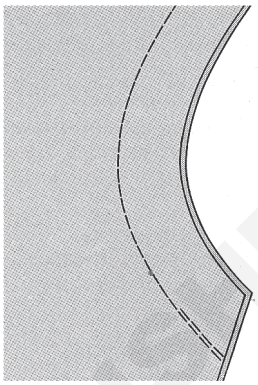
Curved seams require careful attention in handling and shaping. Use a shorter stitch length and a slow speed to get well shaped curves and to ensure extra strength. (Fig 2)

Cornered seam is reinforced by using a shorter stitch length on either side of the corner. Accurate pivoting is important to get an accurate corner. (Fig 3)

Fig 2



CURVED SEAM

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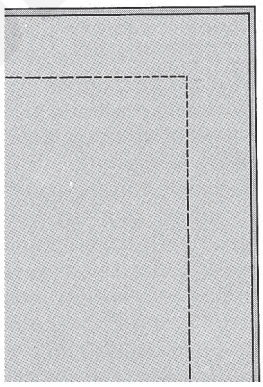
Fig 3



A CORNERED SEAM

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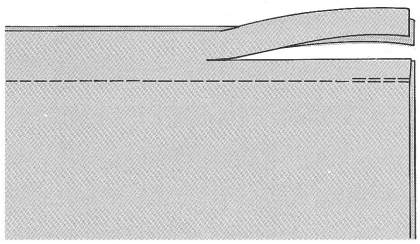
Supporting seam techniques: Some additional seam techniques ensure a better fit of seams as there are:

Trimming means cutting away some of the seam allowance. This is done to reduce bulk in order to get a better fit (for example at the armhole) or to prepare the seam for further construction (e.g. French seam). (Fig 4)

Fig 4

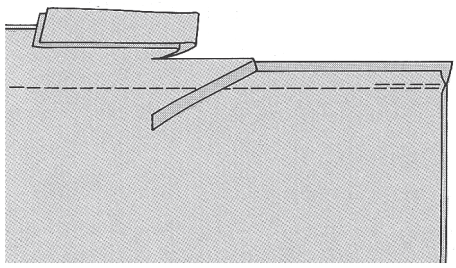


TRIMMING

FDN153214

Grading is a variation of trimming. It is done where bulky seams cannot be pressed open. The fabric layers of the seam allowances are trimmed to different width to avoid a thick ridge at the edge. The widest layer should set nearest the garment. This helps the seams to lie flat without causing a bulky ridge (for example in enclosed seams). (Fig 5)

Fig 5



GRADING

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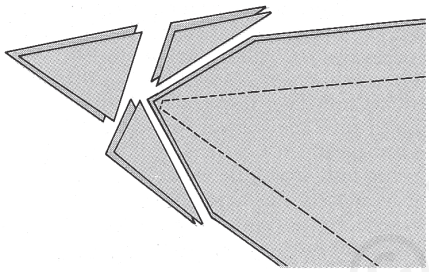
Trim a corner: Corners of enclosed seams must also be trimmed to reduce the bulk. First trim seam allowance on point slightly away from the stitch line. Then trim the sides tapering to point. (Fig 6)

Fig 6

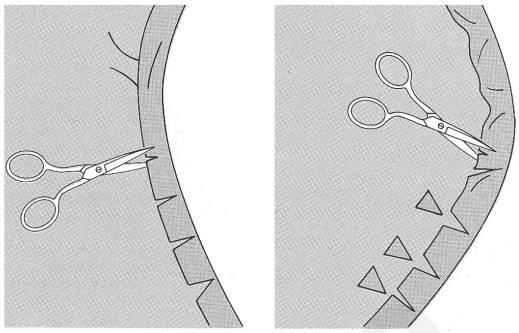


TRIM A CORNER

FDN153216

Clipping and notches: In seam allowances with inward curves and corners, **notches** help to remove bulk of fabric. In outward curves and corners, clipping the seam allowance allows the fabric spread out to lie flat. (Fig 7)

Fig 7



CLIPPING AND NOTCHING

FDN153217

Seam finish is given to the seam edge to prevent the fabric from fraying and to provide a neat look. The type of seam finish chosen depends on the type of fabric, its weight, its weave etc. and wear and tear of a garment; it is not required in lined garments. Some seam finish is given on the edge of the seam allowance, like overcasting, pinking, overlocking, hongkong and bias bound seam finishing. The other method is to enclose the seam allowance, so that it is not visible any more, like in French seam, self-bound seam, flat and felled seam. For enclosed seams, more seam allowance is required. This seam finish is suitable in straight seams and in light to medium weight fabrics. Trimming and pressing are important steps in finishing enclosed seams.

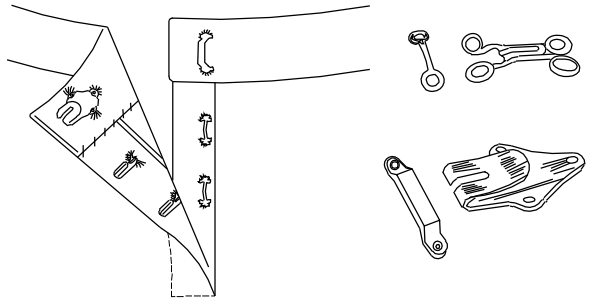
Fasteners

Objectives: At the end of this lesson you shall be able to
- **name the different types of fasteners, their features and applications.**

There are various types of **fasteners.** Some are decorative and some others are meant to be conspicuous. The common fasteners are buttons, press studs, zips, velcro strips, hooks and eyes, buckles and clasps etc. Fasteners are used in garments, bags, purse, suitcase cover etc.

Hooks and eyes are available in wide range of sizes and types. They are used in trousers and ladies' garments. Pant / skirt hooks and eyes are made of metal or plastic- They are used at waistlines of various garments. (Fig 1)

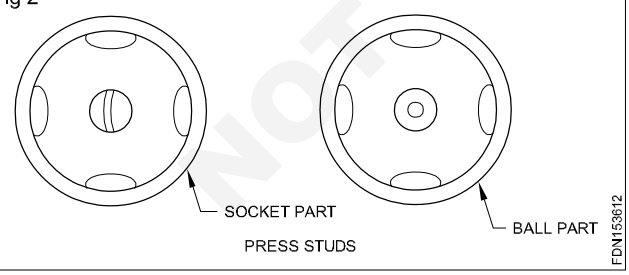
Fig 1



Hooks and eyes

Press studs are a kind of snap fasteners like hooks and eyes. They are small round shaped fasteners, each set consisting of two parts - a ball half and a socket half. The bal half is stitched at the overlapping placket and the socket half at the underlapping placket. They are often metal snaps but clear nylon snap is also available. They are also available in tape fastener (readymade) form, which can be readily stitched to the plackets on either side. The press studs are used at the shoulder plackets of children's garments. (Fig 2)

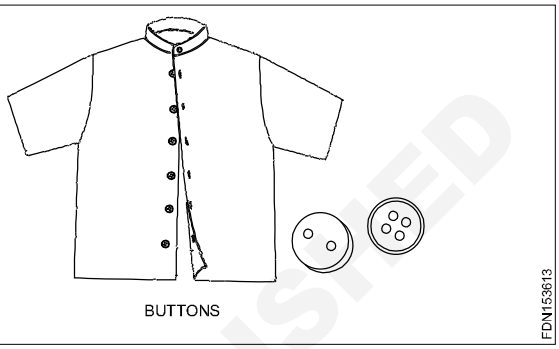
Fig 2



PRESS STUDS

Buttons are of different types. They are made of plastic, nylon, metal, leather, wood, pearl, ivory etc. They may be round, elongated, oval etc. Buttons are fixed either by hand stitching or machine stitching. They are mainly used in body garments. Buttons are basically of two types: shank and sew-through. Sew- through button has either two or four holes through which the button is sewn on. (Fig 3)

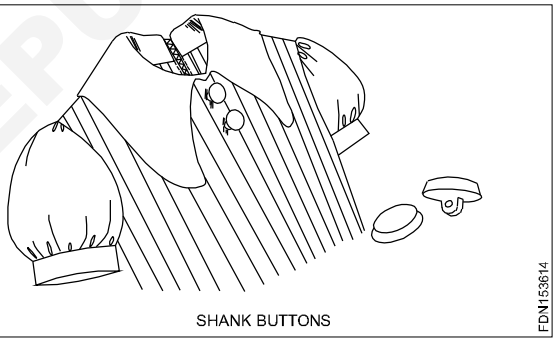
Fig 3



BUTTONS

Shank button is provided with shank beneath through which it can be fixed. It is often used in ladies' tops and kids' garments, mostly for decorative purpose or in heavy garments like coat or uniforms. (Fig 4)

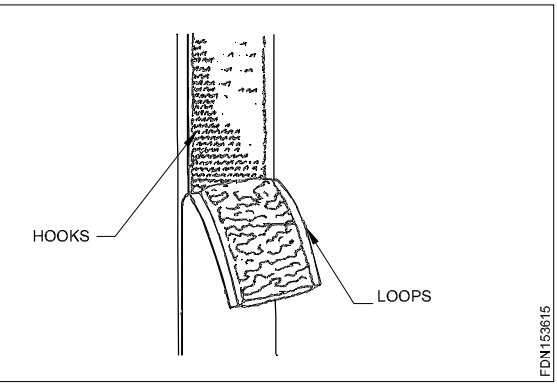
Fig 4



SHANK BUTTONS

Velcro fastening has two surfaces, one surface is covered with small nylon hooks and the other surface with loops. It is easy to fasten and therefore mainly used in children's wear. (Fig 5)

Fig 5

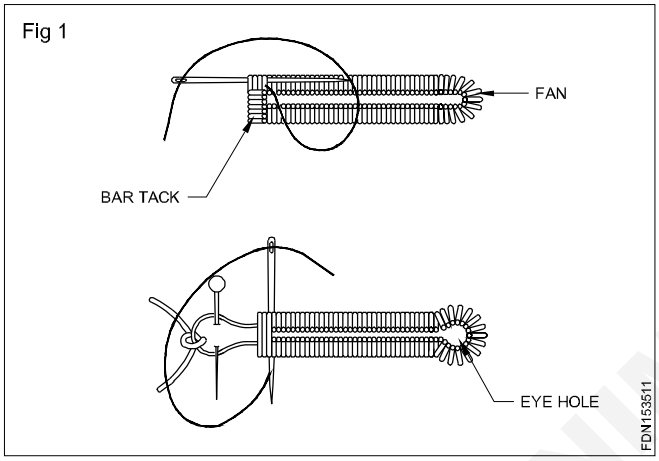


Types of button holes

Objectives: At the end of this lesson you shall be able to
- **state the types of buttonholes and name their features.**

Button holes are created as one of the last steps in stitching garments. In ladies' garments the buttonholes are worked on the **right-hand side**. But in gents garments, they are worked on the **left-hand side**. In side plackets, the buttonholes are always worked in the front part. A buttonhole is constructed with 2 long sides and two ends. These ends are either finished by **bar tacks** or one end is finished with a bar while the other end can have the shape of **keyhole** or a **fan**. The keyhole with its strong rounded end is suitable for coat buttons which pass through easily. (Fig 1)

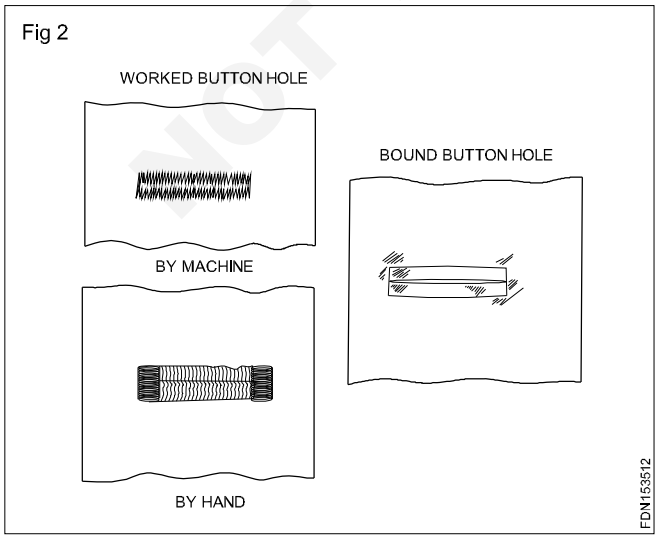
Fig 1



Bound buttonholes are worked with machine by stitching strips or patches on the location of the buttonhole. The strips or patches are fixed on the right side and finished on the wrong side, thus the binding edge is seen on the right side. They are not suited for delicate fabrics. Worked buttonholes can be worked either by hand or by machine. Hand worked buttonholes are slashed first and then stitched. But machine worked buttonholes are stitched first and then slashed. Hand worked buttonholes are stronger than the machine worked buttonholes but take more time. (Fig 2)

Vertical buttonholes are often worked in narrow plackets i.e. shirt band. Both ends are finished with a bar.

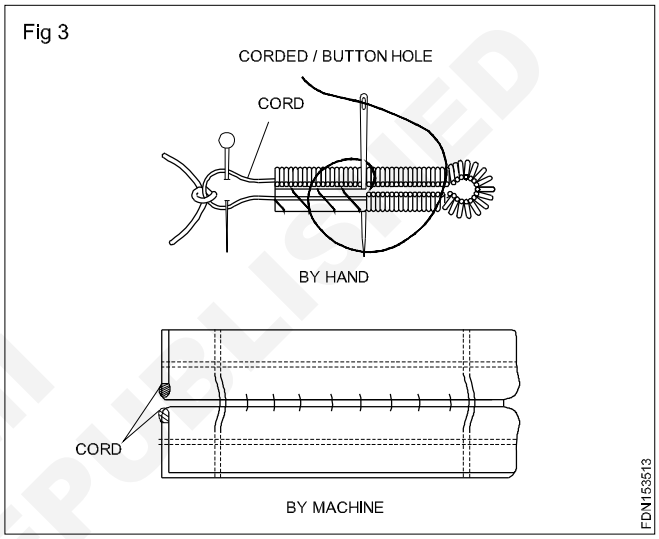
Fig 2



Horizontal buttonholes are normally worked on tight fitting garments, the waistband for example. They can either have a fan end or a keyhole on the open side of the garment and a bar at the other end.

Corded buttonholes are prepared by machine with a corded bias strip used for buttonhole lips or by hand using a cord as a filler below the single stitch. The cord produces soft, rounded edges suitable for spongy fabrics such as knits etc. (Fig 3)

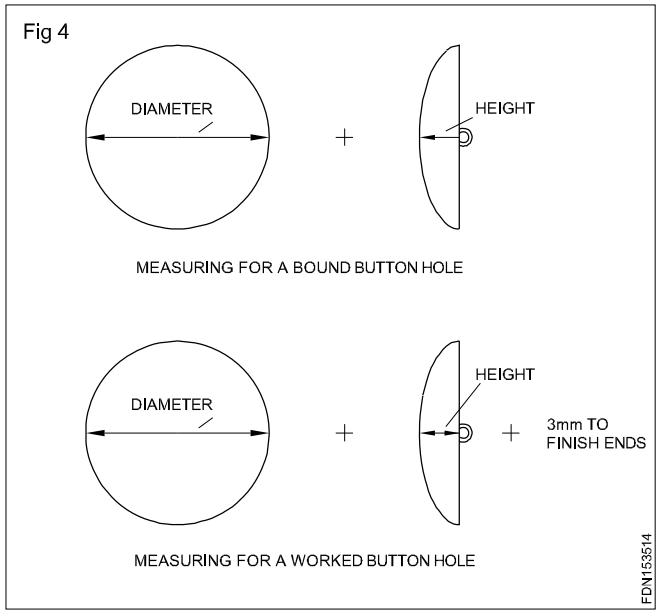
Fig 3



Dimension of the buttonhole can either be calculated (diameter of the button + it's height) or tried out by cutting a slit in a scrap of fabric and by adjusting the length until the button slips through easily. (Fig 4)

Positioning the buttonhole is done on the garment with respect to the button placement line. The main positions of the buttonholes are the neck, fullest part of the bust and the waist. Others are evenly spaced between these points. The lowest must be above the hem.

Fig 4



Trimmings

Objectives: At the end of this lesson you shall be able to
- **name and distinguish between different plackets**
- **explain the features of different types of cuffs.**

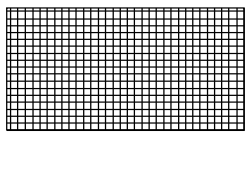
Trimming is an ornamental element used on garments. Different from other decorative elements like pleats. tucks etc., a trim is always attached separately to the dress. It can change the impression of a dress immensely. Trimming attracts the attention and often creates a more romantic look. It is used in both dress making and home decoration.

Trimming can also be used to hide small defects in the fabric.

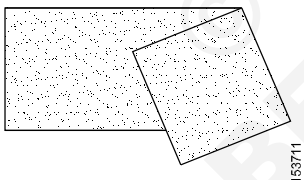
Trimming can be distinguished into two groups readymade and self made.

Tapes and stiffenings: Tapes are firmly woven and durable trimming. It is used to strengthen the seams especially in bias stitching. The tapes are normally made up of cotton or viscose twill. It is available in white, black and some other basic colours. It is available in different widths ranging from 6 to 25mm. Seaming tape, welted tape, ribbed tape, stamped tape are some of the tape varieties. Stiffening is a kind of interlining, which is used to ensure that the garment maintains its shape. The stiffenings available is woven, knitted or non woven materials. It is either stitched or fused to the garment, which gives rigidity and stability to its shape. It is most frequently used at waistlines. **Stiffenings** are available either with or without both the edges finished. (Fig 1)

Fig 1



TAPES

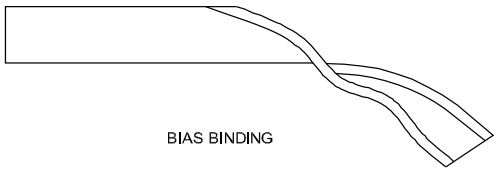


STIFFENINGS

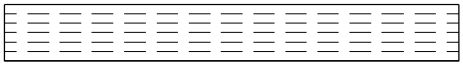
FDN153711

Bindings are of two types bias binding and seam binding. Bias binding is bias cut fabric with folded edges used for binding curved or straight garment edges. The binding material is made up of cotton, polycot, satin etc and is also available in many colours to give decorative finish to the garment. It is available in different widths to suit various applications. Seam bindings is cut in straight grain and used to stay seams in woven garments. (Fig 2)

Fig 2



BIAS BINDING

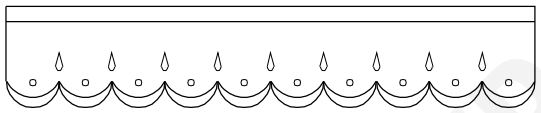


SEAM BINDING

FDN153712

Lace is made of cotton, silk or nylon with different designs and colour. Its width is usually varies from 2 cm to 25cm or even more. It is like an embroidery tape. It is commonly used on the neckline, sleeve hem, yoke line, garment hem etc. It can also be gathered to give a frilled effect. (Fig 3)

Fig 3



FDN153713

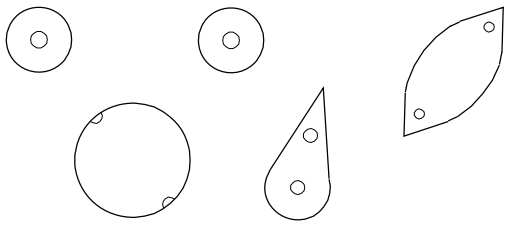
Rope or Cord of various colours and designs made of silk and cotton are available. These are used as belts in night suits and frocks. (Fig 4)

Fig 4

FDN153714

Beads are small trimming made up of plastic with two holes on either side to be sewn to the garment. It is often stitched with hand stitches. Beads are available in vast variety of shapes, colours and sizes. It is often used in ladie's wear. (Fig 5)

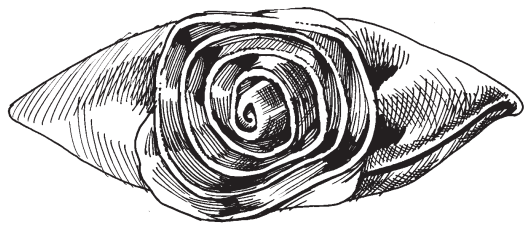
Fig 5



FDN153715

Ribbons are made of satin, taffeta or nylon of different colours and different width. Ribbon bows are often used as decoration for bridal wear and children's clothing. Ribbons of different width can be made into rose or other floral shape. These can be stitched from wrong side at the back so that no stitching is visible from the right side. (Fig 6)

Fig 6

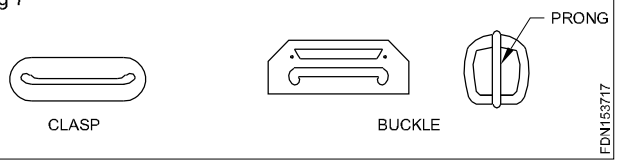


RIBBON FLOWER

FDN153716

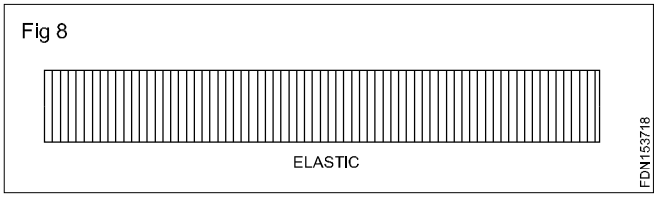
Clasps and Buckles are made up of metal, leather or plastic used at the waist belt to set the belt positions. Buckles are available either with or without prong. Clasps are used with the buckles without prong. (Fig 7)

Fig 7



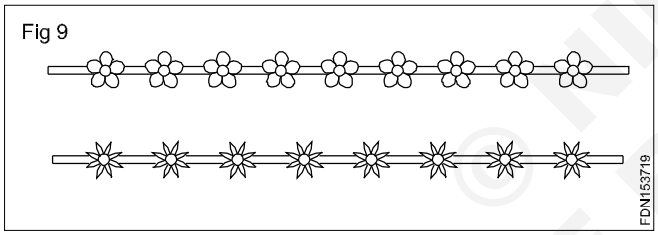
Elastic is an important trimming used in most of the garments at the waistline. It is made up of rubber - core yarn covered with either cotton or synthetic fibres. It gives good elasticity to the garment. It is available in different width and colours (Fig 8)

Fig 8



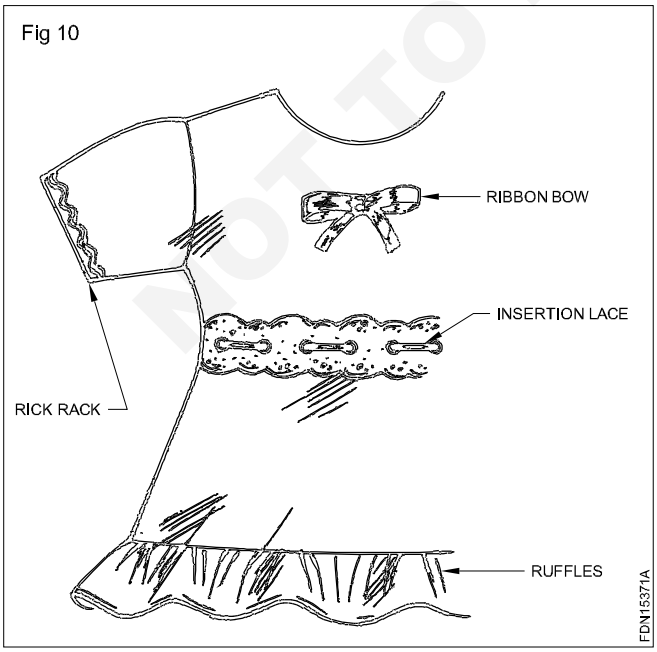
Flower trimmings are artificial flowers available in different sizes, designs and colours. It is attached to the garment either by sewing or by sticking with fabric glue. It is often used in children's and ladies wear. It is available either as single fixed easily. (Fig 9)

Fig 9



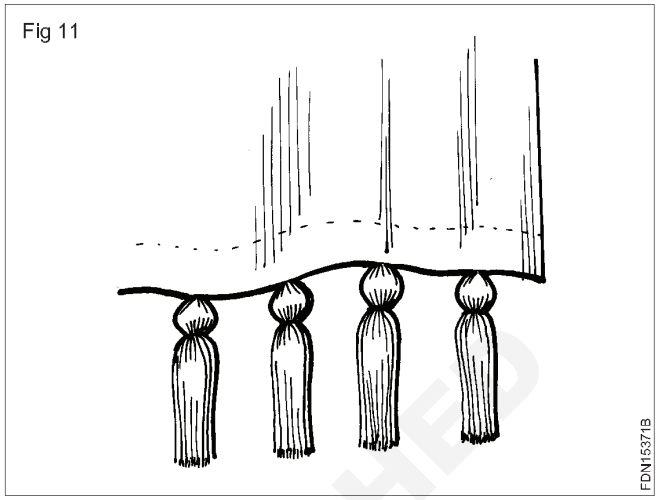
Rickrack is made in cotton or polyester, it is available in different colours and is of narrow width. Rickrack is often used to make designs. (Fig 10)

Fig 10



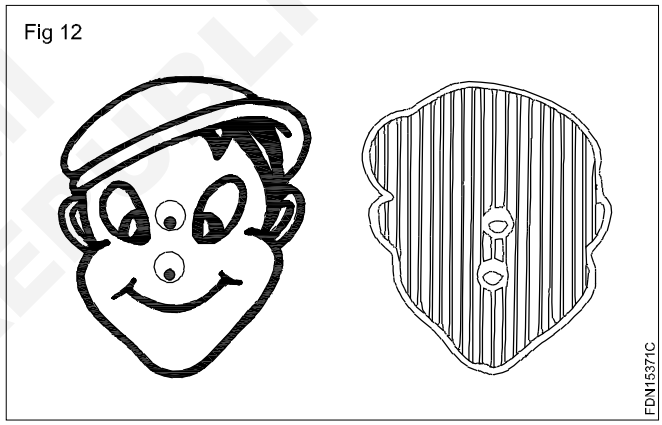
Tassels are made of strings of silk, cotton, wool, nylon, etc. They are also available in different widths and colours. Contrast coloured, embroidered tassels are also available. They are mostly used on saree pallu or on dupattas. (Fig 11)

Fig 11



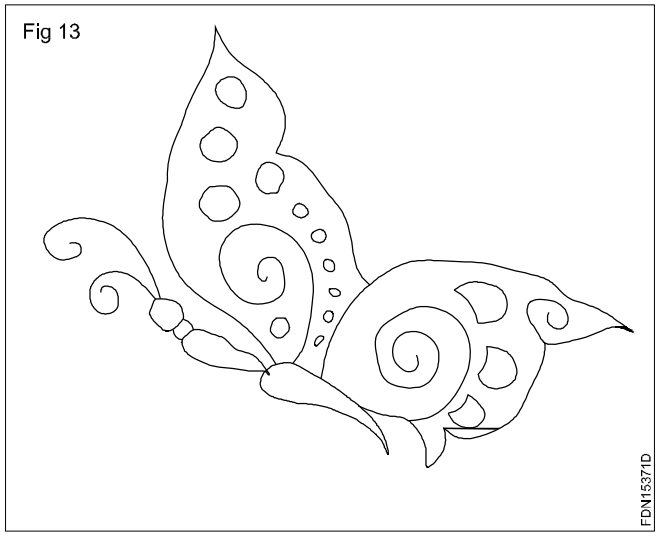
Fancy buttons depicting fruits or animals etc can also be used as trimming. (Fig 12)

Fig 12



Motifs are available as readymade or self-made. A piece of cloth is cut into different shapes and the edges are finished with embroidery stitches. Such motifs are also used as decorative patches mainly in children's garments. Self-made trimmings are made by hand. (Fig 13)

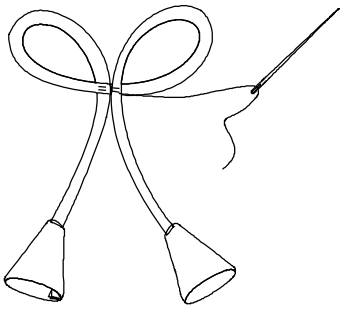
Fig 13



Bias trimmings: Bias binding in contrasting material or self fabric can be used to finish necklines, openings and hems in garments.

Bias tubing can be used for making decorative button loops, motifs of different shapes etc. The shape can be drawn on the garment and then tubing is tacked accordingly on to the garment along the marked line. Several layers of bias tubing can be made into a decorative belt. This may be of self or of contrasting material. (Fig 14)

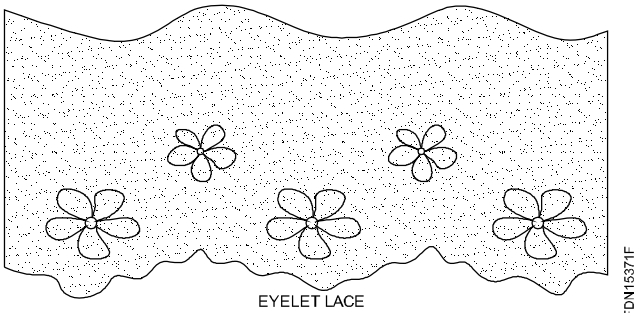
Fig 14



FDN15371E

Eyelet lace is lace variety of trimming, generally available in white or half - white colour with its upper edge unfinished while the lower edge is finished forming straight or scalloped shapes. When both the edges of the lace are finished, it is known as insertion lace as they can be inserted through eyelet holes to enhance its beauty.
(Fig 15)

Fig 15

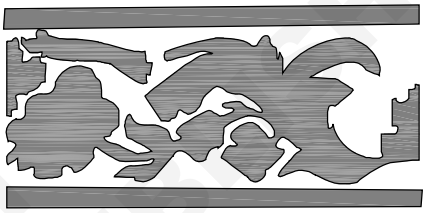


EYELET LACE

FDN15371F

Unlike ribbons, **ribbon braids** are available with thick finished edges of floral, or similar other colourful patterns (Fig 16). They can be easily attached to the frock with machine stitches, as the raw edges are already finished. They are available in different width made of different fabrics.

Fig 16



RIBBON BRAID

FDN15371G

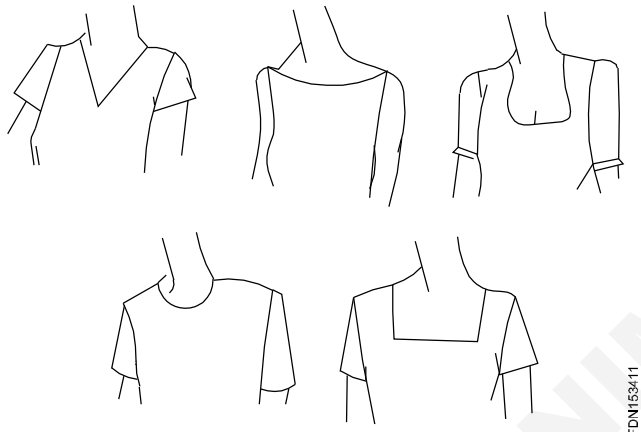
Neck lines

Objectives: At the end of this lesson you shall be able to
- **explain the different types of neck designs**
- **describe their construction features and their suitable application.**

The person wearing the garment. Neck lines must be finished with special accuracy since they attract the attention easily.

All neck designs can be regarded as variations of three main shapes: round, square and V-shaped. (Fig 1)

Fig 1

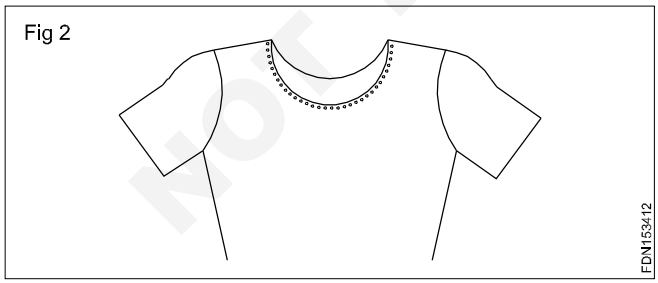


If the plain shape shall be high lightened no decorative elements like frills etc. are attached. Instead the neckline is finished by a facing piece which is invisible from right side.

A shaped neck facing is cut separately for front and back. The attached edge should match the neck shape exactly while the outer edge can be of different shape.

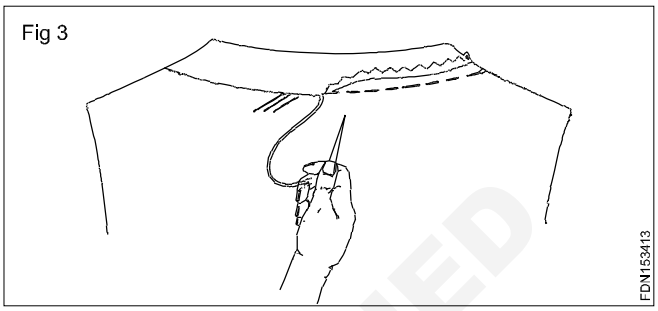
A topstitch is very close to the neck shape line from right side is a must. This ensures that the facing stays flat on the neck shape. (Fig 2)

Fig 2



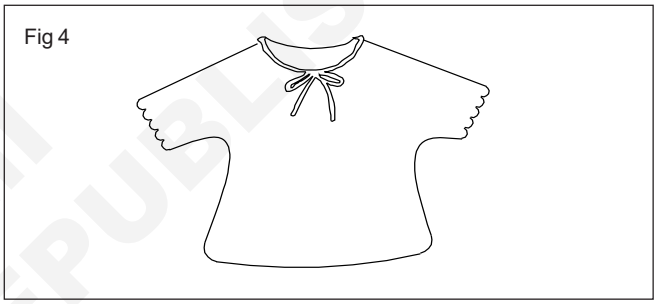
If the neck shape is of close design, then the facing piece may be of bigger width and can hang free on the left side. But if the neckline is of wider design / cut (like the boat neck) then the facing piece should be of narrow width only. It also must be finished by stitching it to the bodice piece. This can be done with hand stitches (which should not be seen from right side) (Fig 3) or with a second row of topstitches from right side by machine.

Fig 3



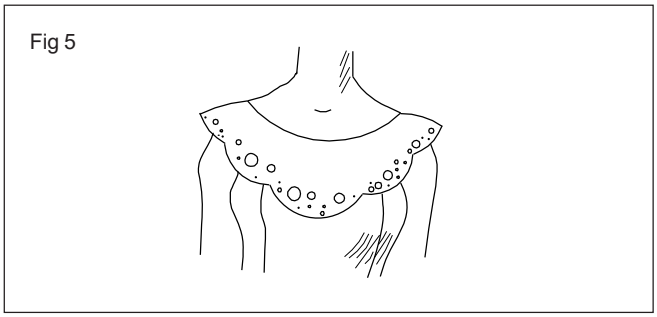
Bias binding or facing is used to finish the neckline with a decorative edge. (Fig 4)

Fig 4



If it is desired to high lighten the neckline with decorative elements an outside facing can be attached. This type of facing appears like a kind of collar. (Fig 5)

Fig 5



Other decorative design elements are trims, frills, tucks, embroidery, smocking etc.

A collar is another component to decorate the neckline. The type of collar, its shape and material creates special effects on a garment. Collars made from designed fabric have special decorative effects. A printed dress may be fitted with a plain collar or a plain dress with a printed collar. A white or light collar may be used on dark coloured dress or vice versa. For a checked fabric the collar can be made attractive if it is cut on the bias, whereas the garment is of straight design.

The following factors are to be considered while finishing necklines.

The design of facings and collars should harmonize well with the fabric design, i.e. big and bold floral designs, checks or stripes are not suitable.

Neck edge finishing

Objectives: At the end of this lesson you shall be able to
- **explain the different types of neck designs**
- **to name the different methods of finishing raw edges**
- **to describe the main difference in facing, banding and binding and their suitable application**
- **explain the required materials for bias piece.**

The design of the neckline generally is given importance, since it will influence the style of the garment and it should suit the person wearing the garment. Neck lines must be finished with special accuracy since they attract the attention easily.

All neck designs can be regarded as variations of three main shapes: round, square and V-shaped.

If the plain shape shall be high lightened no decorative elements like frills etc. are attached. Instead the neckline is finished by a facing piece which is invisible from right side.

There are different methods of finishing a raw edge in a garment, as on bottom, arm-hole, neckline etc. Beside hemming, that is turning up the raw edge on the wrong side of the garment, there are two more methods of edge finishing which are **facing and enclosing of edges.**

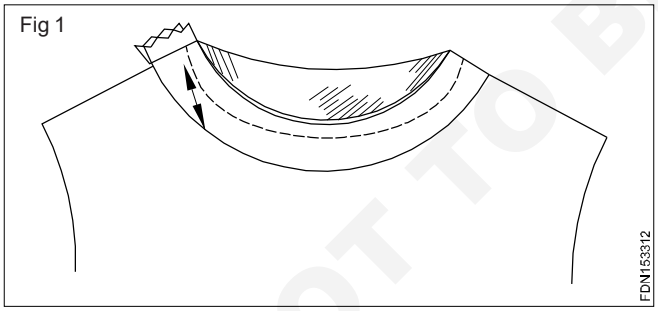
The material used for facing and enclosing of edges can be cut on the straight grain or on the bias, i.e. at a 45°angle (diagonal) to the warp and weft.

Bias is mainly used on curved areas to ensure that the material can be stretched.

Facing is the method where a piece of fabric is used to finish the raw edge on wrong side of the garment. Facing can be done as bias facing or shaped facing.

Bias facing is applied on a curved edge and done with the help of a strip. (Fig 1)

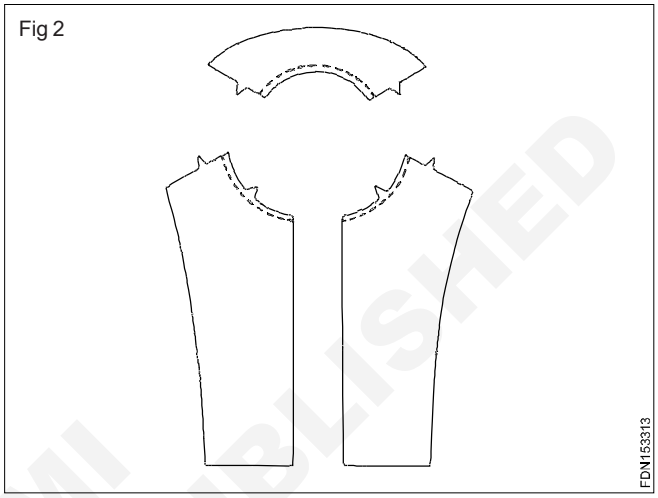
Fig 1



It is usually turned to the wrong side of the garment and will not be visible from right side. It is only turned to the right side if a decorative effect is desired. When bias facing is applied on inward curves it should be eased while stitching (easing means holding bias strip slightly loose at the seam line) and for outward curves it must be notched for stretching (since the circumference increases). It is mainly applied on the neckline, armhole and on hemline in skirts or sleeves.

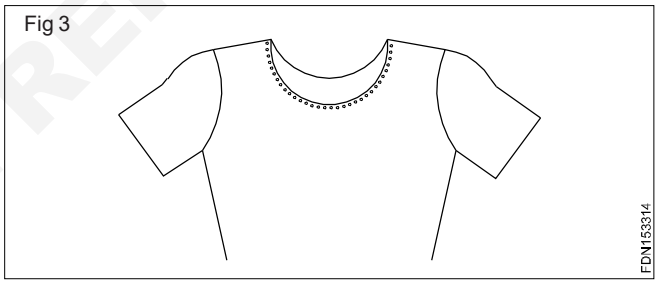
Shaped facing can be of any width. It is cut to the exact shape of the garment edge to which it is to be applied, usually it is cut on the same grain as the section of the garment it faces. It is often used to finish square or V necklines. It is easier to apply than bias facing and is less conspicuous. It is usually cut separately for front and back. It can also be used on armhole (sleeveless). Here the facing must be matching with the wrong side of garment, so that it will be right side out when finished. (Fig 2)

Fig 2



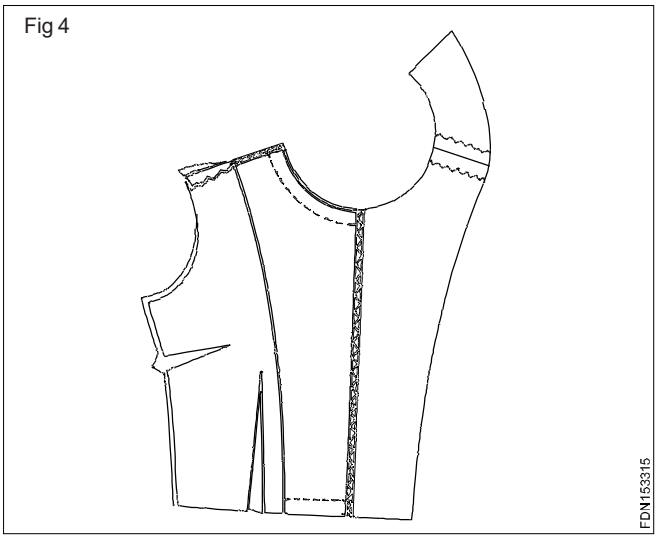
A topstitch is very close to the neck shape line from right side is a must. This ensures that the facing stays flat on the neck shape. (Fig 3)

Fig 3



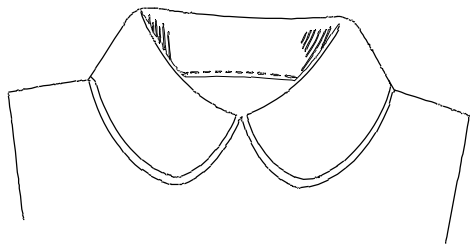
Expanded facing: If the facing piece is cut as an extension of the garment (e.g. on front opening) it is called extended facing. (Fig 4)

Fig 4



Piping is a method for a decorative edge finishing. It is cut from the bias material. The pipe is stitched between the two layers of fabric to, form a flat welt on the edge. The pipe can also be filled with a cord to make the welt stronger and more conspicuous. (Fig 5)

Fig 5



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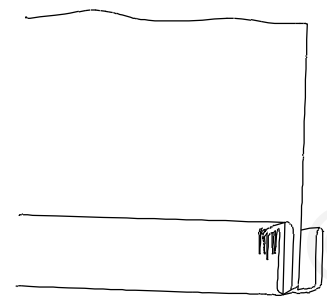
Enclosing of edges: This type of edge finishing can be done with straight or bias material.

Binding is used to finish and straighten raw edges or to add a decorative trim to a garment. It is a neat finish also for reversible garments. It is used to finish necklines, armholes, sleeve edges, front closings, collars, cuffs and seams. Ready made bias binding piece can also be used.(Fig 6)

Fig 6

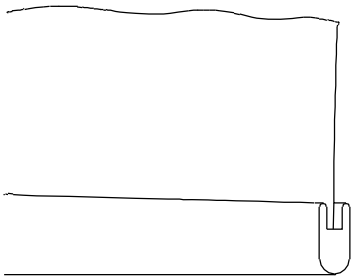


FDN153317

Bias bindings can be applied in two ways: Single binding is cut to double the finished width plus two seam allowances. Bindings are handled in the opposite manner to facings at Inward and outward curves. Stretch bias on inward curves and eases it in outward curve Double binding or French binding is used on sheer fabrics. Here the width is four to six times the required width. The binding piece is folded first and applied to the garment. It gives a corded effect when finished.

Banding is an extension of a garment on the raw edge for example hemline and neckline. The width of banding can vary according to the desired length. When used on hemline it is cut on the same grain. A contrasting material can also be used. When applying bias piece as banding on curved shapes, only a narrow width is used. (Fig 7)

Fig 7



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The following factors are to be considered while finishing necklines.

The design of facings and collars should harmonize well with the fabric design, i.e. big and bold floral designs, checks or stripes are not suitable.

When designing the neckline, the purpose of the dress is important. For casual wear and uniforms prominent decorative features are avoided.

While selecting the shape of the neckline the individual features of the wearer must be taken into consideration; the following combinations are suitable:

- Round face - long pointed collar or V-neck
- Thin and long necks - standing collar or close neck
- Broad face and short neck - long pointed collar or wider neck shapes
- Long slender face - short collar points and broad spacing between the points or close neck.

Important hints to avoid trouble while stitching: To avoid bulge on the edge or comer of the neckline notches should be given on inward curves.

To avoid bulge on the neckline edge of right side facing top stitching must be done on the right side close to the neckline and the shoulder seam allowance should be pressed open.

On square and V-shaped necklines clipping should be done at the corners or at points. This is to avoid bulging and to prepare for a flat set.

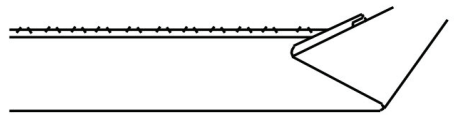
If a narrow facing is used it is hemmed to bodice fabric. Be careful to catch only one thread from the garment section and don't pull the thread tight. Otherwise stitches are visible from the right side.

Hems

Objectives: At the end of this lesson you shall be able to
- **explain about hems and types of hems.**

A hem is a finish for any bottom edge of a garment. There are three basic forms - a turned up edge (the most common), a faced edge and an enclosed edge. Although all are dealt with here as hem treatments any of them might be used for other edges as well. (Fig 1)

Fig 1

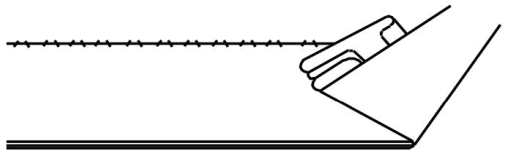


TURNED-UP HEM

DRN131911

Selection of a hemming method depends largely on garment style and fabric. Whatever the choice, certain criteria should always be met: (Fig 2)

Fig 2



FACED HEM

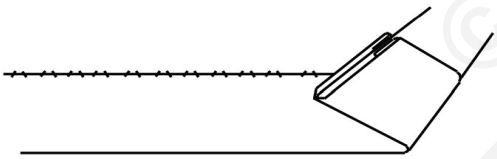
DRN131912

1 The garment should hang evenly and gracefully.

2 There should be no lumpiness in the hem allowance.

3 Unless meant to be decorative, finished hems should be totally inconspicuous. (Fig 3)

Fig 3



ENCLOSED HEM EDGE

DRN131913

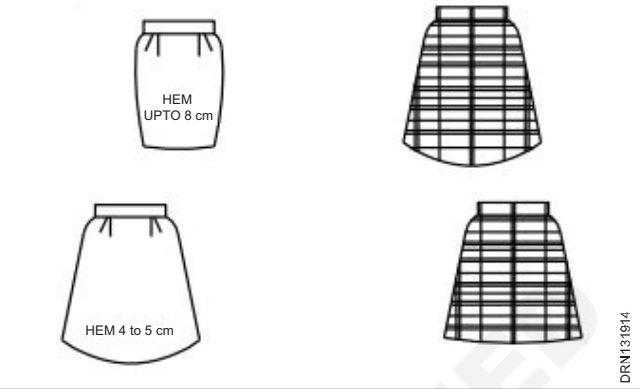
Turning up the hem edge

In a turned-up hem, a certain width of fabric, the hem allowance, is folded inside the garment, then secured by hand, machine or fusing. This is the hem type usually provided for in pattern designs, with the amount of turn-up indicated on the pattern by a line or written instructions. It is wise to check this allowance before cutting out the garment, should a change be desirable.

The hem's shape, straight or curved, generally determines how much should be turned up. As a rule, the straighter the edge, the deeper the hem allowance; the more it curves, the shallower the allowance. Exceptions are sheer fabrics, in which a very deep or a narrow rolled hem may be preferable and soft knits. Where a narrow turn-up will minimise sagging.

Hem allowance varies according to garment shape up to 8 cm is usually allowed for a straight garment 4 to 5 cm for a flared one. Fabric weight should also be considered. (Fig 4)

Fig 4



DRN1311914

A hem line may look distorted if the hem curve is too extreme for, or does not align with, the fabric design. A slight adjustment may be necessary, for a better effect.

Sewing hem by hand

Before a hem is secured by hand, the raw edge should be neatly finished. The finish chosen depends first on fabric characteristics and garment style, second on personal preference. The edge can be left uncovered on fabric that does not fray, also where a lining will cover the hem; use a covered edge for fabric that frays a great deal, and in those situations where a more finished look is wanted.

There are two basic hand hemming methods - flat where stitches pass over the hem edge to the garment and blind where the stitches are taken inside between hem and garment. Blind hems are best for heavier fabrics and knits because the hem edge is not pressed into the garment.

Sewing a hem by machine

The major assets of machine hems are speed and extra sturdiness. They can also provide a decorative touch and are especially appropriate if top stitching is part of the design machine stitches are more apparent on a hem than hand stitches. Of the several methods, the blind stitched hem is the least conspicuous because only about every sixth stitch catches the right side of the fabric. For blind stitching a hem on a knit or on fabric that does not fray. For fabric that frays, see the method below.

Use machine hems only on garments where easily seen stitches do not detract from the overall appearance. Take special care with all types of machine stitched hems to keep stitching on even distance from the hem line.

Faced hems

In a faced hem most of the hem allowance is eliminated; a band of light weight fabric is then stitched to the hem and turned inside so it does not show. There are two basic facing forms - shaped (cut with grain lines and shape conforming to the hem) and bias (cut as a bias strip, then shaped to fit). You can buy bias hem facing ready made in various colours.

A shaped facing is applied as a rule, where a hem shape is unusual, as in the wrap skirt, right. Its use is limited to a hem with minimal flare.

A bias hem facing is ideal for a widely flared hem, especially when the garment itself is cut on the bias. It is recommended in place of a turned-up hem when (1) there is not enough hem allowance to turn up; (2) the fabric is exceptionally bulky; (3) a skirt is circular in style. (Fig 5)

Banding

Banding is an extension of a garment edge. It can be cut the same shape as the edge or on the bias. The latter is the usual approach for a hem as it is ideal for adding length.

To prepare the hem for banding mark the hem line at the desired length measure up from the hem line a distance equal to finished banding width; mark a new line and trim all but 6 mm of fabric below it.

Fig 5

SHAPED FACING FOR HEMS WITH UNUSUAL SHAPES

BIAS FACING FOR WIDELY FLARED SKIRTS

DRN131915

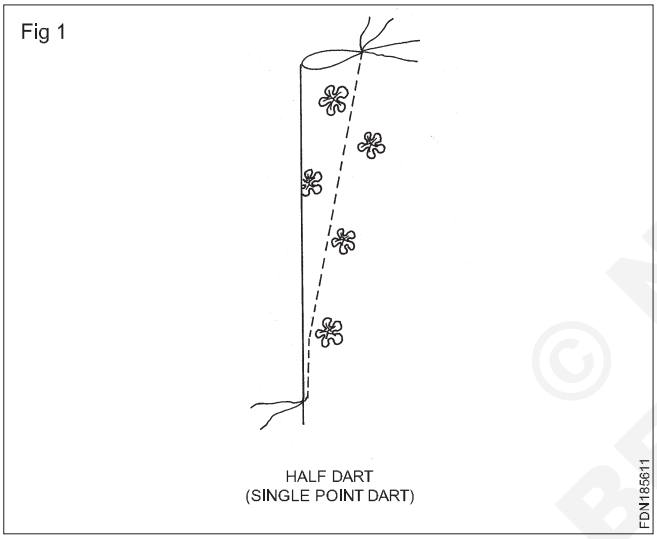
Fullness

Objectives: At the end of this lesson you shall be able to
- **name the types of darts and explain their constructional features**
- **explain important construction techniques**
- **state the application of tracing wheel.**

Darts are one of the most basic structural elements in dressmaking. Darts are necessary because the body is not straight and flat but curved. A dart is used to shape a garment around the contours of the body and to allow freedom of movement, comfort to the wearer and also to make the garment look attractive. Darts are used mainly on women's dresses to allow fullness at the bust, hips, shoulders and elbows.

Standard dart (half dart): It is triangular in shape, wide at one end and pointed at the other. (Fig 1)

Fig 1



The pointed side should always be directed to the fullest part of the body. Tacking and stitching should start from the wide end towards the dart point. The wide base of a dart takes in fabric fullness, so that a garment fits the narrower parts of the body. The space inside the triangle is called intake which will appear on the wrong side of the garment. The dart stitching lines are matched, then stitched together. These stitching lines can be straight or gently curved for a close fit around the shape of the body. (Fig 2)

Double pointed darts (full darts): These are wide in the middle and pointed at both ends. (Fig 3) They are used at waist line of one-piece dresses.

After stitching, vertical darts are pressed towards centre front or centre back, and horizontal darts are pressed downwards.

Fig 2

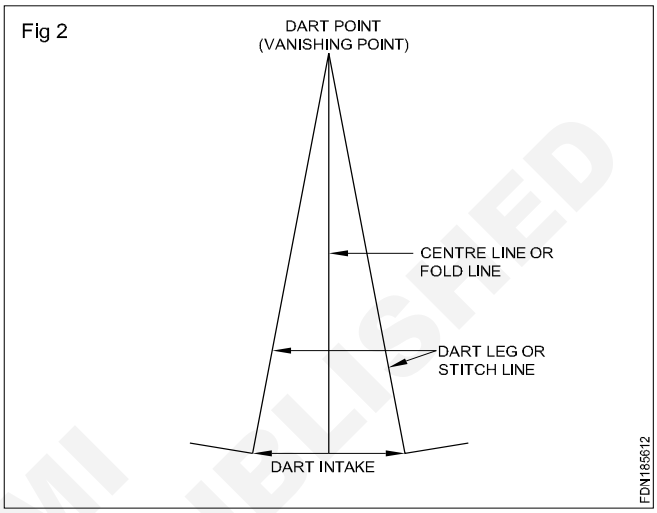
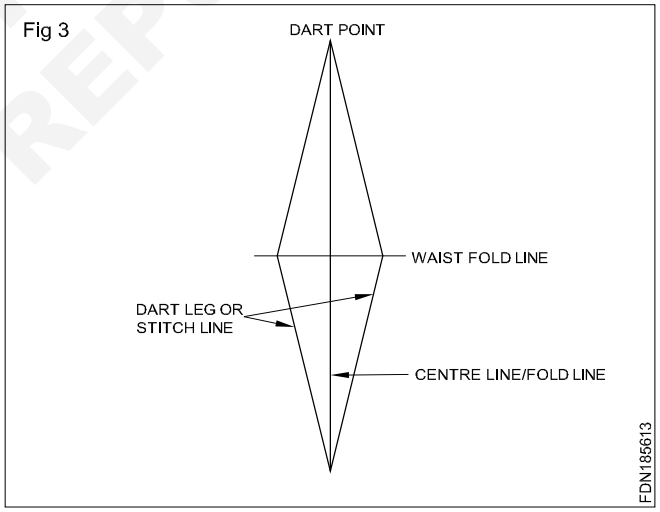


Fig 3

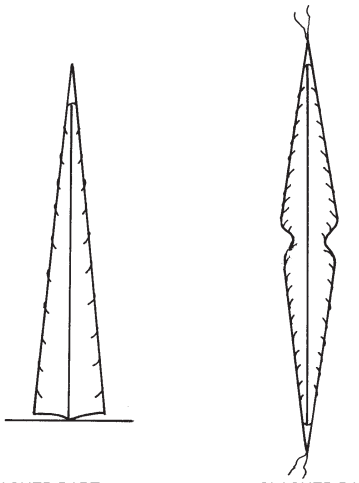


In general, it is better to set two small darts than one large dart.

A very deep and bulky dart intake is slashed and pressed open, the edges are over casted or pinked. These darts are called **slashed darts**. (Fig 4)

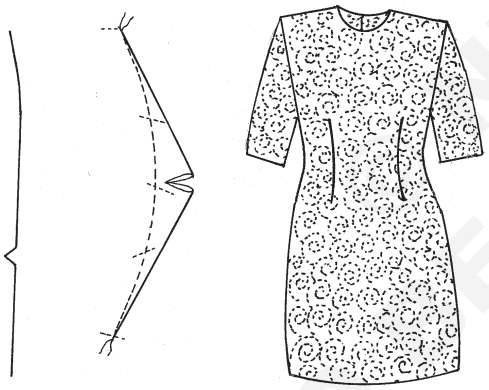
Well constructed darts appear on the right side as a seam. The seam should not bulge but taper gradually to point. Darts set better, if pressed over a round pressing pad on the wrong side.

Fig 4



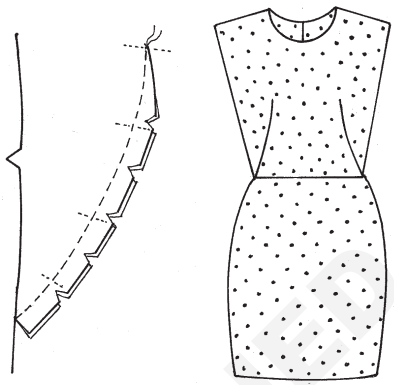
The **contour dart** (variation of full dart) is used for semi-fitted and fitted styles of garments which don't have a waist seam. These darts have two pointed ends, one providing fullness at the bust, the other fullness at the hip. The wide central part of the dart shapes the fabric at the waist. Clipping of intake is done in the middle of the dart; it will relieve strain at the waist and other curved sections and allow the dart to lie smooth. (Fig 5)

Fig 5



The **French dart** (variation of half dart) gives a semi-fitted shape. It combines underarm bust dart and waist dart into one long dart running from the bust down at an angle towards the side seam. This dart is cut open on its center line before sewing so as to match the stitching lines. (Fig 6)

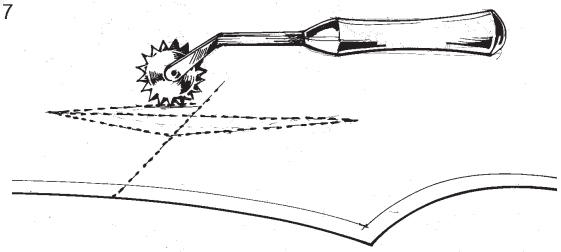
Fig 6



Before stitching, the darts have to be transferred from pattern to the fabric. Depending on the material two methods can be applied: tailor marks will be used on silk, polyester etc. and loosely woven material. On cotton marking with a **tracing wheel** is a fast method.

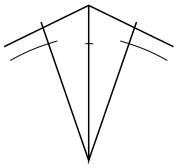
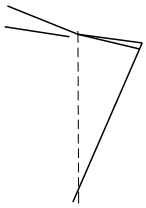
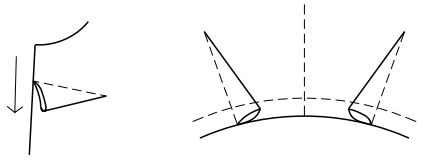
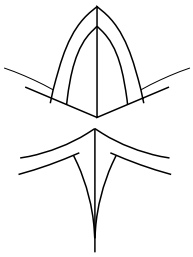
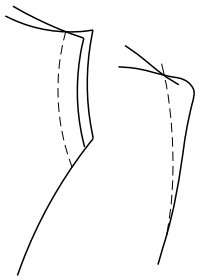
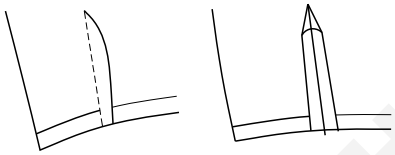
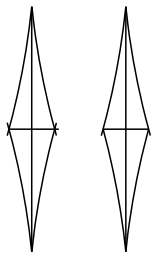
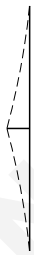
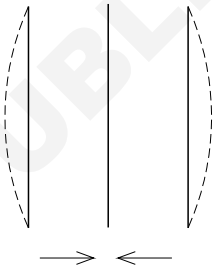
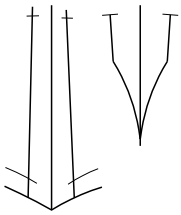
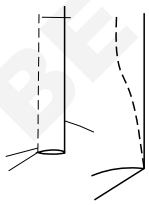
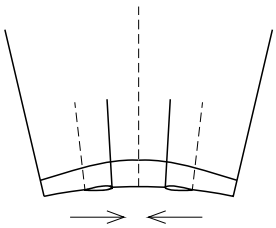
The tracing wheel is a pinned metal tool which is used to transfer pattern marks or construction lines on the lower layer of fabric or paper. (Fig 7)

Fig 7



The dart types, Uses, its stitching &Pressing procedure. (Fig 8)

Fig 8

DART TYPES	USES	STICHING	PRESSING
 TRIANGLE	FRONT WAIST BACK WAIST SHOULDER SLEEVES NECKLINES		 HORIZONTAL VERTICAL
 CURVED	FRONT WAIST SKIRT FRONT AND BACK		 CLOSE SEAM OPEN
 BODY DOUBLE POINTED	SHORT TOPS KAMMEEZ BACK OPEN BLOWSE		
 DART TUCK	WAIST SKIRT BLOWSE SLEEVE		

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Pleats

Objectives: At the end of this lesson you shall be able to

- **explain the basic construction features of pleats using the technical terms related to pleats**
- **explain the difference between knife pleats, box pleats and inverted pleats.**

Pleats are folds of fabric that are made to give decorative flare and fullness to a garment. They are commonly used on skirts and dresses, but also on sleeves or other components of a garment.

Construction features of pleats: Pleats are folded in vertical direction.

– Each pleat has an inner and outer fold. The outer fold line is placed on a placement line.

– The distance between inner and outer fold is called pleat depth.

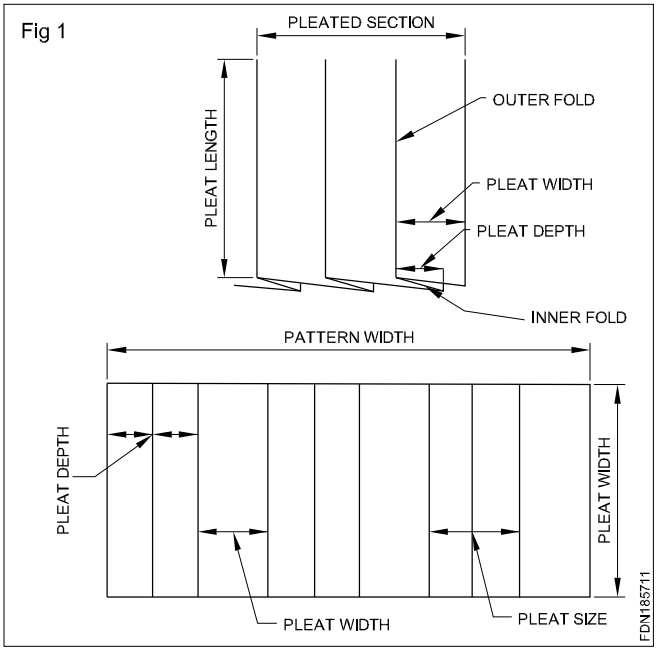
– The pleat size consists of double the pleat depth.

– The distance between two neighboring outer folds is the pleat width (gap between the pleats).

– The width of material before pleating is called the pattern width.

– After pleating it is called the pleated section. The pleated section does not consider allowances for plackets etc. (Fig 1)

Fig 1



There are three **basic types of pleats**

Knife pleats are the most common form of pleats. The outer foldlines are all placed in one direction. (Fig 2)

While setting knife pleats there are three possible proportions among pleat depth and pleat width:

– Pleat depth = pleat width → normal pleats

– Pleat depth > pleat width → shallow pleats

– Pleat depth > pleat width → overlapping pleats (Fig 3)

Box pleats are made by two single pleats in opposite direction. A full box pleat is folded under from two sides, so that the inner folds meet. It has two fold lines and two placement lines. (Fig 4)

Inverted pleats are also made by two single pleats. They have two fold lines and a single common placement line. The two outer folds in the center of the pleat meet on right side. (Fig 5)

Pleats can be pressed crisply or can be left as undressed to hang as soft folds. For pressed pleats, garment fabrics that crease easily are the most suitable. Pressing should

Fig 2

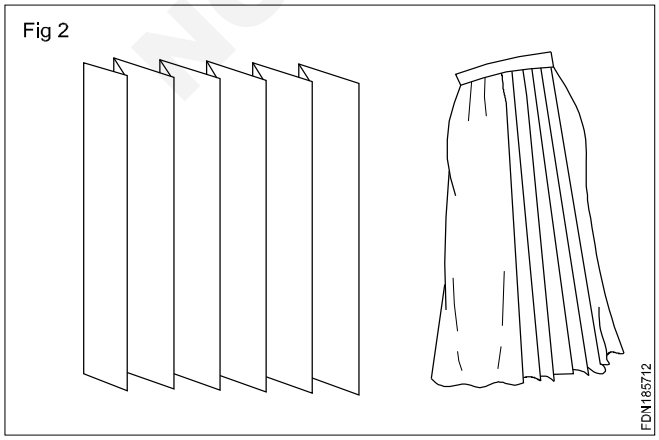


Fig 3

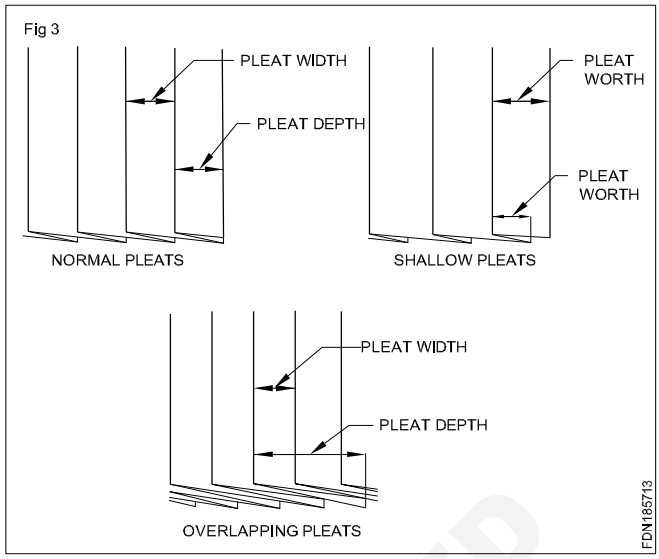


Fig 4

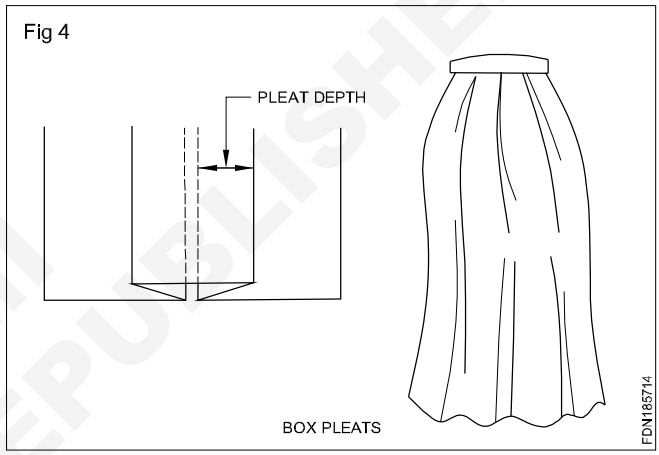
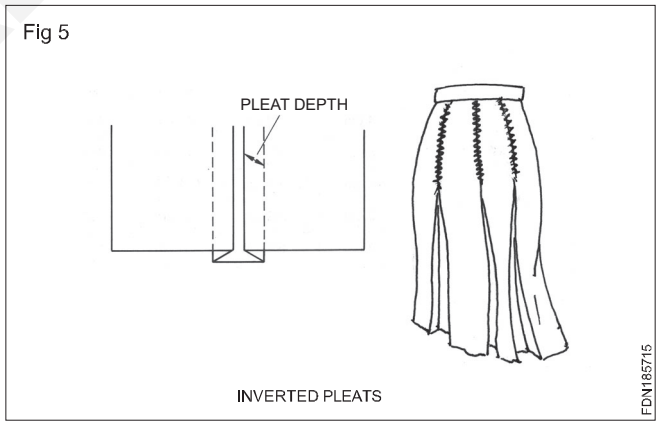


Fig 5

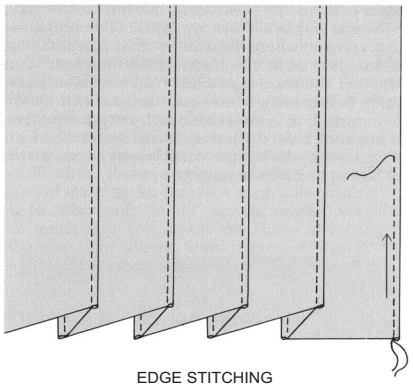


be done with a pressing cloth. If pleats shall be sharp, use steam or damp cloth to set the creases, then ensure that the pleats dry thoroughly before moving them. During construction of pleats they are pressed before basting stitches are removed.

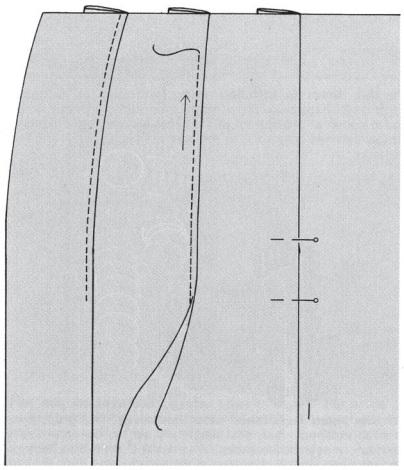
To hold the pleats in position they can either be edge stitched or topstitched from the waist towards the hip. (Fig 6)

If pleats are formed on a checked fabric it must be taken care that repeats of check are consistent and that folds have appropriate depth to hang satisfactorily (not too deep and not too shallow). Pleats on checked fabric can be set without drawing construction lines, since the lengthwise check lines can be used as such.

Fig 6



EDGE STITCHING



TOP STITCHING

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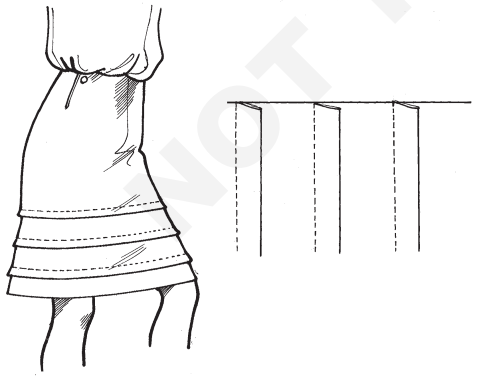
Tucks

Objectives: At the end of this lesson you shall be able to

- **name the function of tucks**
- **name the types of tucks and their features**
- **explain the construction techniques and stitching aids**
- **explain the material required for stitching tucks.**

A tuck is a straight fold of fabric stitched on the grain evenly throughout the fold. (Fig 1)

Fig 1



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It may appear similar to the pleat but some construction features are different. Tucks are stitched to the full length, where as pleats are stitched on the top in the horizontal direction or only for a short length in vertical direction.

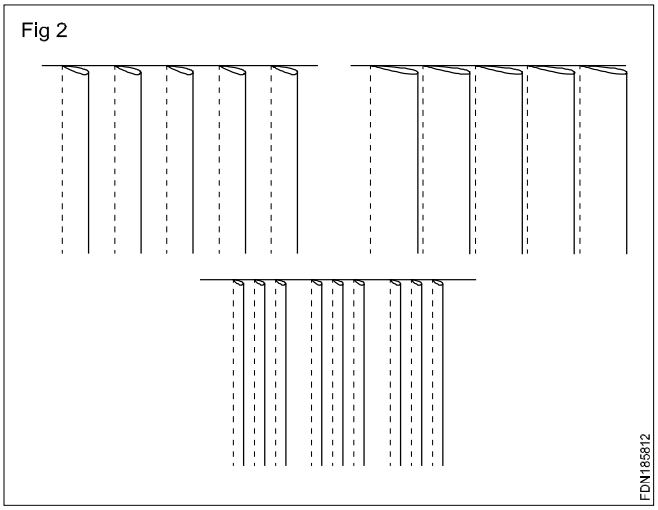
A tuck also has a fold line and a placement line and is stitched parallel to the fold line on its full length. A tuck is constructed similar to the knife pleat, i.e. in one direction (except the cross tucks). The beauty of a tuck depends on it accuracy. It will look good only if the width of tuck and the distance between the tucks are maintained evenly. The tuck width and the spacing between the tucks depends on the desired design effect and the thickness of the fabric. Special design effects can be achieved by setting the tucks group wise.

Tucks are used mainly for decorative purpose. In some cases they are used for shaping the garment to the body (similar function as the dart) or used in children´s dresses to provide some allowance for growth. In some rare cases tucks are used to conceal joints in a garment when they are altered. The joint will appear on the wrong side of the garment while the decorative tuck will be visible from the right side.

Generally tucks are folded on the right side of the garment since they have decorative purpose. Only dart tucks used for shaping are folded on the wrong side for shaping.

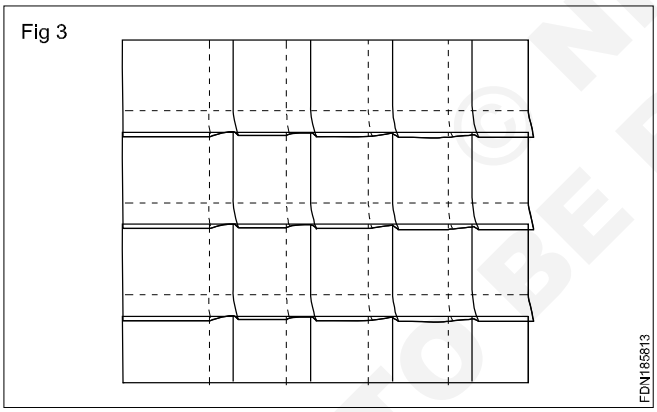
Types of tucks : Plain tucks are formed in one direction.Width of tucks and the spacing can vary with the desired effect. If the space given between the tucks is equal to the depth of tuck, i.e. the fold of the tuck touches the stitching line of the previous one, they are called blind tucks. **Blind tucks** can be regarded as a variation of plain tucks. Another variation of plain tucks are the **pin tucks.** As the name implies they are of very narrow width, almost equal to a pinhead. Only thin fabrics are suitable for pin tucks. (Fig 2)

Fig 2



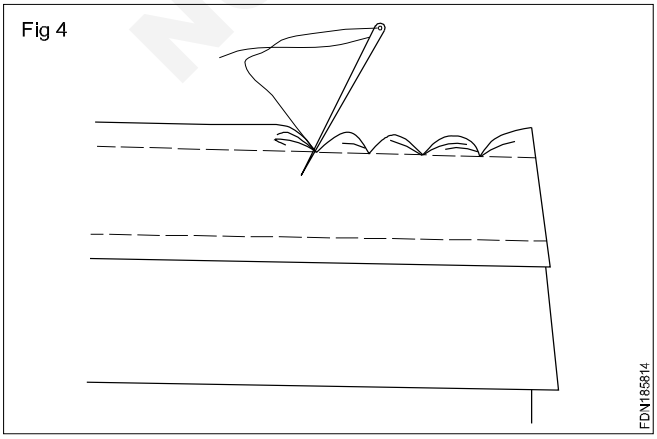
Cross tucks are stitched in both directions, vertical and horizontal. The lengthwise tucks are stitched first, then pressed in one direction before the widthwise tucks are stitched. (Fig 3)

Fig 3



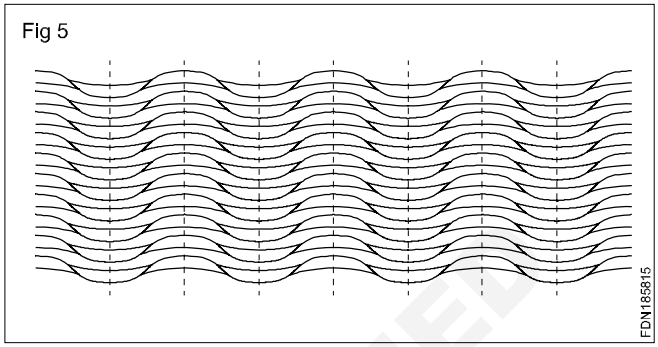
A tuck can be given a special decorative effect by making it into a **shell tuck.** This tuck has a scalloped edge. They can be formed on single edge or as multiple rows. Thin and medium weight fabrics are best suited for that purpose. (Fig 4)

Fig 4



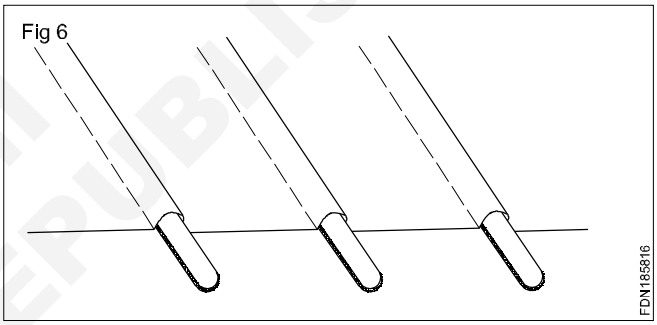
A group of blind tucks can be made to show a **scalloped effect.** For that purpose, the fold of tucks should be a little wider. The tucks are top stitched perpendicular to the tucks first in one direction, then their folds are placed in the opposite direction to be topstitched again perpendicular to the tucks. This process is repeated on the full length of tucks at regular intervals. Thin and medium weight fabrics are best suited for shell tucks and scalloped tucks. (Fig 5)

Fig 5



Corded tucks are made by placing a cord inside the fold. This makes the tuck more prominent. A zipper foot is required for stitching this type of tuck. (Fig 6)

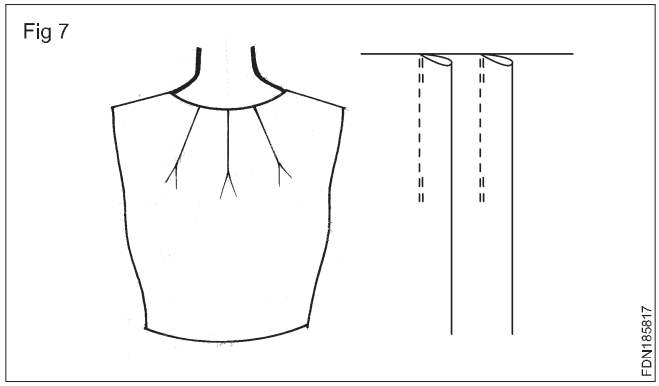
Fig 6



Note: When tucks are used as a symmetrical element of decoration on the garment, the fold lines of either side should either face centre front or they should be directed away from the centre.

Dart tucks are used for shaping the garment. They can be formed on shoulder line, front and back waistline of the bodice and the front and back section of the lower garment. They are used to provide fullness and are usually formed on the wrong side of the garment. In rare cases they are formed on right side for decorative effect. (Fig 7)

Fig 7



The difference between darts and dart tucks can be described as follows:

– Dart tucks are of less width (approx. 0.5 cm).

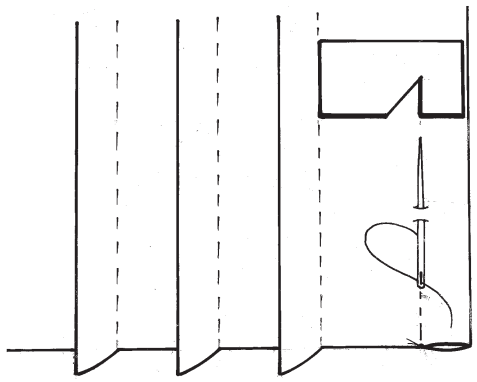
– To achieve the desired shape they are stitched in groups of 3 or 4.

– Dart tucks are of equal width on the full length while darts taper towards the end.

While stitching tucks some tools are useful:

A gauge made from cardboard helps stitching without marking the stitching lines. The length of gauge includes the width of tuck and the space between the tucks. The notch indicates the width of tuck. If the gauge is placed with the left edge on the stitching line of the previous tuck and the right edge is on the fold of the new tuck the notch will indicate the position of the stitching line for the new tuck. (Fig 8)

Fig 8



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Tucker foot is a time saving device for making tucks up to 2.5 cm in width. It is an extra attachment inserted in place of the presser foot for treadle and motorised sewing machine. It helps to achieve an equal width of tucks and equal spacing between the tucks in one operation. The tucker foot is provided with two scales numbered from 0 to 8. The smaller scale near the needle will help to get a uniform width of tuck. The required width of tuck is set by moving a sliding plate with the help of a screw. While stitching, the fabric is guided between the two scales.

There is another screw near the needle to regulate the space between the tucks. Set the tuck scale first for the width of tuck, then the space scale is adjusted to a required space. The tucker foot does two operations at a time: it maintains the tuck width and the distance between the tucks even. (Fig 9)

An edge stitcher is a special presser foot which is inserted in the machine in place of the normal presser foot. It is useful as a guide for stitching pin tucks, tucks with lace, piped seams and for self enclosed seams (e.g. French seam). It has a series of slotted guides where the folded fabric is inserted. The slots are of different widths for different edge stitch distance. (Fig 10)

Tucks can be formed before or after the respective component of the garment is cut from the fabric.

The easier way is to fold the tucks before layout. The disadvantage with this method is that the edges have to be recut. It also increases the wastage of fabric. (Fig 11)

Fig 9

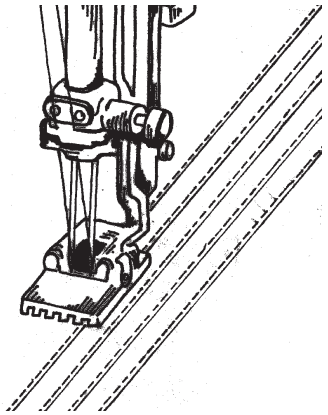

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Fig 10

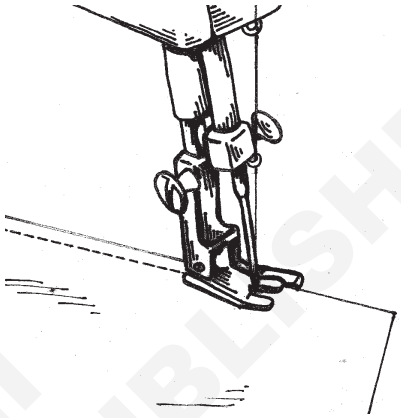

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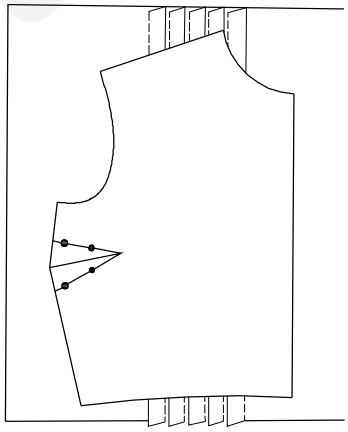
Fig 11



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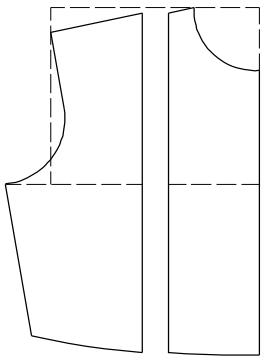
With the other method the pattern is slashed and spread. This provides the extra space for folding the tucks after the component is cut. (Fig 12)

Fig 12



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Gathers

Objectives: At the end of this lesson you shall be able to
- **explain gather and its uses.**

Gathers

Gathering is an effective and decorative way of distributing fullness over a given area.

- Gather are worked both by hand and machine.
- Gather are used on waistline, yoke line, neckline, upper and lower edge of sleeve. It is finished by attaching waist band, piping, yoke of cuff.
- Gather are formed by using long stitches and finished by an ordinary stitches.
- Gather can also be made by fixing elastic on the fabric with ordinary stitches.

Full sleeves gathers are set into armhole at the upper edge and into a binding or band at the lower edge.

The width of fabric to finish the fullness is determined by the weight of fabric and the amount of fullness required in the finished garment.

If the fabric is heavy or stiff heavy-duty thread is used in the bobbin.

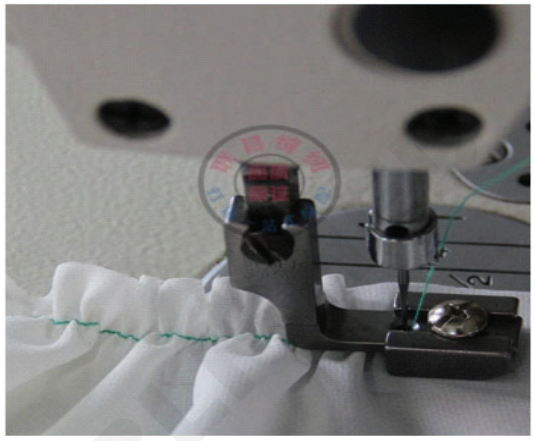
A contrast colored bobbin also helps distinguish the upper and lower thread.

Ruffle attachment foot can be used to gather large sections of fabric.(Fig 1)

French Gown

Gathering on sleeve and waist line.

Fig 1



Shirring

Objectives: At the end of this lesson you shall be able to
- **explain shirring and its uses.**

Shirring

Shirring is formed with multiple rows of gathers and is primarily a decorative way of controlling fullness (Fig 1). Light weight fabric are the most appropriate for shirring. This may be either crisp or soft, voiles, batistes, crepes and jerseys are excellent choices.

Fig 1 Shirring

Shirring

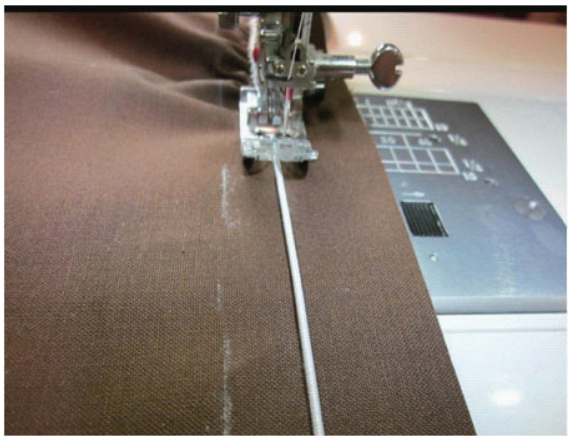
To keep the shirring in an undisturbed position an under fabric is used. It is cut to the width of the shirred fabric area pinned on the wrong side of the fabric folding the raw edges hand saw with invisible stitches in position.

Using of an elastic is another type of shirring where the shirring is stitched with elastic. This form is stretchable and body hugging.

Shirring with cord is also done on multiple rows.

Cord is placed directly on shirred lines and stitch with zig zag stitch and ends are secured by knotting. (Fig 2)

Fig 2



Frills or ruffles

Objectives: At the end of this lesson you shall be able to
- **explain frills and ruffles.**

Frills or Ruffles

A ruffle is a strip in such a way as to produce fullness.

Though primarily decorative, ruffles may also serve a practical purpose, such as lengthening a garment Fig 1.

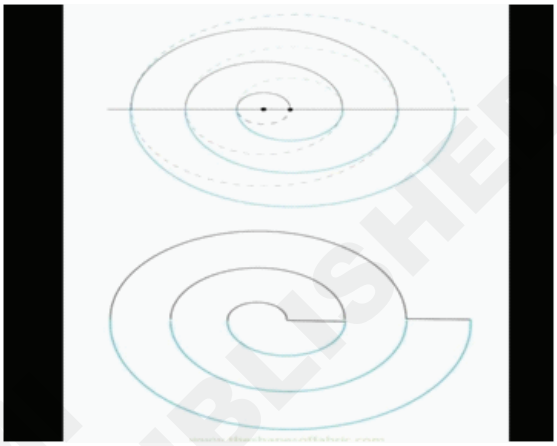
Fig 1

Fig 2 Straight Ruffles

To make frills allow at least one and a half times the width of the piece to which the frill will be attached Fig 2. The length of the frill is usually from one inch to 3 inches or as required.

The longer side should be cut along the length wise grain of the material.

Fig 3 Circular Ruffle



The gathered edge or the frill edge can be concealed into a seam by facing, binding or wide band.

The straight ruffle in cut as a strip (Fig 2). Circular ruffles is cut in a circular manner Fig 3.

The straight ruffle both edges are of the same length and the fullness is produced through gathers.

The circular ruffle cut form the centre of a larger fabric and the inner edge forced to lie flat producing fullness on the outer longer edge.

A double ruffle is gathered in the counter (half way) between the two finished edges. It is then fixed by top stitched through the centre of the garment section.

Godets

Objectives: At the end of this lesson you shall be able to
- **explain godets and its uses.**

Godets

Godets is a triangular shaped wedges of fabric placed between seams into slits or a replacement for cut-out sections. (of varying shapes) (Fig 1)

Godets provide additional stride room or may be added as a design feature.

They are used singularly in a series around the skirt. They may extend evenly to the hemlines or be in length.

Godets may be placed on a bodice jacket, blouse, sleeve

Fig 1

Plackets

Objectives: At the end of this lesson you shall be able to
- **explain the function of a placket**
- **explain the different types of plackets and their application.**

Plackets are finished openings, constructed to make it easy to put on or take off a garment. When the garment is in use, generally plackets are kept close with the aid of fasteners such as zips, buttons etc. They are used at waistline, neckline, sleeves (wrists) and other snug fitting parts of a garment.

A placket may be made in an opening left in a seam or in a slash cut in a garment. The former is stronger and gives a better finish when completed. A placket should be as inconspicuous and flat as possible, unless it is used as a decorative element in a garment.

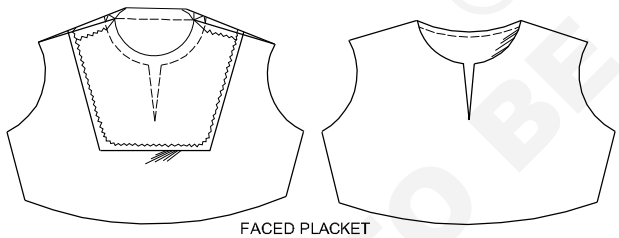
In women's garments, placket should lap **right over left**, in gent's garments **left over right**.

Except in zip plackets, one or two facing components are used to finish the edges of the placket opening.

Features and use of plackets

Faced placket is used in front or back neck line for a short opening. A separate placket piece is first stitched in place and slashed after. In fine material self material with lining is used. (Fig 1)

Fig 1



FACED PLACKET

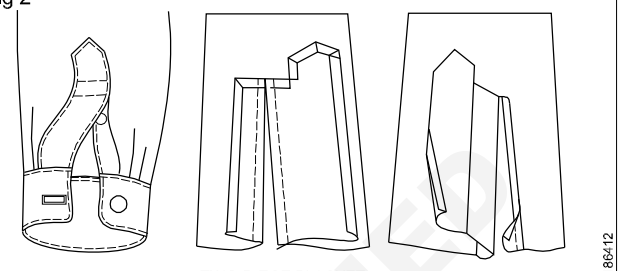
FDN186411

A two-piece placket is generally used on upper garments with a loose fit. For the construction of this placket, two separate pieces (facings) of self material are used. One smaller width for the facing and the wider width for the bound. When finishing this placket on jibbas and on sleeves the wider width is overlapped on the narrow facing piece. The end is finished in a square or mitred (triangular) shape. When the placket is used in waistline, the narrow piece overlaps the bound piece. Lock stitch is done at the end of the placket. (Fig 2)

Italian placket is similar to the two-piece placket. The only difference is, that the two pieces are of the same width. It is commonly used on men's shirts sleeve openings and in half opened shirt as well as in children's dresses.

Continuous plackets are used in slashes. They are best suited for full gathered sections and also on umbrella skirts, children's dresses and sleeve cuffs. The placket

Fig 2

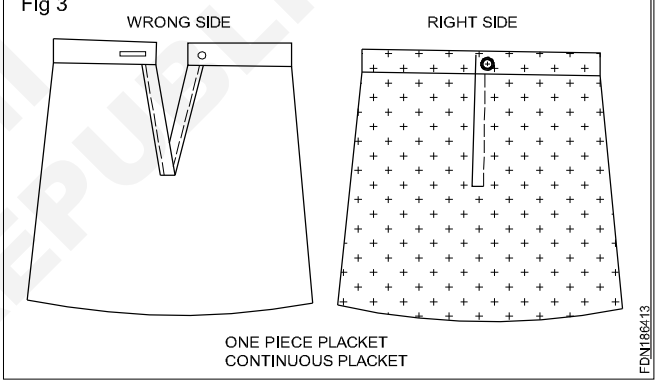


TWO PIECE PLACKET

FDN186412

strip (facing) is cut in widthwise direction of the self material. It is not suited for curves or bulky fabrics. (Fig 3)

Fig 3

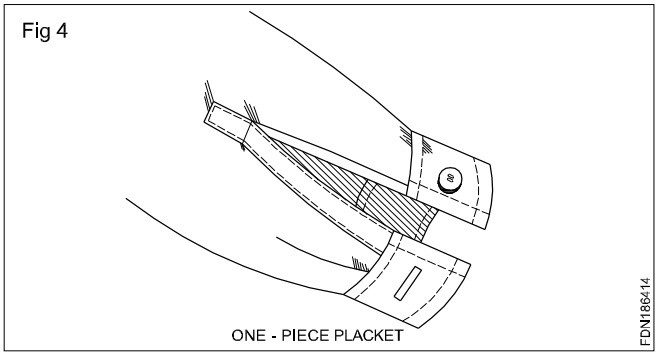


ONE PIECE PLACKET
CONTINUOUS PLACKET

FDN186413

One-piece placket is used only on shirt sleeves. One side has a self hem and the other side has a bound piece, that may be finished in square or V-shape for better appearance. (Fig 4)

Fig 4



ONE - PIECE PLACKET

FDN186414

Zipper plackets can be finished with different types of zippers. The basic type of zipper is the chain zipper, a medium weight zipper with metal or plastic teeth closed at lower end.

Ladder or coil zipper has synthetic coils of polyester or nylon attached to a woven tape. It is also closed at one end.

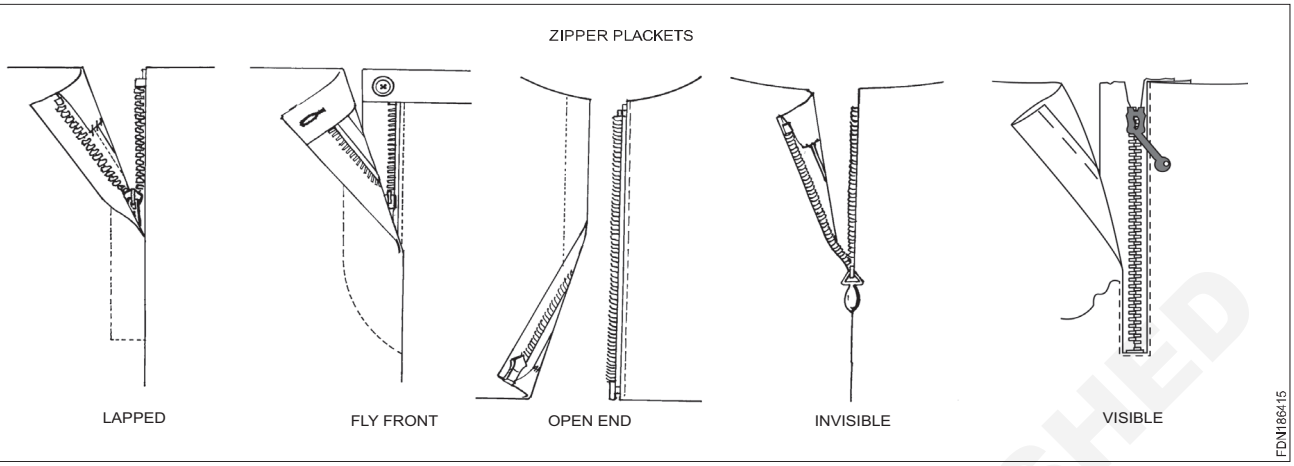
Invisible/concealed zipper is a type of coil zipper and has teeth that are concealed on the underside, so that the zipper is invisible from right side.

Open end zippers are open at both ends, usually long and heavy. They are mainly used in jackets, track suit tops, waist coat, etc.

Zippers are opened and closed by a slider which moves up and down. The top stop and bottom stop keeps the slider from running off the zipper.

There are several ways of inserting zippers, the method depends upon the position in the garment and the type of garment. Generally, zippers are either concealed in a lapped seam with only one line of stitching visible, or they are centered under a channel seam with two lines of stitching. In some dresses, it is also desired to keep the zipper visible. (Fig 5)

Fig 5



Zipper Plackets

Objectives: At the end of this lesson you shall be able to
- **explain the different zipper types**
- **explain the various zipper applications.**

Zipper plackets can be finished with different types of zippers. The basic type of zipper is the chain zipper, a medium weight zipper with metal or plastic teeth closed at lower end.

Ladder or coil zipper has synthetic coils of polyester or nylon attached to a woven tape. It is also closed at one end.

Invisible/concealed zipper is a type of coil zipper and has teeth that are concealed on the underside, so that the zipper is invisible from right side.

Open end zippers are open at both ends, usually long and heavy. They are mainly used in jackets, track suit tops, waist coat, kameez etc.

Zippers are opened and closed by a slider which moves up and down. The top stop and bottom stop keeps the slider from running off the zipper.

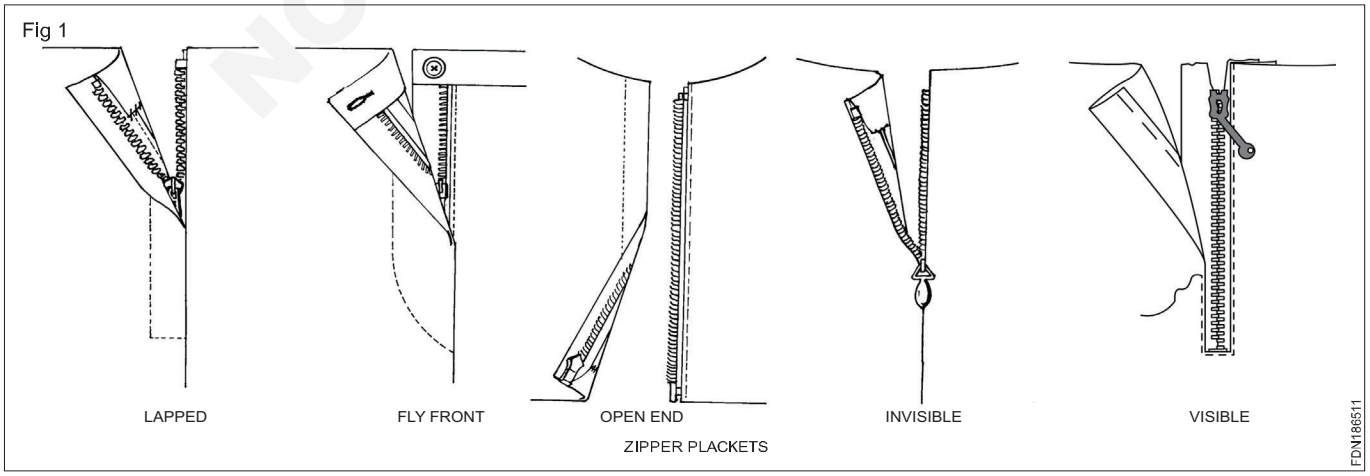
There are several ways of inserting zippers, the method depends upon the position in the garment and the type of garment. Generally zippers are either concealed in a lapped seam with only one line of stitching visible, or they are centred under a channel seam with two lines of stitching. In some dresses, it is also desired to keep the zipper visible. (Fig 1)

Centered application of the zipper is either visible application or invisible application. It is constructed at the centre front or centre back of the garment.

Lapped zipper application is commonly constructed at a seam line. In this method one zipper section is applied to project out on the underlap layer and the other stitched on the corresponding overlapping layer of the garment placket.

Open end zipper application is a special kind of application, where both the zipper sides are open fully and stitched separately to either placket sides. It is commonly used in upper garments.

Fig 1



Pockets

Objectives: At the end of this lesson you shall be able to
- **define name and distinguish between the different types of pockets**
- **explain the different components required.**

A **pocket** is a small bag stitched to a garment for carrying money, handkerchiefs etc. Pockets besides having this functional meaning they are also made for decorative purpose. Care should be given to their size, shape and location since they attract the eye.

The **pocket position** should be at a level that is comfortable for the hand to reach. If it is on the upper body garment it should be on the chest line or just below the waistline. In lower garment (skirt or trouser) the position is on back or front hip line and also on the side seam just below the waistline. But for decorative purpose it can be placed anywhere, according to the fashion, like above knee and elbow for example.

Children love to have pockets in their dresses. These pockets can be designed to various shapes and sizes with decorative details such as lace, ruffles, tucks, pleats, embroidery etc.

A pocket might consist of different components depending on the type of pocket:

Pocket pouch will appear either outside of the garment in patch pocket or inside the garment in all other types of pockets. In case of patch pocket the pouch is cut from the dress material otherwise strong lining material like poplin or gad a is used mostly. The pouch material must be strong since it is meant to carry items inside.

– Material for finishing the pocket mouth (flap or lip piece) is also taken from dress material.

– The jetting piece will also be cut from the dress material. It is used as an extension of the pocket pouch at pocket mouth on the right side of the garment (e.g. front-hip pocket, inseam pocket).

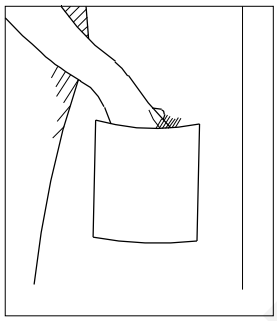
The position of pockets are marked in pattern. There are many methods for the construction of pockets, but in general they can be classified as three types:

The **patch pocket** is attached to the outside of a garment. It can be placed more freely to flatter the wearer or to highlight the design of a dress. They may seem to be easiest to stitch but since all the sewing lines are visible they have to be attached perfectly. Patch pockets may be cut in various shapes and may be finished with a flap which covers it partly. A cardboard template cut to the pocket shape and size is helpful for guiding during the stitching and pressing process. If the pockets are to be used in pairs it has to be taken care that the finished pockets look exactly same. (Fig 1)

Some of the patch pocket designs are given below:

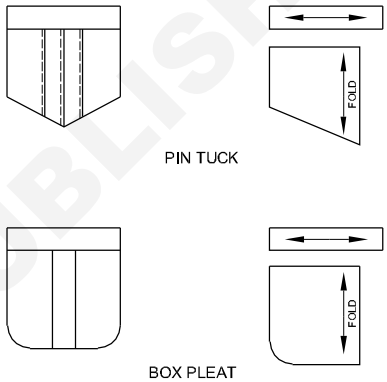
Pocket pattern might be cut into two section a patch piece and a lip piece. The patch piece is folded lengthwise, then an extra material is added on the fold for pin tucks or box pleat. (Fig 2)

Fig 1



FDN186611

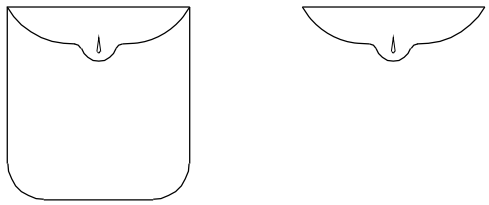
Fig 2



FDN186612

For shaped flap, the flap piece may be cut in double layers to avoid showing the unfinished inside part of the flap, to hang firmly and to give a neat finish. The flap is finished and then attached to the pocket mouth from the right side. (Fig 3)

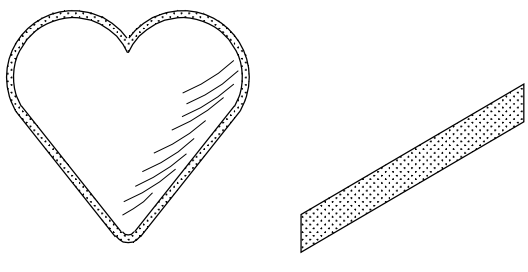
Fig 3



FDN186613

The edges of a shaped patch pocket can be finished with a bias strip. (Fig 4)

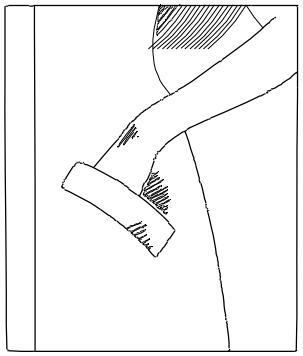
Fig 4



FDN186614

Slashed pockets are used on the chest line, waistline and just above the hip line. They are made by slashing the fabric for pocket mouth. The edges are then finished in different ways. In this type of pocket, the pocket pouch hangs on the wrong side of the garment. The lower raw edge can be finished with a lip piece that is covering the upper raw edge. (Fig 5)

Fig 5



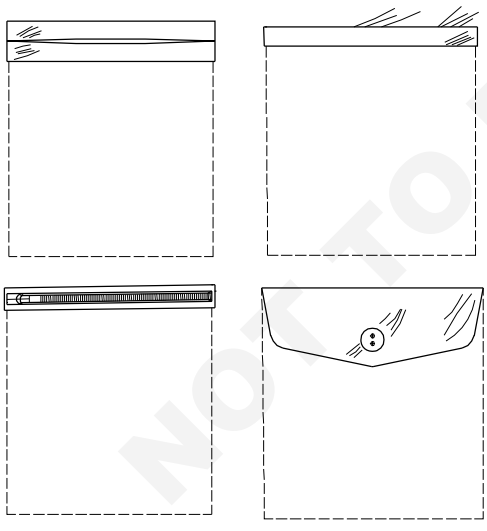
FDN186615

If the lip piece is wider, the pocket is called **welt pocket**. Here the lip piece should be of widthwise material. If the lip piece is of narrow width, then it is known as **bound pocket**. For this finish the lip piece should be of lengthwise material. This finishing method is similar to the bound button hole and it can be of either single or double piece.

It is also possible to finish the upper raw edge with a flap, covering the lower raw edge. This type of pocket is known as **flap pocket**, suitable for coats and pants.

The two raw edges of a slashed pocket can also be finished with a zip. (Fig 6)

Fig 6

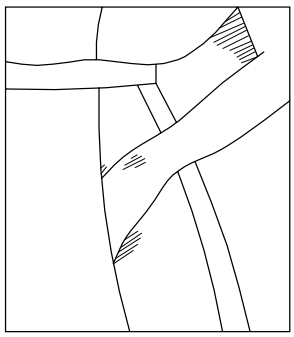


FDN186616

Inseam pockets are always placed in the seam of a garment. Here the pocket piece also hangs on the wrong side of the garment. This pocket is placed on the hip level of side seam in skirts and trousers. (Fig 7)

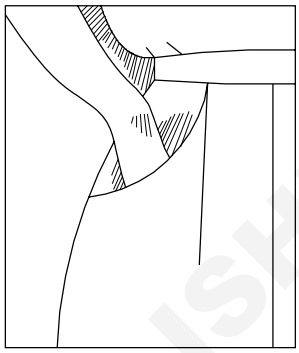
The **front-hip pocket** starts from waistline and ends in side seam line of a lower garment. Its pocket mouth can be finished in straight, diagonal or curved shape. (Fig 8)

Fig 7



FDN186617

Fig 8



FDN186618

Hints for stitching pockets

– To avoid wrinkles on the outer edge of patch pocket, ease stitch should be given on the curved area before stitching.

– To avoid bulge at the corners or outer shape of pocket on a heavy weight fabric, notches should be given.

– On either side of pocket mouth stitches must be strengthened by giving a straight or triangular bar or else the stitches may come off due to frequent usage.

Facing is the method where a piece of fabric is used to finish the raw edge on wrong side of the garment. Facing can be done as bias facing or shaped facing.

Bias facing is applied on a curved edge and done withthe help of a strip.

It is usually turned to the wrong side of the garment and will not be visible from right side. It is only turned to the right side if a decorative effect is desired.

Binding is used to finish and straighten raw edges add a decorative trim to a garment. It is a neat finish also a reversible garments. It is used to finish necklines, armholes, sleeve edges front closings, collars cuts and seams. Readymade bias binding piece can also be used.

Bias bindings can be applied in two ways: Single binding is cut to double the finished width plus two seam allowances. Bindings are handled in the opposite manner to facings at Inward and outward curves. Stretch bias on inward curves and eases it in outward curve Double binding or French binding is used on sheer fabrics. Here the width is four to six times the required width. The binding piece is folded first and applied to the garment. It gives a corded effect when finished.

Introduction of measurement & pattern making

Objectives: At the end of this lesson you shall be able to
- **how to take body measurements?.**

Measuring techniques

How to take body measurement?

When taking measurement, it is most accurate with under-garments or garments worn should be plain and well fitting.

Measurement charts: Every person has an individual height and shape of the body. Big, small, fat persons don't match with the ideal proportions. While stitching a garment the shape of the garment has to be adjusted to the shape of the body as much as possible.

The most accurate way of shaping a garment according to the individual body takes place on the basis of measuring an individual body. This measurement will reflect all individual conditions. Since the garment industry does not produce for an individual customer they produce dresses for body measurements which represent a larger number of persons. These measurements are found by measuring thousands and thousands of people of a certain region/country. The date found in such a survey will be systematically organised in a chart valid for that particular area.

Even though many charts can be seen in books a proper measurement chart for the Indian population is still missing. Therefore, the Trade Practical book is not referring to a chart. The measurement given with every garment are based on experience, but it is always the person to stitch the dress for.

S. No.	Body measurement	Abbreviation	How to take body measurement?
1	Natural Waist	NW	Measure on back from nape to waist.
2	Full Length	FL	Measure from neck point to waistline up to the desire length of garment.
3	Shoulder	Sh	Measure from left shoulder end to the right shoulder end (where you find the ball moving while moving your arm)
4	Sleeve length	SL	Measure from shoulder end to desire sleeve length (for full length arm should be in a bended position)
5	Sleeve bottom or round arm	SB	This is a garment measurement. It gives the desired girth of sleeve at bottom line.
6	Chest	Ch	Measure around the fullest part of chest/bust above the nipple line (one finger loose)
7	Bust (Ladies' garment)	B	
8	Waist	W	Measure around the natural waist line, draw the tape close but not too tight.
9	Hip	H	Measure firmly around the fullest part of hip.
10	Neck	N	Measure loosely around the base of neck.
11	Across chest	ACh	Measure across the chest line on skye level.
12	Across back	AB	Measure on back from one sleeve joint to the other on cue level (Above the blade bole)
13	Bust level	BL	Measure from neck point (which is on the level of neckline at side) to bust.
14	Leg Length (Side length)	LL	Measure outer leg length from waist to ankle (or desired length of garment)
15	Inner leg length	ILL	Measure from fort to ankle or leg length- body rise

Dress form measurement chart

Objectives : At the end of this lesson you shall be able to

- **measurements of children**
- **measurement of Adolescent (Girls) and Ladies**
- **measurement of Adolescent (boys) and Gents.**

Measurements of Children

Age	Chest	Waist	Hip	Width of shoulder	Neck	Sleeve	From shoulder to waist	Frock length	Short length	Slack length
1Yrs	18"	18"	18"	8"	9"	10"	7"	15"-16"	8"	16"-18"
	46 cm	46 cm	46 cm	20cm	23 cm	25 cm	18 cm	38-41 cm	20 cm	41-46 cm
1-2Yrs	20"	20"	20"	81/2"	9 1/2"	11"	7 1/2"	16"-18"	9"	18"-20"
	51 cm	51 cm	51 cm	22cm	25 cm	28 cm	19 cm	41-46 cm	23 cm	46-51 cm
3-4Yrs	22"	22"	22"	9"	10"	12"	8"	20"-22 "	10"	20"-24"
	56 cm	56 cm	56 cm	23 cm	25 cm	31 cm	21 cm	51-56 cm	25 cm	56-61 cm
5-6Yrs	24"	22"	24"	10"	11"	14"	9"	24"	12"	22"-27"
	61 cm	56 cm	61 cm	25 cm	28 cm	36 cm	23 cm	60 cm	31 cm	56-61 cm
7-8Yrs	26"	23"	28"	11"	11 1/2"	17"	10"	26"	13"	26"-28"
	66 cm	58 cm	71 cm	28 cm	29 cm	43 cm	25 cm	66 cm	33 cm	66-71 cm
9-10Yrs	27"	24"	30"	12"	12 1/2"	19"	11 1/2"	28"	14"	28"-30"
	68 cm	61 cm	79 cm	31 cm	32 cm	48cm	29 cm	71 cm	37 cm	66-71 cm
11-12Yrs	28"	24"-25	32"	13"	13"	21"	13"	30"	14 1/2"	30"-32"
	71 cm	61-64cm	81 cm	33 cm	33 cm	54 cm	33 cm	77 cm	38 cm	76-81 cm

Measurement of Adolescent (Girls) and Ladies

Age	Chest	Waist	Hip	Wide of shoulder	Neck	Sleeve	From shoulder to waist	Frock length	Blouse length
13-14Yrs	30"	25"	33"	13"	13"	21"	13"	32"-34"	13 1/2"
	76 cm	64 cm	84 cm	33 cm	33 cm	54 cm	33 cm	81-86 cm	35 cm
15-16Yrs	32"	26"	35"	13 1/2"	13 1/2"	22"	13 1/2"	35"	13 1/2"
	81 cm	66 cm	89 cm	35 cm	35 cm	56 cm	35 cm	89 cm	35 cm
17-18Yrs	33"	26 1/2"	36"	13 1/2"	13 1/2"	22"	13 1/2"	36"	14"
	84 cm	67 cm	91 cm	35 cm	35 cm	56 cm	35 cm	91 cm	36 cm
19-20Yrs	34"	27"	37"	14"	14"	22"	14"	37"	14"
	86 cm	69 cm	94 cm	36 cm	36 cm	56 cm	36 cm	94 cm	36 cm
21-22Yrs	35"	27 1/2"	38"	14"	14"	22 1/2"	14 1/2"	38"	14 1/2"
	88 cm	570cm	97 cm	36 cm	36 cm	58 cm	37 cm	97 cm	37 cm
23-24Yrs	36"	28"	40"	14"	14"	23"	15"	40"	15"
	91 cm	71 cm	102cm	36 cm	36 cm	58cm	38 cm	102 cm	38 cm

These are changeable according to different body structures. But you should have understood from the above chart that measure ment of human body changes along with the increase in age. Even then it may be noted that in every case these measurement may not be of very much use. These are increasement of decreasement in measurements largely depends on dieting, environments and working atmosphere. This is a rough profile which may be depended upon for starting a work, it may otherwise be experienced.

Measurement of Adolescent (boys) and Gents

Age	Chest	Waist	Hip	Across back	Width of shoulder	Neck	Sleeve	Shoulder to waist	Shirt length	Bus shirt length	Short length	Pant length	Leg length
13-14Yrs	30"	27"	33"	6 1/2"	15"	13 1/2"	22"	14"	28"	26"	15"	36"-37"	26"-27"
	76 cm	69 cm	84 cm	17 cm	38 cm	34 cm	56 cm	36 cm	71 cm	66 cm	38 cm	91-94 cm	66-69 cm
15-16Yrs	32"	28"	34"	6 1/4"	16"	13 1/4"	22 1/2"	14 1/2"	29"	27"	15 1/2"	38"	28"
	81 cm	71 cm	86 cm	17 cm	41 cm	35 cm	57 cm	37 cm	47 cm	69 cm	39 cm	97 cm	71 cm
16-17Yrs	33"	29"	35"	7"	16 1/2"	14"	23"	15"	30"	27 1/2"	16"	39"	28 1/2"
	84 cm	74 cm	89 cm	18 cm	42 cm	36 cm	59 cm	38 cm	76 cm	70 cm	41 cm	99 cm	72 cm
18-19Yrs	34"	30"	36"	7 1/4"	17"	14 1/2"	23 1/2"	5 1/2"	30 1/2"	28"	16 1/2"	40"	29"
	86 cm	76 cm	91 cm	19 cm	43 cm	37 cm	61 cm	41 cm	79 cm	74 cm	43 cm	104 cm	75 cm
20-21Yrs	35"	31"	37"	17 1/2"	17 1/2"	14 1/2"	24"	16"	31"	29"	17"	41"	29 1/2"
	89 cm	79 cm	94 cm	319 cm	45 cm	37 cm	61 cm	41 cm	79 cm	74 cm	43 cm	104 cm	75 cm
22-24Yrs	36"	32"	38"	8"	18"	15"	24"	6 1/2"	32"	30"	17 1/2"	42"	30"
	91 cm	81 cm	97 cm	20 cm	46 cm	38 cm	61 cm	42 cm	82 cm	76 cm	45 cm	107 cm	76 cm

Introduction to paper pattern

Objective: At the end of this lesson you shall be able to
- **explain about types and importance of patterns.**

Pattern

A pattern can be defined as a model or a replica of the various components of a garment. It can be made of paper or plastic. Normally papers are used to make the patterns which are cheaper than plastic or other materials. In industries, they are using thick paper or card board instead of tissue paper for frequent applications.

Importance of paper patterns

1 Basically, patterns are acting as a time saving device. If we have cut a pattern, then are all garments of the same size can be cut with the same pattern. By this, we will save our precious time, by avoiding the drafting process on each and every fabric. And also, it is not easy to draft straight away on the fabric. With the help of the paper pattern, marking process can be done quickly.

2 We can preserve the paper patterns and use them whenever we want. For that, in industries, the patterns are made using thick paper or card board.

3 Paper patterns are very useful for "Pattern Grading" process. Using pattern grading process, we can enlarge or reduce the base pattern from one size to another size.

4 Paper patterns are helpful in making pattern layout. The patterns can be arranged in the open width of the fabric, and with this pattern layout we can estimate the amount of fabric for making a garment. Using economical pattern layout, we can reduce the cloth consumption for a garment.

5 If the pattern is not suitable for one's fitting, we can alter the pattern for obtaining a good fit.

6 With the help of the base pattern, new designs can be tried on it which can make beautiful garments. The basic pattern may be modified for varied styles, and this technique is called as 'Flat pattern designing'.

Types of paper patterns

1 Commercial patterns

They are also referred to as 'Ready-made patterns'. Patterns prepared on the basis of standard measurements are called as commercial patterns or Ready-made patterns. Commercial patterns are easily available in foreign countries. Many companies standardise their patterns after doing a lot of research and trying out the fit on models. The commercial patterns are available in various sizes. So, one can easily buy a pattern in required size suitable for him.

A commercial pattern has three main parts; the envelope, the instruction sheet, and the pattern issue. The envelope which contains the other two components, is printed with a photograph or illustrations of the garments, plus the information that is required to select the appropriate size of pattern and purchase the correct amount of fabric and other details like fasteners & accessories. The front part of the envelop contains the different versions of the finished garment produced from the pattern. The back part of the envelope contains charts detailing the fabric amount required for each version. Size charts, recommended fabrics and drawings of the garment detail are also given.

The instruction sheet explains how to use the pattern and what are the different pattern markings mean. Pattern markings are the lines, dots, and other symbols printed on a pattern to provide information about cutting line, seam line, seam allowance, grain line, hem allowance positions of button, button holes, darts, pleats, tucks, etc. The instruction sheet also gives cutting-out diagrams and construction details. The tissue sheets are printed with full-size pattern pieces. Single size patterns contain a one size pattern only. Single-size patterns are printed with a single cutting line that is appropriate to the size purchased. Multi-size patterns are marked with lines to cut three or four different sizes. These patterns have the cutting lines for different sizes printed on the same pattern piece. The lines for each size are labelled, and are often drawn with a different type of line.

In India, there is not much demand for commercial patterns. Here, custom tailoring is improved and most of the women know a little bit of tailoring. Hence, nobody wants to buy the expensive ready-made patterns. But in foreign countries, big companies do not make small orders. So women there buy ready-made patterns and stitch their clothes. Mostly the ladies do not know cutting. So, they buy these patterns and stitch their garments accordingly.

Advantages of commercial patterns

Commercial patterns save our time and effort. If our measurements suit with a particular size, it would be simpler to buy a commercial pattern than drafting one our self. If we not have knowledge in cutting, using the readymade patterns we can make a garment with good fitting.

Disadvantages

Ready-made patterns do not give good fit without some pattern alternations, if our measurements don't have the same proportions as the standard figure. Pattern alternations are more complicated processes than drafting patterns. Moreover, commercial patterns are expensive.

2 Personal patterns

Patterns drafted using personal or one's individual measurements are called as 'Personal patterns'. They are also referred to as individual patterns. If we know pattern cutting, we can make patterns ourselves, which will give good fitting rather than ready-made patterns. It is very economical and we can create our own designs.

Principles for pattern drafting

While drafting patterns, the following principles have to be followed

1 Select a suitable paper for drafting patterns which should not be too thin.

2 Use suitable instruments like, Long scale, 'L' type scales, Set squares, French curves, etc., for accurate drafting.

3 Use a sharp pencil for fine and neat lines and accurate drafting.

4 Before drafting the patterns, check the measurements clearly and read the procedures and instructions carefully. Note the important points in a paper.

5 Make a rough diagram before drafting. This will give an idea for drafting patterns with perfection.

6 Before drafting, we have to decide the amount of ease allowances to be given at the required portions. The prepared patterns must be larger than body measurements to allow for freedom of movement, ease of action and comfort in wearing. For that ease allowance are given along with the body measurements for free body movements.

7 Seam allowance should be decided first before drafting the patterns. According to the seam and stitch types, we have to give seam allowance at the outlines of the patterns.

8 If a pattern has symmetric design where the right and left sides are alike, we may make only the half part of the pattern. Ex. Shirt back, Shirt yoke, etc., For asymmetric designed patterns, full pattern must be drafted. Ex. Sleeve.

9 Check the draft before cutting the patterns.

After drafting the patterns, the following details and informations should be recorded and marked clearly on the patterns.

Pattern making techniques

1 Drafting method

2 Draping method

3 Flat pattern designing.

1 Drafting method

Drafting method needs actual required measurements. With the help of the body measurements, we have to use proper pattern making tools like 'L' square and French curve and draft the required patterns. This is accurate method.

2 Draping method

In draping method, we have to drape the actual fabric on dress forms and we have to pin it at the required style lines, and we have to cut the extra fabrics on each body style line like shoulder line, neck line, arm hole etc. After completing the process, the fabric is removed from the dress form and with the cut fabric the patterns have been traced. It consumes lot of fabric and line. And this is an approximate method.

3 Flat pattern designing

Making one pattern with the help of existing pattern is called as "Flat pattern designing". There are two types of techniques.

1 Adaptation

Adaptation is the method of creating a basic style pattern from the block pattern. (e.g.) Basic sleeve pattern from Sleeve block.

2 Manipulation

Manipulation is the method of converting one style pattern to as other style pattern, (e.g.) plain sleeve to puff sleeve. In manipulation technique there are two methods are normally used. They are

i Slash and spread method.

ii Slash and lap method.

In slash and spread method, the pattern has been slashed into required no of equal parts and spread on a paper. And the new pattern has been created with the outline marking of the spread patterns. (e.g.) Plain sleeve to Puff sleeve.

In slash and lap method, the pattern has been slashed into required no equal parts and lap over one above the other. And the new pattern has been created with the outline marking of the spread pattern. (e.g.) Flared skirt to a straight skirt. (Figs 1 & 2)

Block pattern

The basic pattern which has the actual body measurements and curves of a model or dress form is known as Block pattern. The block pattern should fit exactly on the body curves and shapes with correct dimensions. The following are the qualities of a Block pattern.

1 The block pattern should have the correct body measurements only.

2 It should not have ease allowance. (Somebodies are adding ease allowance also.)

3 It should not have seam allowances, loose allowance, flare allowances, etc.

4 It should have any fullness except dart.

5 It should not have any design and style lines. The block pattern is also called as foundation pattern or sloper pattern. The types of block patterns are

1 Bodice block

2 Sleeve block

3 Skirt block

4 Trouser block

5 Shirt block, etc.

Fig 1

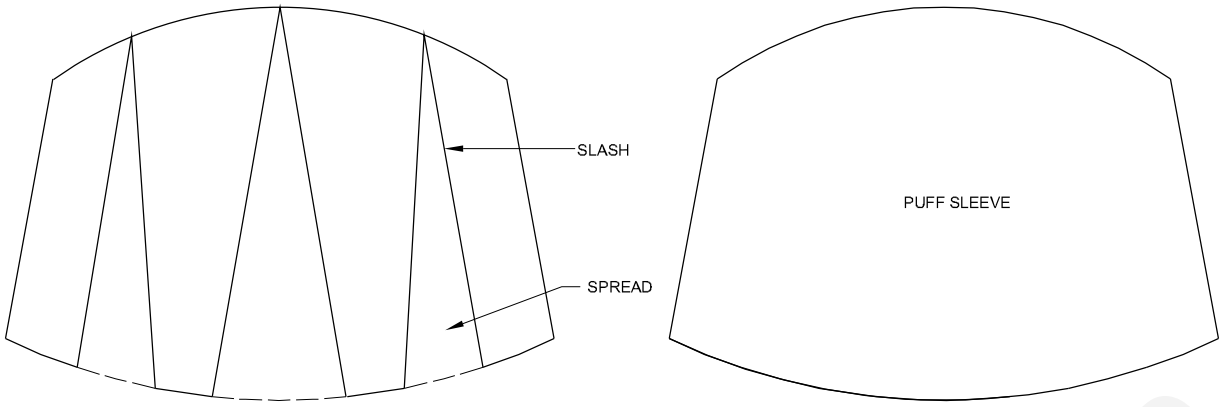
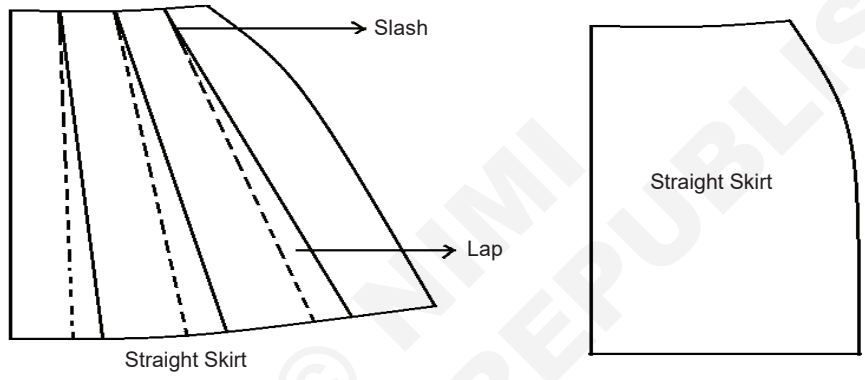


Fig 2



Block pattern making

While making block pattern, we have to consider the following points.

1 Garment balance

The blocks should have the proper garment balance. We have to follow the centre front line and centre back line properly. The patterns should fit with exact body shapes and proportions.

2 Ease allowance

Some bodies are adding minimum ease allowances while drafting block patterns, but while doing adaptation, we have to modify the ease allowances.

3 Drafting

We have to use all the required measurements and draft the block patterns. The drafting should be done by using proper pattern making tools like French curve and 'L' square.

4 Test fit

After preparing the blocks, we have to drape on them on a model or dummy to check the fitting. According to the modifications, the patterns should be altered and the final blocks should be prepared.

Pattern layout

Objective: At the end of this lesson you shall be able to
- **explain about pattern layout.**

Pattern layout

The arrangement of patterns on a fabric is know as "Pattern layout".

Work and safety precautions for creating and cutting the paper pattern : The measurements are to be finalised before drafting the pattern on paper. Incomplete measurement information may lead to confusion.

The working area of the pattern draft must be wide enough to accommodate the required pattern to avoid patching up the paper and measurement error.

Attention must be given while applying the correct measurements on drafting the pattern.

All the lines (seam lines, fold lines, dart lines etc.) of the draft should be distinctly clear, to avoid incorrect cutting.

All the incorrect lines have to be erased in order to avoid confusion and subsequent damage.

After drafting, all the measurements have to be checked to ensure accuracy.

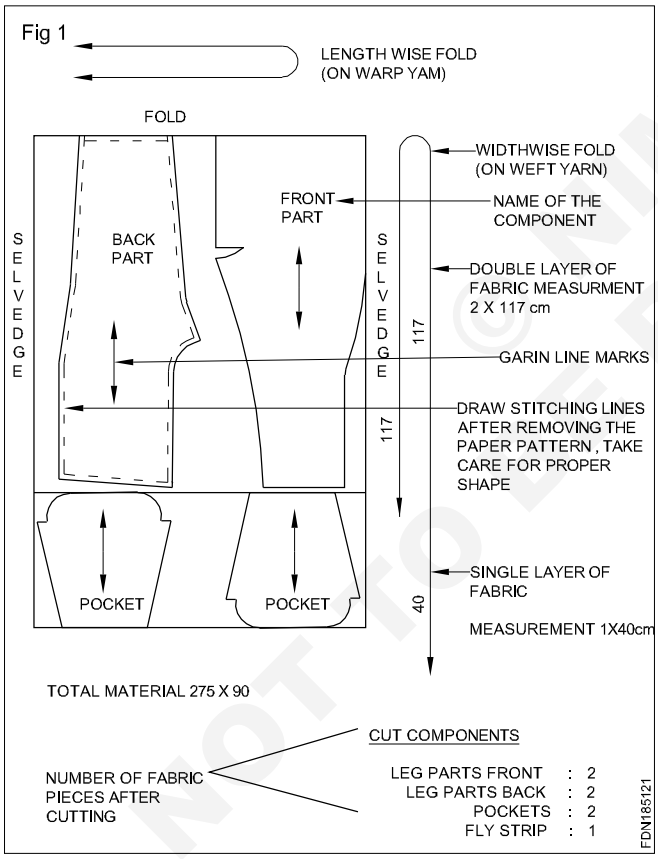
In cutting the drafted pattern, the outside edge of the seam line has to be followed.

The notches are to be made wherever the seam line and fold line occur.

Layout: The layout shows the placement of components in an economic way. Generally, the components have to be laid out on the grains that means in warp direction of the fabric weave.

Only in some cases, parts have to laid out on the bias grain that means crossing the warp grains at an angle of 45 degree. This information is indicated by an arrow on each component in the graphic for layout. (Fig 1)

Fig 1

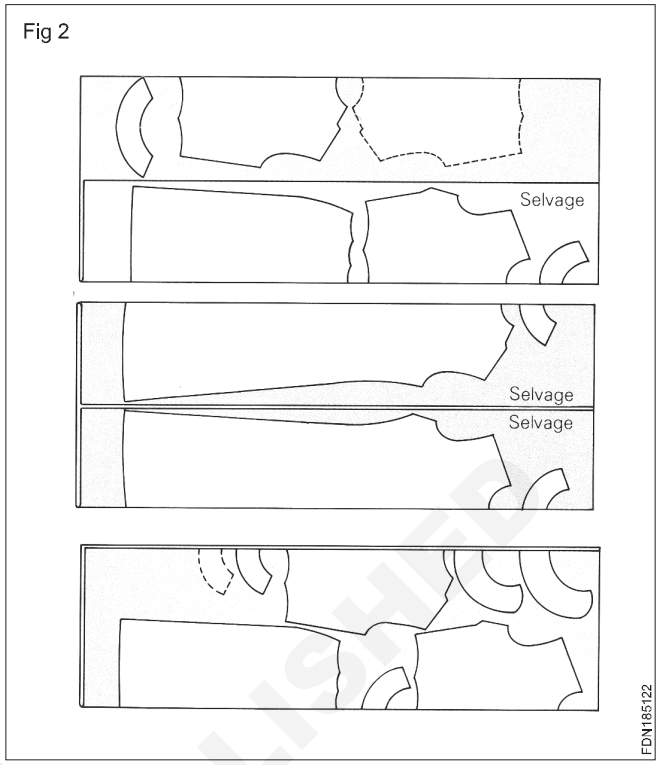


Further, you find information on plain or folded fabric and size. Fold widthwise means to fold the material along the weft line, i.e. the fold will appear in widthwise direction but will part the length of the material. Fold lengthwise means that to fold the material along the warp line, i.e. the width of material is folded parallel to the selvedge.

Always take care to layout the components on the direction indicated by grain line marks. Otherwise, the material will stretch after washing. Generally, three types of layout are distinguished

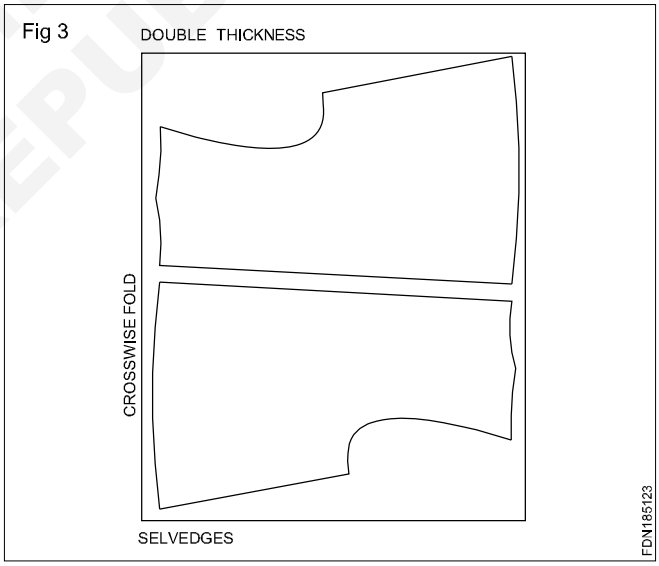
– Layout on lengthwise fold (Fig 2)

Fig 2



– Layout on widthwise fold (Fig 3)

Fig 3

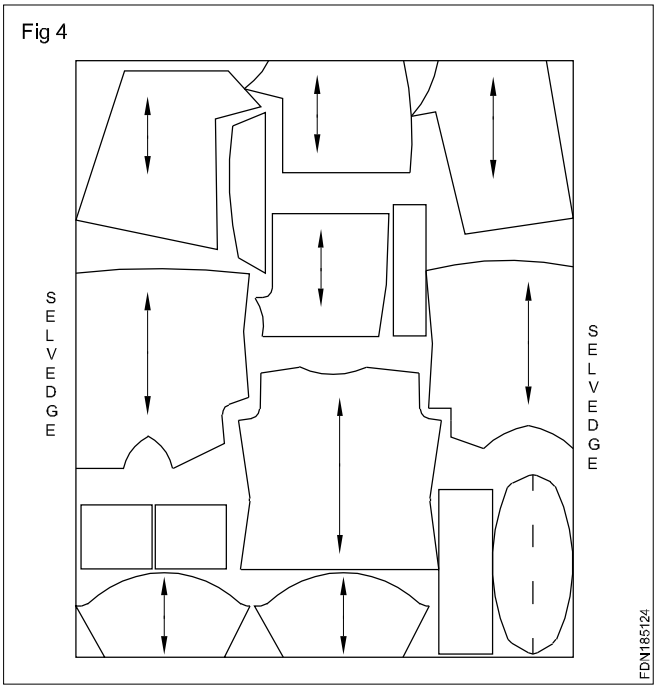


– Open layout (whole garment lay (Fig 4)

– Directional layout (one way layout) (Fig 5)

Below the layout, the number of cut components is given after cutting the fabric. For example one pattern component will result in two cut components in case of the double layered fabric. This gives a better overview, whether all the components are available after cutting. Therefore, you should not forget to count the components before you start stitching. Identical components (sleeves for example) are normally drawn only once but used twice in the layout on cloth. Only in case you have to find out the appropriate layout by yourself (since you work on different width of fabric) you have to draw all components so that you can find out the appropriate layout by trial (open layout or whole garment lay).

Fig 4



Precautions for layout: Care has to be taken to check that all the pattern pieces are laid out on the fabric. The missing pattern piece might result in the incompletion of the garment.

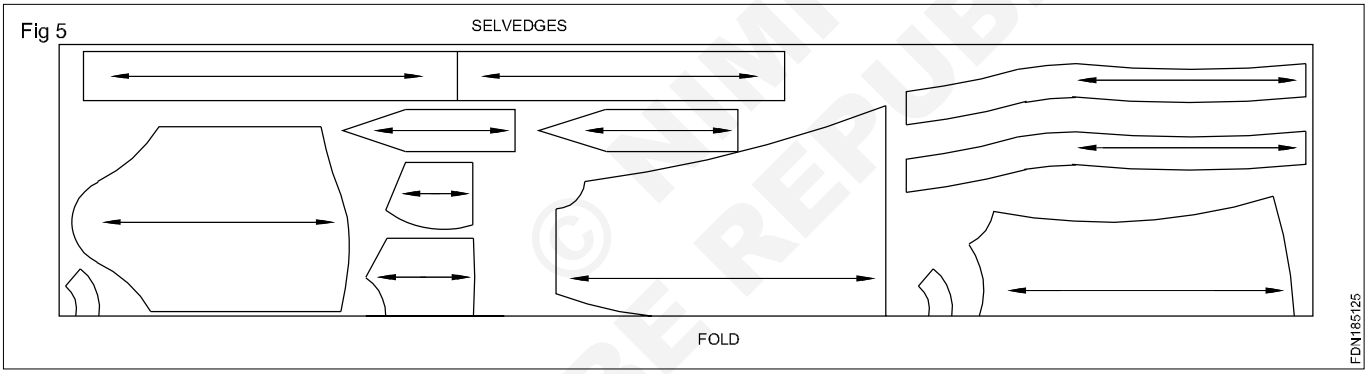
The main and large sections are placed with their wide ends at the cut ends of the fabric first. Then the small pieces are fitted to the best advantage. Non-observance might cause shortage of fabric. It has to be ensured that the grain lines of the cut pattern are exactly placed according to the grain line in fabric. The error may cause incorrect alignment and bad look of the garment.

While working with nap and pile fabric (velvet and corduroy) as well as one-way designs the components have to be placed in one direction. Otherwise, it causes serious shade difference in the garment.

The outer edge of the laid patterns has to be drawn, traced, stuck, clipped or pinned accurately before cutting the fabric. Even any minor error may damage the shape of the garment.

The cutter may walk around the cutting table as he cuts, in order to prevent shifting of the grain lines and thereby uneven edges. Steady, slow and correct cutting is always better than fast and haste incorrect cutting, or in order to avoid multiplicity of errors.

Fig 5



Introduction to bodice block

Objectives: At the end of this lesson you shall be able to

- **drafting method and terms of pattern**
- **know about the abbreviated form**
- **basic skirt and its types**
- **introduction to draping method**
- **draping basic blocks on dress form.**

Pattern Making - Introduction

Pattern Making techniques have developed over the century to convert fabrics and animal skins into clothing to cover the human body. In the previous and current centuries, machine have been used to create patterns. Before the advent of computers, patterns were always made by hand. The introduce of body scanners to record minute detail about individual body shape may revolutionize the way clothing is produced. In the future, an individuals measurements may be sent dive to a clothing manufacturer, where they will be used to create a custom pattern that will guide the cutting of the garment all done by computer.

Silhouette of basic bodice (Fig 1)

Technical Terms of Basic Bodice (Fig 2)

Fabric Grain Lines (Fig 3)

Straight grain lines

It is important to understand and use fabric grain lines correctly; otherwise your garments will hang improperly and will twist. When fabric is woven on a loom, the first yarns placed on the loon are called the warp yarns or warp grain. Another name for these yarns is the straight grain. These yarns run the length of the fabric, so if you have 3 yards of fabric, the warp grain yarns are 3 yards

Fig 1

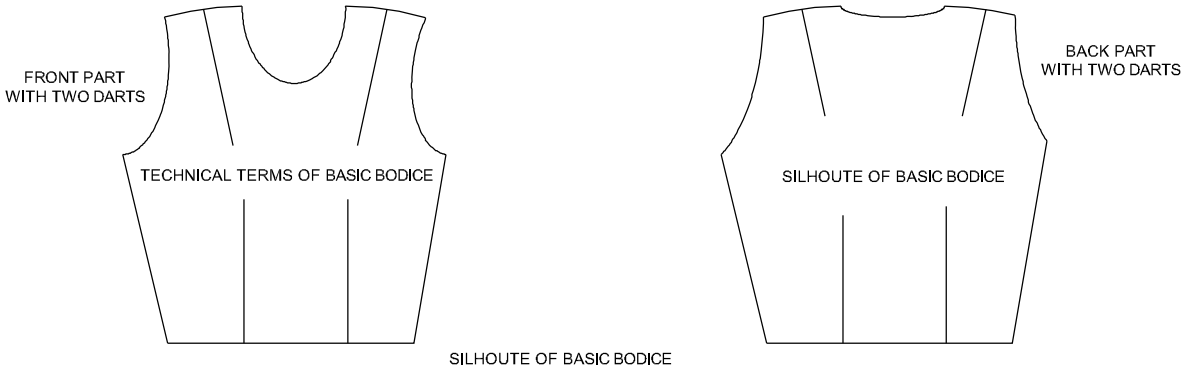


Fig 2

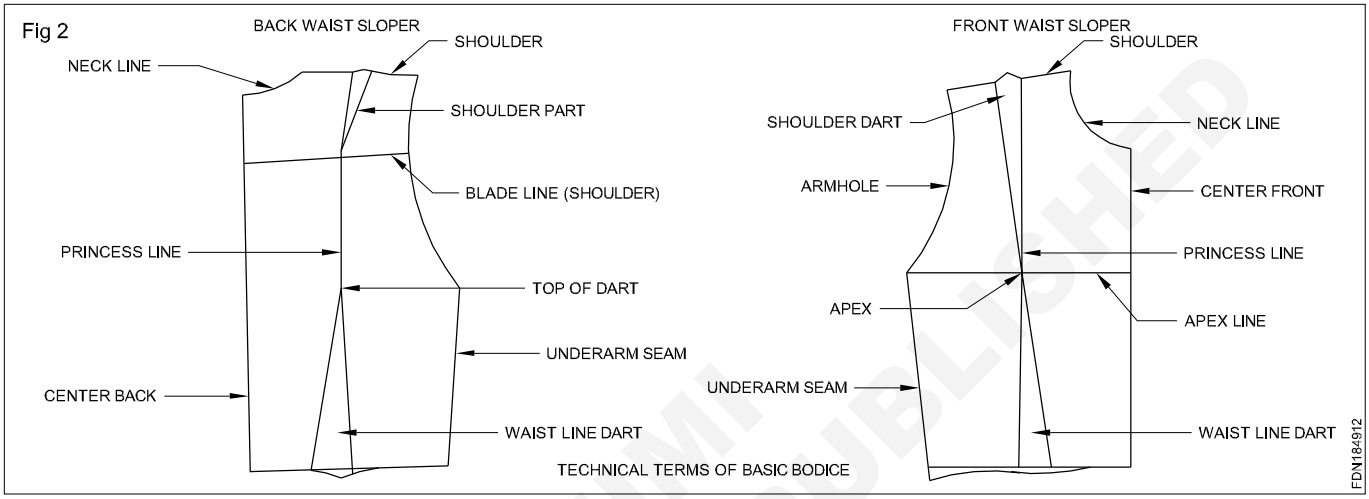
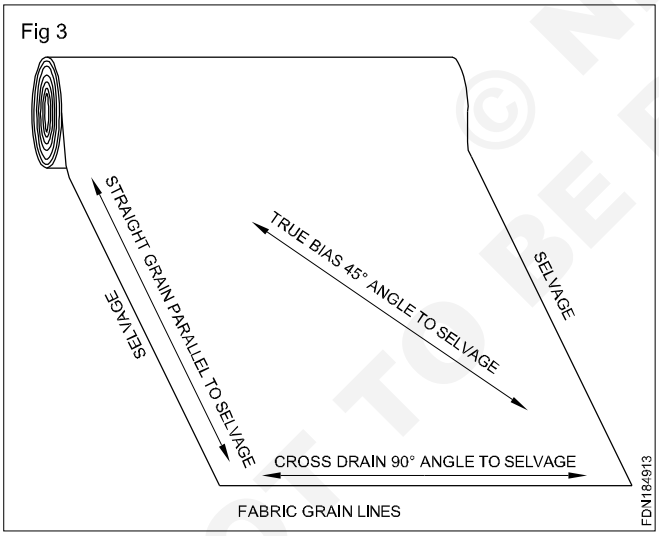


Fig 3



long. The warp grain has the most strength in a woven fabric and the least amount of stretch, because there is tension on the yarns when they are set in the loom. In garments made of woven fabric, the warp or straight grain usually runs up and down the body. Garments hang well when cut out of fabric this way as long as the pattern pieces have been made correctly.

Cross grain line

After the loom has been set with warp yarns, the next step is to add or weave the weft yarns or weft grain. Another name for these yarns is the cross grain. These yarns run across the width of the fabric from side to side or selvedge to selvedge and are at a 90-degree or right angle to the straight grain. The selvedges are the tightly woven edges that run along the outer length of a bolt of the fabric and are parallel to the straight grain.

Occasionally a garment is cut with the weft or cross grain running up and down instead of around the body. This might be done when a border design on one or both edges of the fabric is featured at hems. A fabric hangs differently if cut on the cross grain, especially if there are gathers or pleats. The gathers or pleats do not lay flat, instead hey puff out away from the body. This is usually acceptable in skirts but should be kept in mind when designing with borders.

Bias grain line

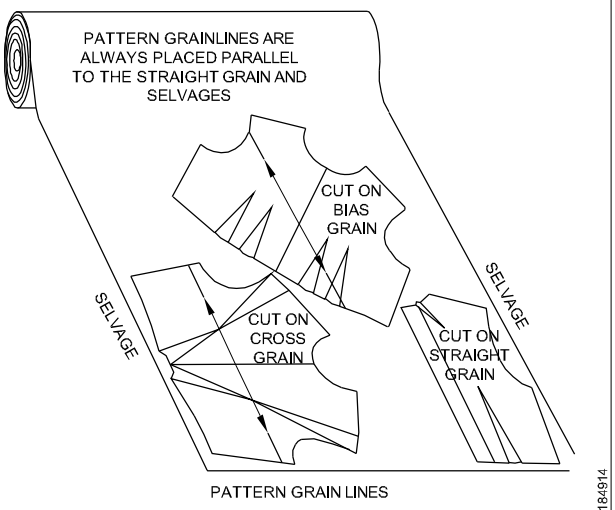
Another way to cut garments out of the fabric is to use the bias grain line. If a perfect cross grain line (torn edge or pulled thread) is laid on a perfect straight grain (torn edge or pulled thread), you will a diagonal fold that is a perfect 45-degree angle to the straight or cross grain. This 45-degree angle line is called true bias. A garment that is cut with the true bias running up and down on the body stretches and clings to the body. This is one way to make a garment size fit a wider range of figure types, as knits do, but it uses more fabric per garment and can be different cult to sew without ripples or stress lines on the seams.

Pattern Grain Lines (Fig 4)

Grain lines are drawn on pattern pieces to ensure that they will be placed on a fabric in a way that enables the garments to be cut properly. The grain line is drawn as a

straight line that runs from edge to edge of the pattern piece. It includes arrows to distinguish it from other lines on the pattern. The grain line can be drawn in various places on the pattern, depending on whether the garment is to be cut on the straight, cross, or bias grain line. When placing the pattern on a piece of fabric, the grain line drawn on the pattern piece is always laid parallel to the straight grain and selvedge's of the fabric.

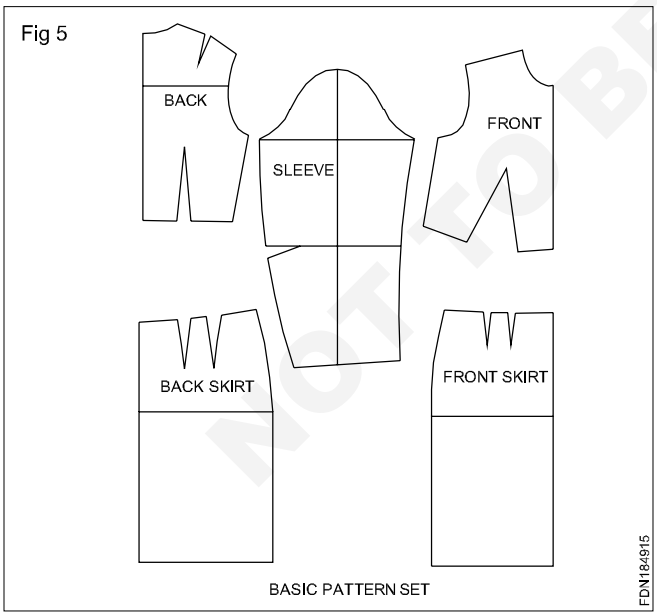
Fig 4



Pattern Making Terms

Basic pattern set. A five-piece pattern set, consisting of front and back bodice and skirt and along sleeve, which represents the dimensions of a specific form or figure. It is developed without design features. The traced copy is referred to as a working pattern. (Fig 5)

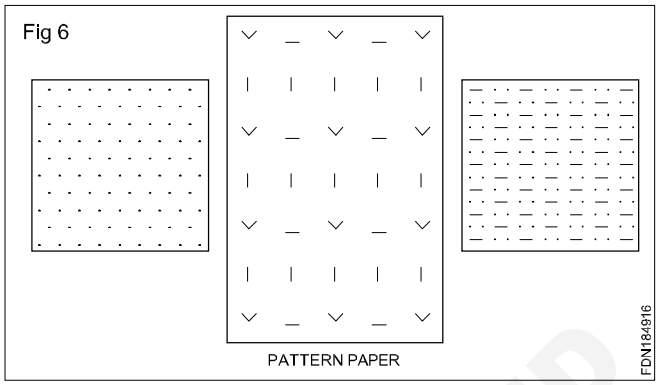
Fig 5



Pattern Paper (Fig 6)

Pattern paper comes in a variety of weights and colors, each serving a special purpose. Each paper supplier uses a code system to indicate the range of paper weights available. The manufacturer's preference is based on personal choice and the use to which it is put. The heavy pattern papers are commonly referred to as tag board, manila, or hard paper, whereas the lighter weights are called marking paper. Their proper coding and common usage are as follows:

Fig 6



IX Granite Tag (.007) to

5X Granite Tag (.019)

Heavy pattern paper can be purchased in a color-coded series. A single sheet, for example, may be green on one side and white on the other, so your can see at a glance the working surface of the pattern. Companies with several divisions can color code the pattern to indicate to which division it belongs. This paper is generally used for the first pattern, but always used for production pattern (the final pattern, made after the fit of the garment has been perfected and the first pattern corrected), and for pattern grading (developing size ranges).

1 to 5 Double-Duty Marking paper

Light to heavy, white marking paper is used for developing first patterns and for making markers. It contains symbols as an aid for establishing true graininess.

The tailor using some abbreviated form

CH	-	Chest
B	-	Breast or bust
S	-	Seat
H	-	Hip
W	-	Waist
N	-	Neck
A.CH	-	Across chest
AB	-	Across back
Y	-	Yoke
S to D	-	Shoulder to dart
SL	-	Sleeve length
D to D	-	Dart to Dart
N.W	-	Natural waist
S.B	-	Sleeve bottom
L.L	-	Leg length
FL	-	Full length
CP	-	Center point
Knee	-	Knee

Pattern Information: using a pencil or felt -tip pen, mark, each pattern accurately with sufficient information & symbols to complete the pattern for a best fit for production. Pattern information may be grouped in the center section of each pattern, written along with the grain line. It should be written (n) may be printed.

Methods for writing this information, & what information is include, vary from company to company.

Full pattern information can be written face up on one copy of each pattern within the set, with only the style number a grainline on each duplicate shape.

Complete information can be written face up on each pattern shape and its duplicates.

Selective information can be written face up, eliminating words identifying pattern components such as front, back, or sleeves.

Symbols Used in Pattern Making (Fig 7)

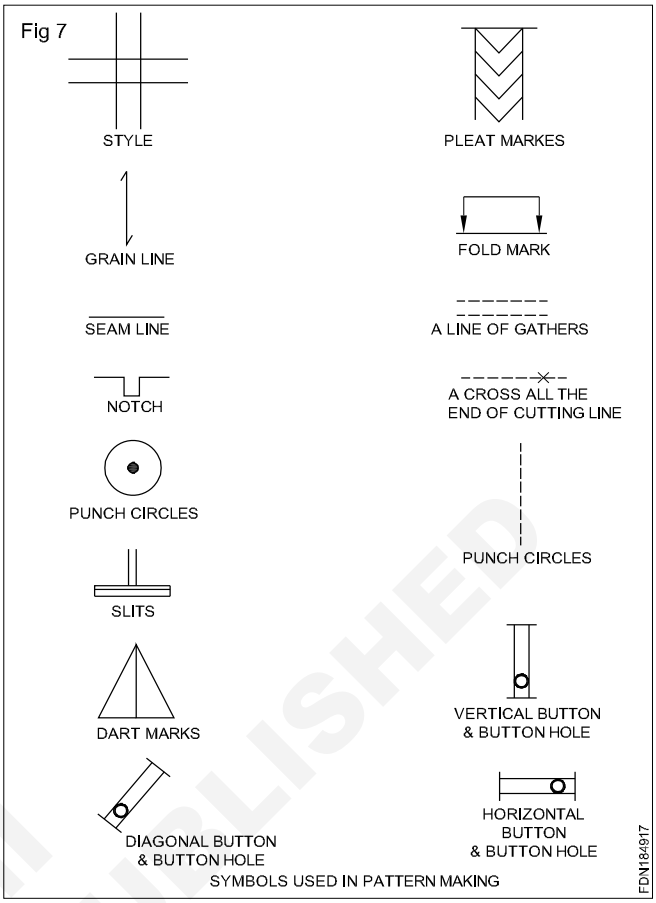
The following examples may be used as a guide

Grainline: Always draw grainline through length of each pattern piece.

Pattern part: Identify by name (for example, front, back, bodice, skirt, sleeve, collar, pocket)

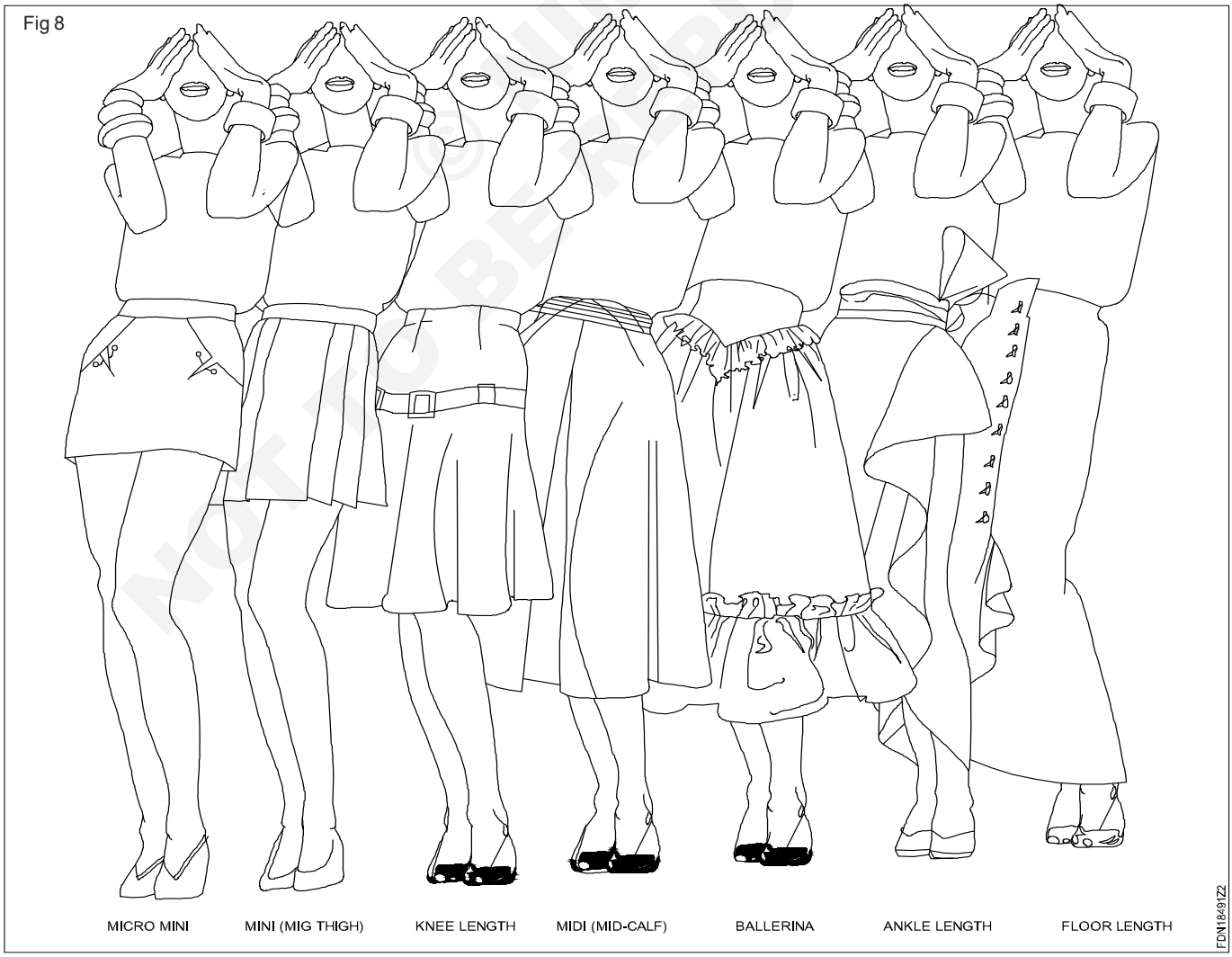
Style number: Identify number used to code pattern set used to code pattern set.

Fig 7



SYMBOLS USED IN PATTERN MAKING

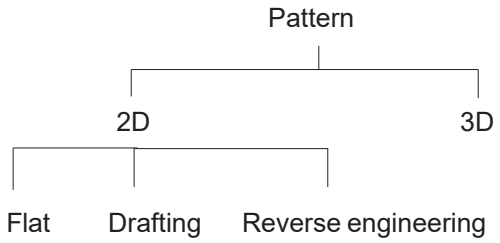
Fig 8



Pattern size: Give specific size within given size range.

Number of pattern pieces: Identify number of pieces to be cut for each specific pattern shape.

Cut symbol: A horizontal line can be drawn between the size & the number of pieces as a symbol for the word cut, or the word itself may precede the number of pieces (Eg., cut two).

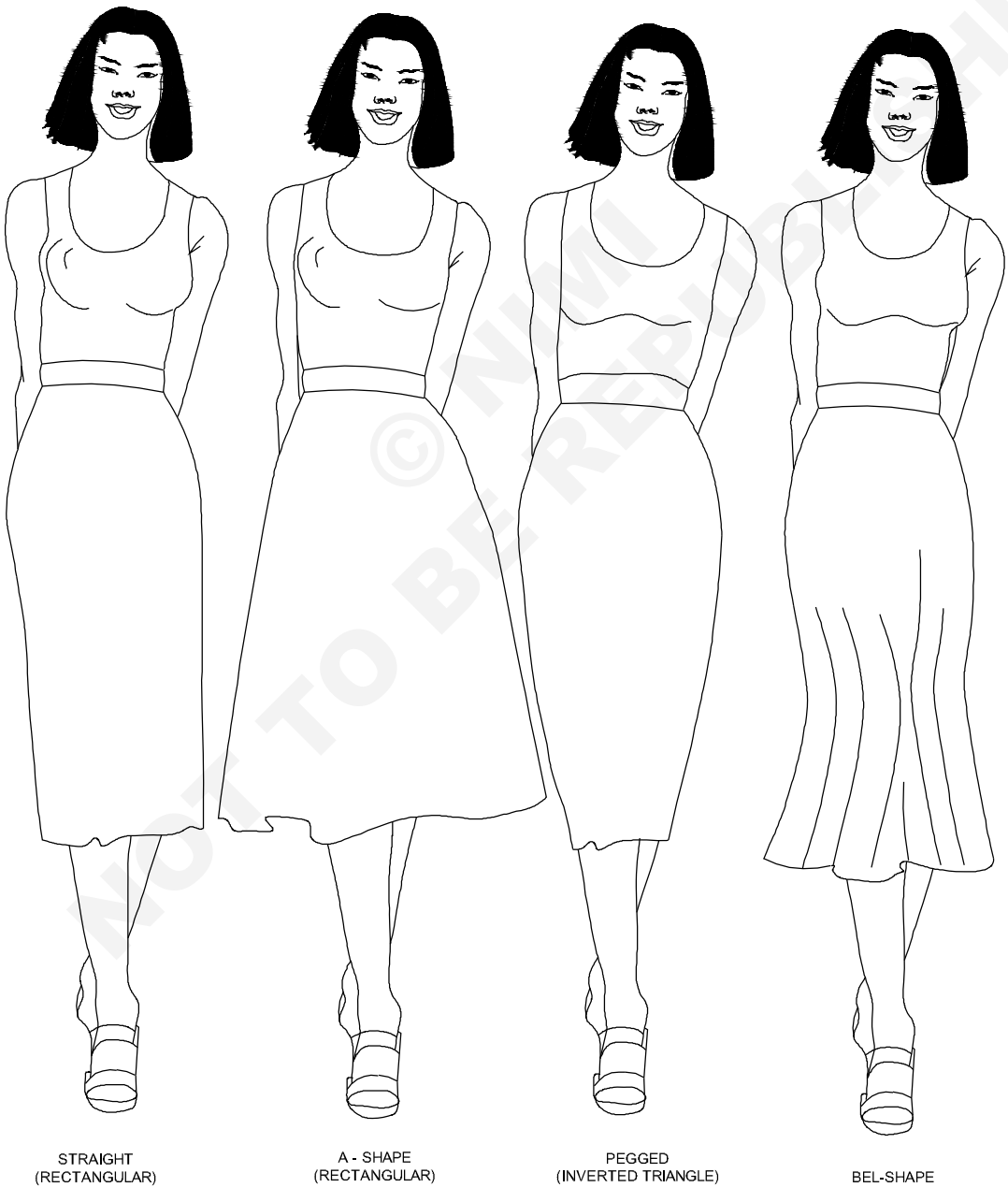


Flat pattern: A pattern is generated from existing foundation pattern called a slope or block. A sloper is a pattern that has no seam allowances or style line. A sloper my raid of garment styles can be generated. The pattern maker creates a new style collar and pleats adding and put a design the details. The flat pattern making method used in the ready to wear market because of Fast and accurate it.

Drafting Method: Pattern are made from direct measurements taken to the garment an individual or a body form using the collected measurement, the pattern is drawn directly into the paper.

Reverse Engineering: Reverse engineering is referred to garment deconstruction or a knock -off pattern are made from an existing garment.

Fig 9



Skirt (Fig 8)

Introduction: Changing the silhouette of a skirt (its outer shape, without regard to creative detailing) is one of the of points for designers who wish to change the look and direction of fashion. A skirt whose basic shape hand straight from the hipline to the hem is radically changed by increasing or decreasing the sweep of the hem line, moving the skirt away from or closer to the figure, or raising and lowering the waistline.

Introduction to skirt block

Four Skirt Foundations (Fig 9): Each of the four skirt foundations has a specific name that identifies its silhouette. It is the amount of deviation from the basic skirt that determines the new silhouette.

The skirt hangs straight from hipline to hemline.

Shape or Triangular: The skirt falls away from the hip, flaring out at the hemline, increasing the hemline sweep (circular and flared shapes are included in this category.)

Pegged or Inverted Triangle: The skirt falls inward from hip level to hemline. The pegged silhouette may be achieved by increasing waist and hip fullness of by tapering from the hip to the hem.

Bell-shape: The skirt clings to the figure's curves at, above, or below the hip and breaks into fluid movement along the hemline.

Skirts are described in terms of the following three areas:

The sweep: The width of the skirt at hemline.

Movement: The fullness of the skirt silhouette.

The break point: The point at which the skirt breaks away from the body into fluid movement.

Introduction to sleeve block

Objectives: At the end of this lesson you shall be able to
- **measurement of**

Sleeves: Sleeves can be designed to fit the armhole smoothly or with gathers. They can be designed fitted or with exaggerated fullness, and can be cut to any length.

The hemline of the sleeve can be finished in a number of ways. A straight or full sleeve can be confined by an attached cuff, band, elastic or casing. If not confirmed, the sleeve may have a self-hem or may be faced or edged with trim. The Opening for hand entry can also be treated in a variety of ways, from slits with plackets, facings, or fold backs to zipper style closure.

Sleeve Terminology (Fig 1)

Sleep Lap: Curved top of the sleeve from front back.

Cap Height: Distance from biceps to cap at cent

Biceps Level: Widest part of the sleeve dividing the cap from lower sleeve.

Sleeve Ease: Additional allowance at biceps, elbow and wrist levels accommodating the circumfix of the arm and allowing ease for freedom of movement. Ease ranges from 1 1/2 to 2 or more inches.

Cap Ease: Difference between cup and armhole measurement. (From 1 to 1 1/8 inch)

Elbow Level: The location of the dart, level with elbow of arm.

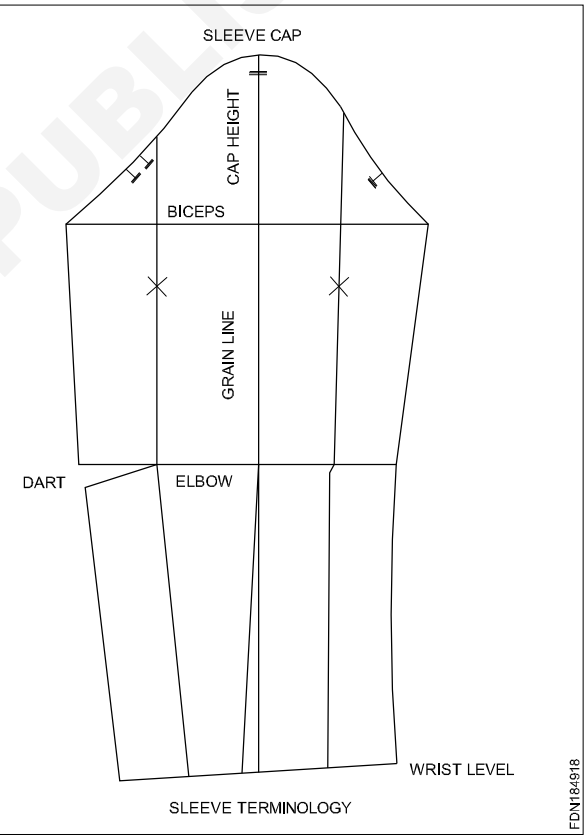
Wrist level: The bottom of the sleeve, level with wrist.

Grain line: Centre of sleeve from top of cap to wrist level-straight grain of sleeve.

Quartering sleeve: Sleeve divided into 4 equal parts from cap to wrist. Uses as guide lines for spreading the sleeve. Quarter jections are labelled as 'x'.

Notches: One notch indicates front sleeve, two notches indicate back sleed up notch indicates where sleeve and shoulder meet.

Fig 1



SLEEVE TERMINOLOGY

Sleeves

A garment can be of sleeveless or can be finished with a sleeve. This is very much depending on fashion, season (often summer dresses are of sleeveless style) etc.

Sleeves come in various styles. They differ in look and method of construction. This is concerning the way the sleeve is joined with the upper garment and the way the sleeve is shaped and finished at the bottom.

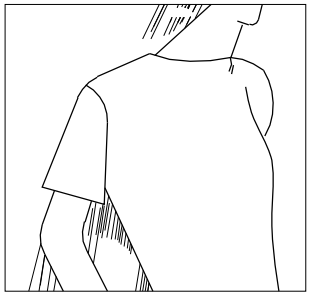
A sleeve can be of different length, depending on the design of the garment. The sleeve bottom can be flared, gathered or tapered. Finishing can be done with facing, binding, by attaching a sleeve band or by attaching a cuff.

For a good fit of a long sleeve shaping is given at the elbow. In some cases darts or ease stitching is given at the back. This is done to give room for the elbow to bend without straining or tearing the fabric.

Three basic types of sleeves can be distinguished: the set-in sleeve, the raglan sleeve and the cut-on sleeve (kimono sleeve).

The set-in sleeve is cut and stitched separately and then seemed to the armhole of the garment. Generally the sleeve crown rests exactly on the shoulder line. (Fig 2)

Fig 2



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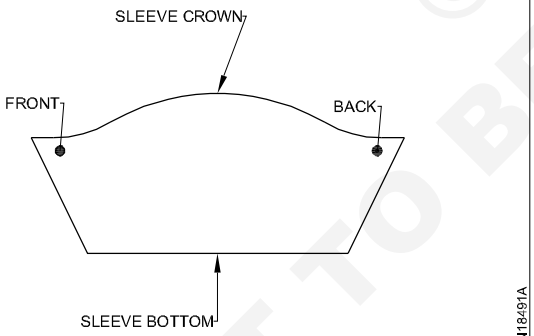
In some styles of dresses the shoulder part is overlapping so that the sleeve crown rests on the upper arm. The front of the sleeve crown has a deeper curve than the back. (Fig 3)

Fig 3



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The sleeve armhole circumference when compared with the bodice armhole circumference is slightly more. While attaching the sleeve to the armhole this excess material on the sleeve crown should be set with ease stitches.

Hints

– To avoid wrinkles on armhole (bodice of the garment) while stitching the excess material to the armhole the edge of armhole may not be stretched. Instead pull excess material (ease) to both the sides. (Fig 4)

– The set-in sleeve seam is neither pressed to the sleeve nor to the bodice component. It is kept free and also it is not pressed open. (Fig 5)

Fig 4

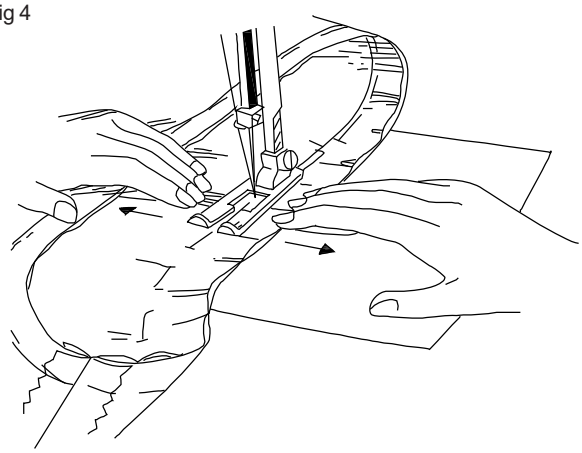

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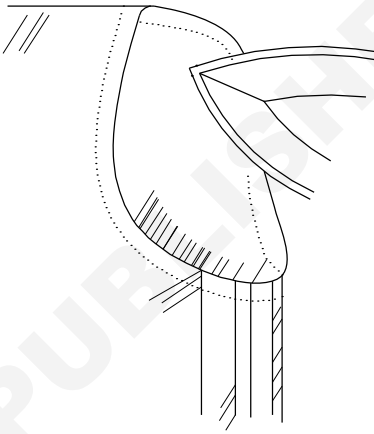
Fig 5



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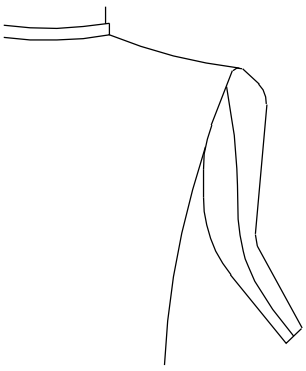
Mostly the sleeve is of a single piece, but in coats and jackets it is often constructed with two pieces. Here the pieces are curved to follow the shape of the sleeve and the seam is positioned at the back. The two pieces are joined before the sleeve is set in to the armhole.

In one-piece sleeves the underarm sleeve ends in side seam of bodice. But the seams of two-piece sleeves never end in side seam of bodice. (Fig 6)

Fig 6

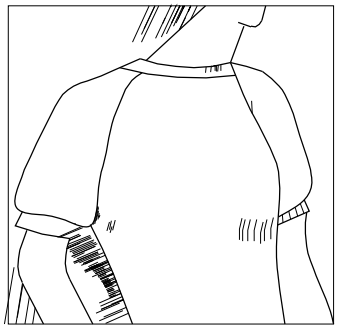


FDN18491D

A variation of set-in sleeve is called the shirt sleeve which is attached to the armhole in a different method (shirtsleeve method). Here the sleeve is attached to the arm-hole before both, the garment side seam and the underarm sleeve seams are stitched. Since the sleeve crown is not deeply curved, case stitching is not required.

Another type of sleeve is the **raglan sleeve**, in which part of the bodice is combined with the sleeve. It has loose armholes and is ideal for coats, since they require more room for the other garments to be worn underneath. (Fig 7)

Fig 7



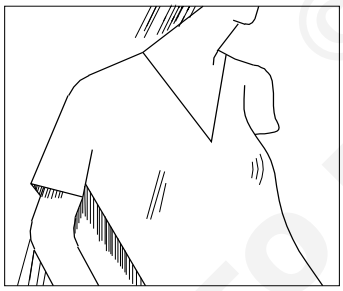
FDN18491E

The armhole seam of a raglan sleeve runs from the neckline to the underarm (skye) and back to the neckline. This sleeve covers the entire shoulder area. It can be made of one piece, then sloping is done with the help of a dart along the shoulder line. For this sleeve the underarm and side seam are stitched after finishing the sleeve.

If the raglan is made from two pieces the sleeves shaped with a seam that runs across the shoulder and down the outer arm. It will need on curves that release strain. The raglan will also be joined before stitching the under arm seam and bodice side seam.

The kimino sleeve (cut-on sleeve) is cut as an extension of the main bodice piece. The front section of the sleeve is cut in one with the bodice front and back section of the sleeve with the bodice back. It can be shaped with loose or close fitting.(Fig 8)

Fig 8



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In loose fit there is no need for a gusset piece, but the under arm should be reinforced with a bias strip or tape before or after the seam is stitched.

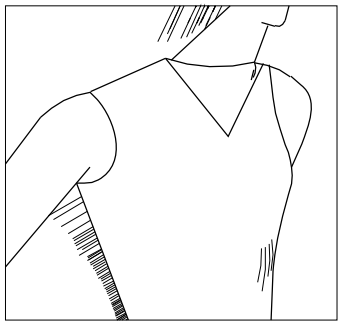
if a sleeveless dress is chosen if is generally finished with a bias piece or shaped facings. Shaped facings are commonly cut in one piece with a joint at the underarm. If it is cut from two pieces a joint will appear at underarm and at shoulder. A. very light weight interfacing adds stability. (Fig 9)

Variations of basic sleeves and sleeve finish

Variety of sleeve styles can be developed from a basic sleeve pattern. The styles depend on various factors like fabric, dress style and fashion.

The design can be achieved by manipulating the basic sleeve pattern itself. Most commonly used is the manipulation of a set-in sleeve. Here the basic pattern is either slashed or cut according to the style required.

Fig 9

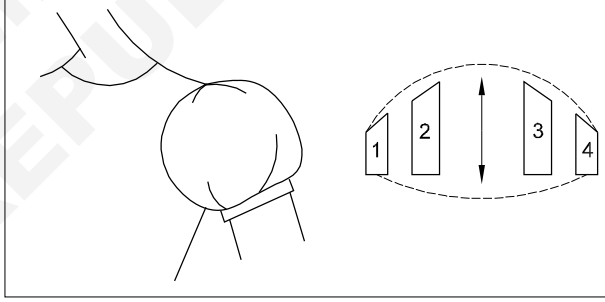


FDN18491G

Set-in sleeve variation: Puff sleeves are of short length. Medium and light weight fabric are best suited for this style. There are three types of puff sleeves. In the first type, the gathers are formed both at the top and at the bottom. The basic sleeve pattern is cut at the centre line and on both sides.

Then they are spaced apart to get more width and to achieve gathers at the top and bottom of the sleeve. The highest point of the sleeve cap is raised by 1.5 cm and a smooth curved line is drawn. Similarly, the lower end of the sleeve is lowered by 1 cm at the centre point and a smooth curve is drawn. The top and bottom sections are gathered to the girth of the armhole and sleeve round. Then it is prepared like a set-in sleeve. (Fig 10)

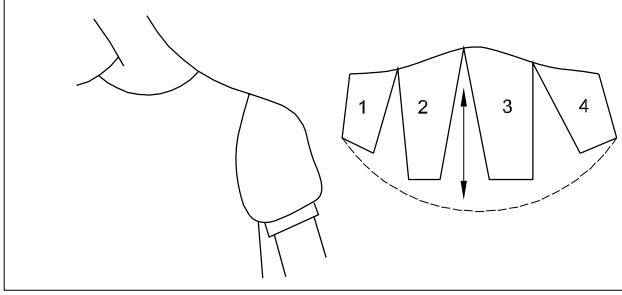
Fig 10



FDN18491H

With the second type of puff sleeve, the gathers are only at the bottom. The sleeve pattern is slashed from the edge to the top and then spread to allow for fullness. After the sleeve is lengthened by 3 to 5 cm at the lower end and given a smooth curve as shown. The bottom section is gathered and finished with a band or bias binding or may be gathered using elastic (explained below) (Fig 11)

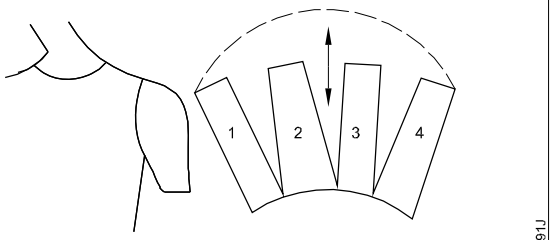
Fig 11



FDN18491I

In the third variety the gathers are at the top end. The sleeve pattern is slashed from the fop edge to the lower and spread to allow for fullness the sleeve crown is increased and a smooth curved line is drawn. The top section is gathered to the girth of the armhole and prepared like a set-in sleeve. (Fig 12)

Fig 12



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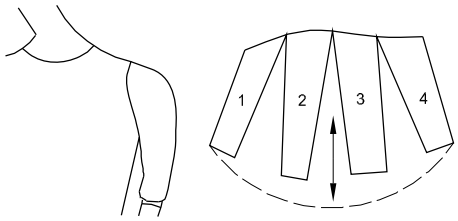
Bishop sleeve is a variation of the second type of puff sleeve. Here the sleeve is of full length or three-quarter length only. It has gathers at sleeve bottom, set into a band or cuff. (Fig 13)

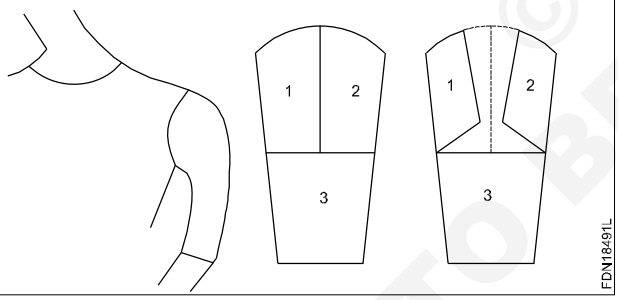
Fig 13



FDN18491K

The Leg-O-Mutton sleeve is a long sleeve, which has a tight fitting below the elbow and puffed above, with gathers at the top edge. The basic sleeve bodice is used for the upper part. It is cut in centre line and spread as shown. (Fig 14)

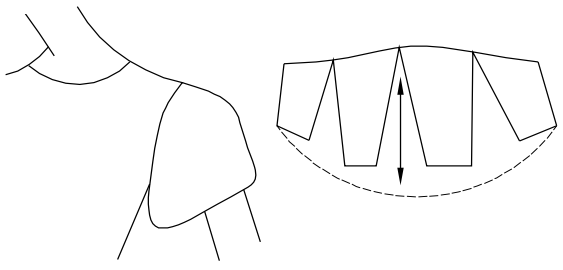
Fig 14



FDN18491L

Bell sleeve is also a variation of the puff sleeve. The bell sleeve is designed with more width at sleeve bottom, but the material is not gathered. The basic sleeve pattern is slashed from the bottom to top and spread open to get extra width. The centre bottom is slightly increased to give a bell shape. The sleeve bottom is finished with 1 narrow hem or with shaped facing. (Fig 15)

Fig 15



FDN18491M

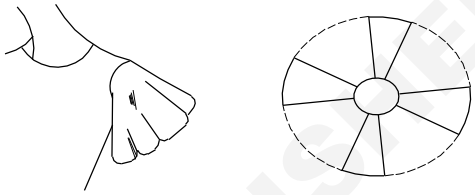
Different from other sleeves the circular sleeve has no underarm seam. The bottom of the sleeve has a circular shape and the bottom circumference is more.

Notches at sleeve crown and armhole help to identify front and back part while attaching sleeve to the armhole. The bottom is finished with a narrow hem.

The sleeve pattern is cut into 4 sections which are positioned in such a way that sections 1 and 3 and 2 and 4 are positioned opposite to each other. The bottom edges of the sections are connected to form a circle. This will increase the circumference of sleeve bottom.

There is no change in the length and shape of sleeve top but the sections are arranged to form a type of circle. (Fig 16)

Fig 16

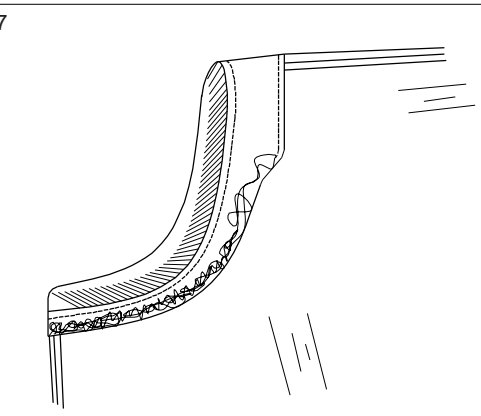


FDN18491N

Sleeve bottom finishes: The lower edges of the sleeve are finished in many ways. This depends on the style, length of the sleeve and the fabric. It can be of self or contrasting fabric.

Sleeveless armholes are finished with shaped facing. It gives a smoothness to the edge. The facing may be cut in one piece with one seam joining it at one end at the underarm. But it is commonly cut in two pieces, the front and the back armhole facings. They are joined at the shoulder and underarm. A light weight interfacing gives more stability. (Fig 17)

Fig 17

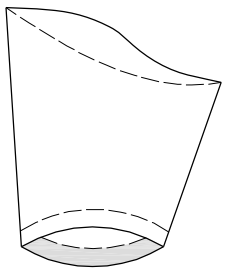


FDN18491O

Hem is the easiest of straight sleeve finishes and is the most often used. The edge of the sleeve is folded to the wrong side along the hemline and usually hand stitched to the inside of the sleeve. (Fig 18)

Turn-up facing is prepared by cutting out a strip of material (width equal to twice the finished width plus seam allowance). The length will be equal to lower arm measurement plus seam allowance. The ends of the facing pieces are either joined to form a circle before they are attached to the sleeve or the facing is attached and turned

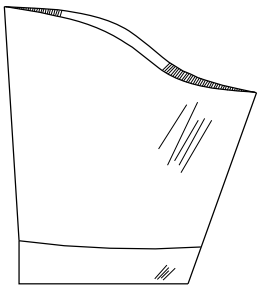
Fig 18



FDN18491P

up before the underarm seam is stitched. Then the facing piece are stitched to the lower edge of the sleeve on the right side and folded over to the inside of the sleeve and stitched by machine. Then the under arm seam is finished. (Fig 19)

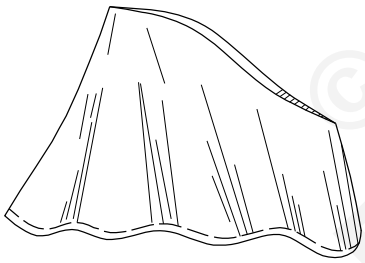
Fig 19



FDN18491Q

Finish with bias binding is mainly used on a circular or bell sleeve. The sleeve end is finished with a 2 cm wide bias strip of fabric. Then it is stitched and hemmed to the inside of the sleeve using slipstitch. (Fig 20)

Fig 20



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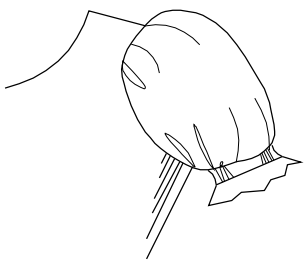
The binding can have decorative feature by using a contrasting fabric.

Finishing with elastic: After finishing the lower edge by hemming, attach the 1.5 cm wide tape or strip of thin fabric on the wrong side of the sleeve (2 cm above the hem). Thus a casing is formed through which an elastic is inserted and the sleeve is gathered to get a frill effect. Therefore length of the elastic should be slightly less than the finished circumference of the sleeve hem.(Fig 29) (The other way of finishing at the lower end is with a cuff. Cuffs are of different shapes and widths. (Fig 21)

Fig 21

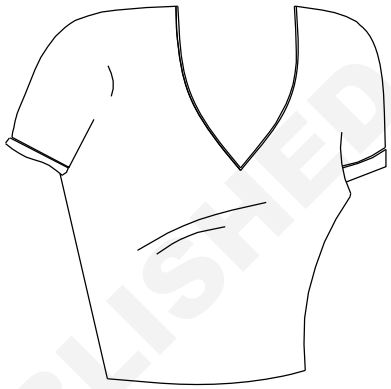


FDN18491S

Kimono sleeve (Fig 22)

A kimono sleeve, which is cut as an extension of the main bodice piece, can be either loose or close fitting, depending on the degree of the sleeve's shoulder slope and underarm curve. When this sleeve is cut to extend straight out from the neckline, and with a deep 'armhole' opening, there is a soft drape under the arm. When it is cut to conform more to the curved shape around the shoulder more to the curved shape around the shoulder and with a shallower armhole opening the fit becomes closer; arm movement does, however, become more difficult.

Fig 22

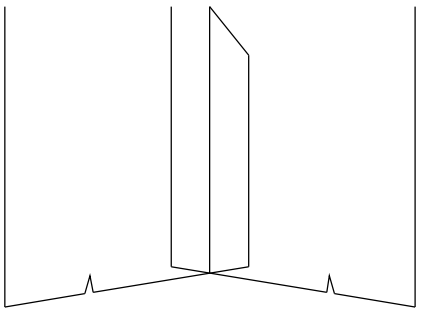


KIMONO SLEEVE

FDN18491T

Such a close fit usually requires a gusset a small; usually triangular, piece f fabric that is inserted in to an underarm seam for comfort and ease of movement. (Fig 23)

Fig 23



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A well-made kimono sleeve has three characteristics:

1 A gussets or reinforcement at the curve or angle of the underarm seam.

2 No drawing or pulling in the upper arm area.

3 No rippling or pulling of the upper sleeve seam

Designing the Kimono sleeve tops:

Ruffles may be attached at the neck and kimono sleeve bottom as shown in (Fig 24).

Fig 24

FDN18491V

Full kimono no sleeve bottom may be gathered at edge and can be provided band. Elastic may be given at bottom of the tops. Slash and side inseam pockets can be provided. For open zip may be attached at front or back. Button placket may also be used with fashion buttons. Knitted, cotton, satin, synthetic materials are preferred for kimono sleeve tops.

The gusset piece (Hindi, French)

A gusset piece is a small piece of fabric which inserted in the upper or lower garment to provide more room on strained sections of the garment to prevent tearing. It gives a most comfortable fit for easy movement.

It is inserted either on the underarm or where seam and underarm seam meet side; or in leg garments where the seams of inside leg and crotch meet.

In bodice garment a gusset piece is mainly inserted in kimono sleeves, since kimono sleeve is not to the shape of the arm hole. Only in some rare cases when more room is required a gusset piece might also be used in set-in sleeves.

A gusset piece normally is of diamond or square shape made of one or two pieces. (Fig 25)

Fig 25

FDN18491W

It is to the choice of the wearer which shape of gusset will be used. But in Kalidar kurta a square gusset is must, since it can be regarded as a style feature.

Generally, it is inserted in the area where the seams cross. (Fig 26)

For easier attachment the gusset is stitched to the components before underarm seam and side seam are finished. Only for kimono sleeves a slash seam (from armhole towards neck line) has to be given, since this type of sleeve is a an extension of the body section constructed without any armhole seams. (Fig 27)

Fig 26

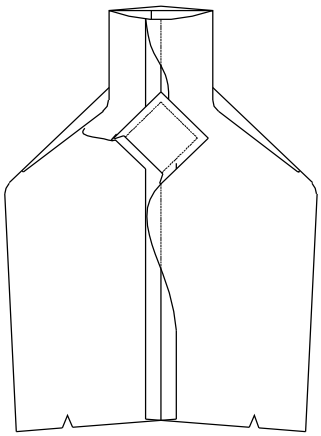

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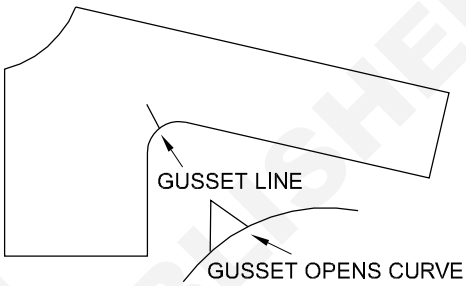
Fig 27



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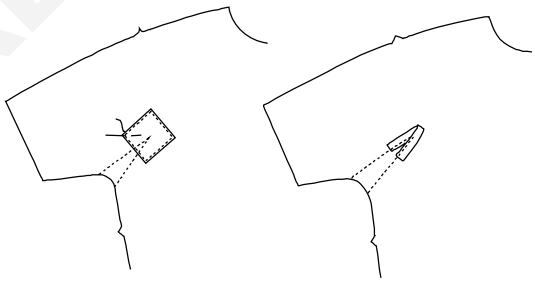
The slashed area has to be reinforced. This can be done with the help of a square piece or a strip of fabric stitched from the wrong side of garment or with iron-on material which is more suitable for light weight fabrics. (Fig 28)

Fig 28



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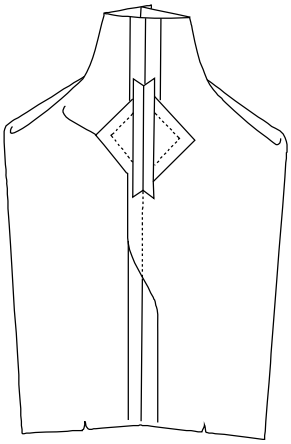
In kimono sleeve, it is easier to attach a two-piece gusset. Each gusset part will be inserted separately into the slit. It will be joined together with the underarm side seam. (Fig 29)

Fig 29



FDN18491Z1

Introduction to collar

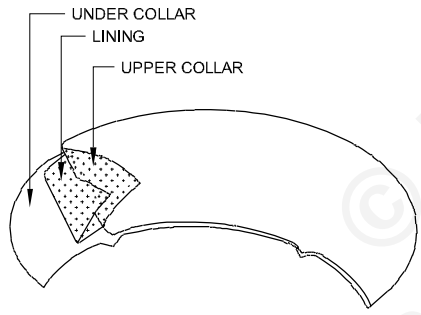
Objectives: At the end of this lesson you shall be able to
- **explain different types of collars and their application.**

A **collar** is attached to the neckline of a garment in order to enhance its appearance. It also serves to finish the raw edges at the neckline. It can either be close to the neck or away from neck or raised from neck level.

Collars are made from either single or double section of fabric and attached to the neckline, so that the ends meet, either at the centre front or back. This depends on the type of collar or fabric and shape of the neck.

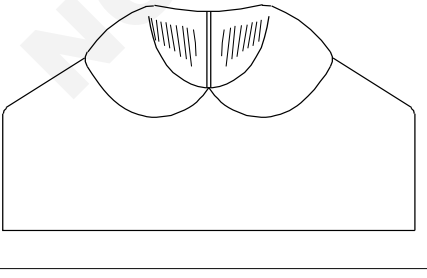
Collars are made of double layers of fabric (with or without an interfacing) with the outer edge hanging free (except in mandarin). The top layer is the upper collar. The lower layer is called under collar. In between these layers light or medium weight sew-in or iron-on **interfacing** is applied. Same material as the dress material can be used or canvas or iron-on, depending upon the garment fabric. Iron-on interfacing is steam pressed (with moderate heat temperature used for silk or wool) onto the whole top collar piece. The iron-on has one side coated with a fusible adhesive, available in woven and non-woven form. It strengthens or stiffens the part where applied. (Fig 1)

Fig 1



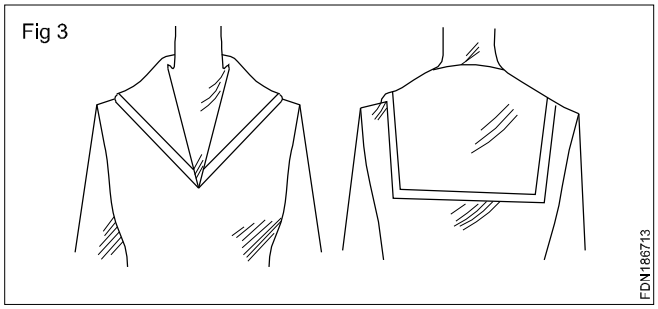
Flat collar emerges from the neck seam line to lie flat against the garment. The neck shape can be close or wider. Variation of this collar is Peter Pan collar. It is a round flat collar and can be of one or two pieces. If the dress has a back opening then a two piece collar is applied. Since collars are of two pieces, you need four sections for two piece collar. One piece Peter Pan collar is used on front open dress, widely used on children and girl's dresses. (Fig 2)

Fig 2



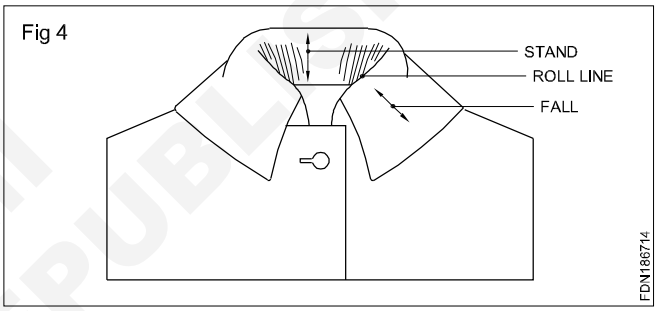
The other variation is **sailor collar**. It has a 'V' shape in front and square at the back. If the dress has no front opening. The front collar should be cut in V shape identical to that of the neckline. This collar is suitable for babasuits and little girl's dresses. (Fig 3)

Fig 3



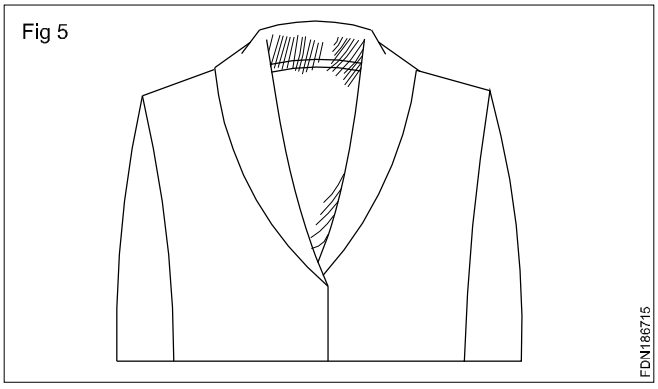
Rolled collar : Part of the collar stands up at the neck edge (called the stand). The stand section may be the same depth all around or higher at the back and gradually reducing in depth towards the front. The imaginary line dividing the stand and fall is called the roll line. This collar is suitable for blouses, jackets and coats. (Fig 4)

Fig 4



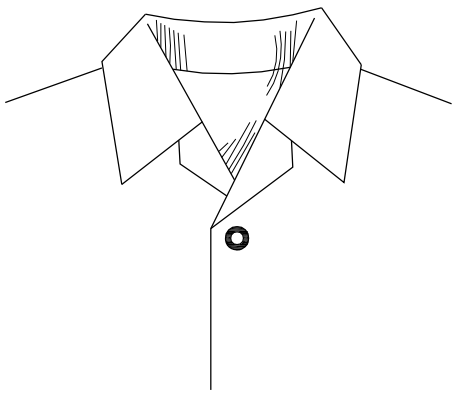
Variation of this collar is **shawl collar**. This is the only collar which is not cut separately but with the front piece. It is cut as an extension of the garment front itself. The collar is formed by folding this extension back over the garment after applying shaped facing. The fold itself forms the neckline of the garment. This collar combines the top and lapel if the collar is in one piece. It is cut with a smooth curve at the outer edge. The stand section of this collar gradually tapers down to a point at the centre front. A seam will appear on the centre back neck.(Fig 5) This collar is suitable for jackets and coats.

Fig 5



The other variation is the **convertible collar (tennis collar).** It can be worn closed or open. It is cut as single section and the collar the neck should not have a deep, round shape. The front collar is slightly away from the centre front. (Fig 6)

Fig 6



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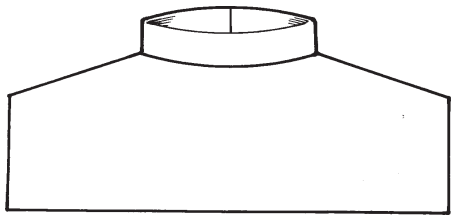
Stand collar or mandarin collar: The neckline edges of this type of collar has convex curve and the collar stands up close to the neck. It can be made from a narrow band or a wider one that folds back on itself. This collar can be one piece or two pieces made from a rectangle of a fabric, sometimes cut on bias. It extends upwards from the neck seam line. The corners may be curved or squared. (Fig 7)

Fig 7



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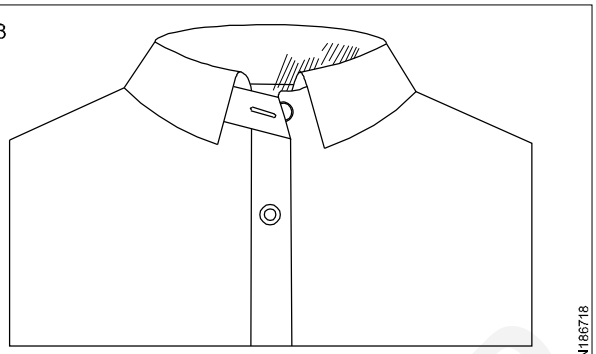
Variation of this collar is the **shirt collar with stand.** This collar has a stand and collar piece that folds down over the stand. The stand or the band may be cut as a separte piece or as one piece with collar. The stand raises upwards from the neck line. It is frequently used in gent's shirts. (Fig 8)

Fig 8



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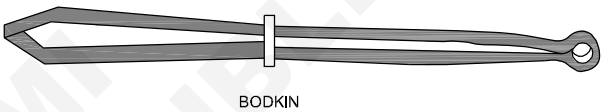
During process of collar making the Bodkin is an useful tool to bring out the corners of collar after turning to right side. (Fig 9)

Fig 9



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Introduction to draping

Objectives: At the end of this lesson you shall be able to

- **how to take body measurements?**
- **explain know about the draping.**

Basic pattern set: The five piece pattern set consisting of a bodice (front and back) and a skirt (front and back) and a long sleeve are called the “basic pattern”, “block”, “‘foundation” or “sloper”. These blocks represent the dimensions of a specific form or figure. It is developed without design features.

This pattern set serves many purposes. It clarifies and helps the pattern maker to understand the fit of a garment relative to the pattern shape. They form the basis of the flat pattern making method which is distinguished from draping where the pattern is achieved by draping the fabric on a dress form. The blocks reflect the basic shape of the pattern for a fitted garment with minimum ease. When the construction features of the garment change the block also has to be modified. If features like pleats, gathers flare etc. form part of the garment design the basic block will change accordingly.

The basic blocks are always traced for pattern making and using these as a base different styles are developed.

Pattern perfection: Block patterns are the basis for the flat pattern making system, hence the basic pattern must be perfected to eliminate errors that would otherwise be passed on to each new design based on it. It is well worth the time and effort spent to analyse the fit of the garment and to make all necessary corrections to perfect the pattern.

Advantages of block pattern making

– Flat pattern making using blocks is the fastest method, particularly in complicated styles.

– Since the fit of the basic blocks has been perfected anything developed from these blocks will automatically fit well.

– This method can be practiced to control consistency in size and fit for mass produced garments for any number of styles.

– Using just the basic block set different other pattern shapes can be worked using simple pattern manipulation techniques.

– Block pattern making, makes complicated styles simpler. For any complicated style a person has to just look at the design and compare it with the basic blocks. Decide where and what changes have to be made and only modify the block accordingly.

Introduction of Draping: The Draping method is very useful for garment production department and portraying the look of dress. Because draping method gives to show fold lines and fullness, gathers, pleats, seam etc,,. We can easy to cutting and stitching of the dress. All the details of the dress to show the draping method. So the draping method convey the image of the dress without croquie. Illustor can make a all types of drape and fold using draping methods.

Uses of Draping method: Different types of draping method give different event and elegance. Draping is created by manipulating the fabric holding is one are with a strip or closure and releasing it to another area. Folds, gathering and pilling of fabric. The designer to create the desired designed using by draping method. Draping method to give a result to work out the construction and aesthetic detail before the garment in finalized. Draping method is very useful to create a gathers or shirring cowls, flares, gores etc,,.

Gathers: Gathers are mostly used for fabric manipulation. Passing a threaded needle through the fabric and gathering the fabric to be a fraction of the original length. The original fabric piece is a rectangle that becomes a fabric piece is a rectangle that becomes a triangular shape, after the shirring has been applied. Gathering the fabric to be a smaller method at one area layer measurement at a hemling so create a volume and beautiful, full bellshape gathers used for cap of sleeve, skirt, etc,.. It gives a good effects of the fabric.

Cowls: A cowl is a piling of fabric. The cowls are made from one piece of fabric and created collapsing or allowing the fabric to fall in the center of two supported edges. Cowls are used for evening wear, fancy dresses, tops etc,,..

Flares: The pattern of a flared style is a quarter circle and triangle shape. To create the volume at hem. Flares used for skirt and dresses, sleeves.

Gores: Gores are triangular pieces of fabric. This is used for skirt or dresses. They are sewn in to the princess seams or side seams. Gores to create a trumpet effect hip, knee and widening at the hem effect. Gores can be med the same fabric or contrast fabric.

Draping basic blocks on dress form: Draping in creative process followed by the designer. Draping is transformation of a sketch into a three dimensional muslin model.

This creative process gives an accurate/precise pattern development.

Sometime this pattern can be combined with flat pattern also. This type of combination brings out variation in silhouettes.

The fabric weight weave construction surface finish goes hand in hand to give a good draped pattern.

Once the designer gets the hold of the fabric then it is easy for him to do draping of a particular design on the dress form.

Draping is used for an individual in a unique way. He has to study the customers requirements before designing & draping like.

- **Life style of a customer**
  - Business person
  - Home water
  - Student
  - Artist
- **Type of activity the dress in hem used**
  - Community & Charities offers
  - Exercise
- **Structure of the customer**
  - Tall
  - Short
  - Big up with narrow shoulder
  - Narrow hip with board shoulders.
- **Season in the customer use**
  - Fall line (Winter/Autumn)
  - Spring line (Spring/Summer)

There are variations in fall line apparel & Spring line apparel like the fall holiday evening apparel which demands for an evening gown an luxury fabric. Sweaters & Lingerie for holiday line. Ski apparels is designed for winter line. Other sports apparels for summer line is also available.

A want of a customer to be outstanding & same time unique in here dressing looks is satisfied when she goes for shopping & gets the desired apperal, the designers study & hard work & creativity give a good fruit of result.

For this process the designer has to be in constant touch of the latest trends, changes in colour & texture in fashion. A designer should refer fashion magazines, Newspapers,

Fashion shows to know the latest trend and the type of garment out line approved by the professionals in fashion fielded.

The designer can also predict the latest trend by window shopping. In this procedure the designer can study the customer what he prefers in what season and what type of fabric. This help to derive that customers wants.

A designer can also got inspiration through fabric, colour, texture, prints, weave with the samples of trimmers like pasterns, ribbons, embroidery.

To conclude a designer to do the process of draping has to know the customer, fabric, construction trims, colours and latest trend to bring out a three dimensional dress on a dress form.

Textile fabric

Objectives: At the end of this lesson you shall be able to
- **state the meaning and definition of textile fibre**
- **state classification of fibres**
- **state the examples of fibres**
- **state properties of fabric**
- **explain yarn twist**
- **state different types of fabric and usages**
- **explain finishing and its need**
- **explain types of finishing.**

Meaning and Definition of Textile Fibre

Food, shelter and clothing are the basic needs of human being. Clothing are made of Textile.

"Textile comes from Latin word texture " woven". Today Textile is meant for anything made of fibres.

Fibre is defined as the basic units of fabric and which have the capability of being woven. Fibres are the fundamental units or the building block in the manufacturing of fabrics.

Yarns: Yarns are produced by twisting or spinning of the textile fibres and fabric is then produced as a interlacing and interloping structure.

Classification of fibres

Textile industry uses many fibres as its raw materials. Textile fibres are classified according to the sources and the length of fibres. Generally, textile fibres are classified into two main types they are:

1 Natural fibre.

2 Synthetic fibre.

Natural fibre

Natural fibre is that which is produced naturally. The source of origin could be:

1 Vegetable:
   a Bast fibres (jute, flax, Ramie).
   b Leaf fibres (sisal, manila).
   c Seed and Fruits fibres (cotton and coir).
   d Stalk (Bamboo and grass).

2 Animal Origin:
   a Wool and hair fibre
   b Silk and other filaments.

3 Mineral Origin:

Synthetic and manmade fibres

Synthetic fibres are produced by the polymerization of various monomers. It is man-made fibres it is also known as Natural polymer based.

Natural Polymer based

1 Cellulosic

2 Cellulose Ester

3 Protein

4 Miscellaneous

Synthetic Polymer based

1 Polyamides

2 Polyester

3 Polyvinylidene

4 Polyol fine's

5 Polyurethane

6 Miscellaneous

Above textiles fibres are processed by different methods

Properties of Textile fibre

The properties of textile fibres are given below.

Normally Textile fibre are three types

1 Physical properties

2 Mechanical properties

3 Chemical properties

A Physical properties of any fibre can be judged on the basic of

1 Length

2 Fineness

3 Crimp

4 Luster

5 Maternity

6 Softness

7 Residency

8 Density

9 Appearance

10 Flexibility

11 Toughness

12 Elongation

13 Work of rupthne

B Mechanical properties

1 Strength

2 Elasticity

3 Extensibility

4 Rigidity

C Chemical properties

1 Solubility in aqueous salt

2 Solubility in organic salt

Fibre are also judge by Thermal properties and Tensile properties also.

For a successful sewing knowledge of fabrics is important. Fabrics are available in a variety of weaves, textures, colours and designs. It is essential to know whether the fabric is suitable for use, whether it is worth your expenditure of time and money. Here are some fabric facts that will help you to select the fabric best suited for your requirements.

Fabrics are made up of **fibres**, either natural or manmade. These fibres are spun into yarns and woven together on various types of looms.

Each fibre has its own characteristics which can be changed partly by spinning, weaving and finishing, but even then, the original characteristics are still evident.

The fibre, its main characteristics, and the care of these fabrics can be seen in the table given at the end of the lesson.

Man made fibres are mainly synthetic fibres not found in nature, but gained from a chemical solution. Natural fibres are cotton, linen, silk and wool; except the silk yarn the natural fibres are of short length, called **staples**. These staples are twisted (spun) to a long **yarn**. (Fig 1)

Fig 1

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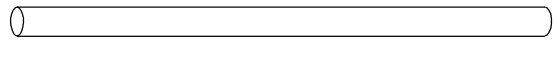
Longer staples make high quality yarn, more expensive but also more durable. Fabrics made from these high quality yarns are called “combed” in case of cotton material and “worsted” in case of wool. The number of twists affects appearance and durability. A yarn with many twists is stronger and will produce smooth-surfaced fabrics.

A filament yarn is a strand of several meter length either extruded from a chemical solution of which manmade fibres derive or it is unreeled from a silk worms cocoon. Filament yarns are smooth, fine and slippery. (Fig 2)

Fig 2



Yarns can be used alone or two or more yarns may be twisted before weave (ply yarn). (Figs 3 & 4)

Fig 3

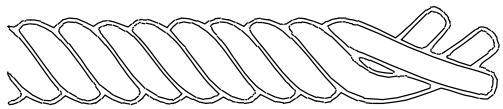


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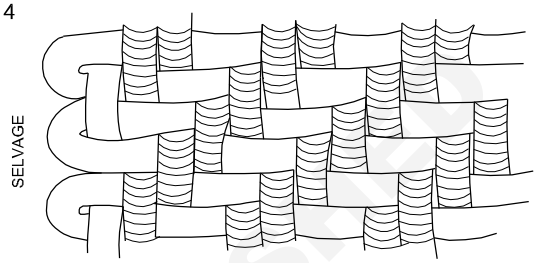
Fig 4



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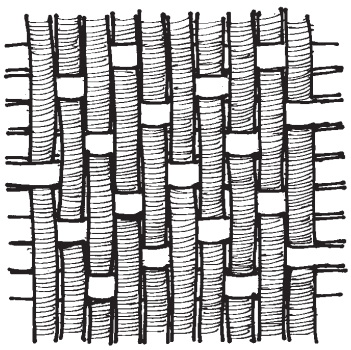
In **satin weave**, one set of threads is floating over the other set of threads. The warp yarn passes over four or eight weft yarns to produce the effect. But it is also possible to create a weft satin weave. Then the weft yarns are predominant on the face of the fabric. Examples (for the more common warp satin weave) are satin, damast, chiffon (Fig 5)

Fig 5



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Non-woven fabrics have no grain. They are made by pressing fibres together, eg. felt, plastic film and vilene interfacing.

Many fabrics are given a finish after they are woven to increase their body, to prevent shrinkage (sanforized) or wrinkling (crease-resistant), to impart crispness to the surface or to make them drip-dry, water repellent, stain resistant or mothproof. There are also other finishes such as dull, shiny, stretch, rough, soft, smooth, fine, coarse, lustrous, hard and laminated. The fabrics are labelled with the respective finish.

Napped fabrics have hair like fibres lying in one direction. This effect is achieved by a special weaving and finishing process, eg. flannel, velvet, face cloth and wool broad cloth. These fabrics are called one-way fabrics.

Fabrics give variety in feel, e.g. ranging from rough to smooth. This effect is caused by the texture of the fabric. Texture refers to the surface appearance of the fabric and its characteristic body or hang. Texture is created by yarn, weave and finish of the fabric.

Identification of fabrics: For identification of right and wrong side of fabric the following criteria will be helpful. Place both sides of fabric beside each other.

On right side of fabric

– The design is more bright and clear

– The selvedge is darker

– The piles are visible

If you want to buy a certain fabric like cotton for example you will normally find the information about the type of the fibre written on the selvedge of the material itself.

But some of the fabrics are not labeled. In that case different types of test help to determine the fibre. Two tests which are not difficult to perform are explained below.

Burning test: With the help of tweezers some yarns or a small piece of cloth will be burnt horizontally in a flame. The way of burning down, the smell and the residue inform about the type of fibre.

Dry tearing test: A piece of fabric is slashed and formed by hand. The length of the fibre ends at the torn edges informs about the type of the fibre. This test helps to distinguish amongst cotton and linen (while the burning test gives same features for these fabrics).

Dry tear testing

Cotton	Short fibre appear at the torn edges
Linen	The torn edges are much longer than that of cotton
Wool	
Silk	
Polyster	
Nylon	

Characteristic features of fibres

Fibre and source	Characteristics	Typical fabrics and uses	Care
Natural fibres			
Cotton From seed pod of cotton plant	Strong even when wet absorbent. Draws heat from body. Tends to crease Good affinity for dyes. Shrinks unless treated. Weakened by sunlight.	Used for summer wear, season-spanning garments, work clothes Examples: Corduroy, denim, poplin, terry, organdy, seer-sucker care instructions	Most cottons can be laundered Colour fast ones in hot water, others in cold water. Tumble-dry at hot setting. Chlorine bleach can be used . Iron while damp.
Linen From flax plant	Strong. Absorbent. Creases unless treated. Poor affinity for dyes. Some tendency to shrink and stretch. Deteriorated by mildew.	Fabrics usually have coarse texture and natural luster Draws heat from body Weave weights vary light to heavy. Used for spring and summer wear; also many household items	Usually dry-cleaned to retain the crisp finish. Can be washed if softness is preferred. Usually shrinks when washed.
Silk from cocoons of silkworms	Strong. Absorbent. Holds in body heat. Crease resistant. Good affinity for dyes, but may bleed. Resists mildew, moths. Weakened by sunlight and perspiration	Luxurious, lustrous fabrics in many weights. Used for dresses, suits, blouses and linings Examples: Brocade, chiffon, crepe, satin, tweed, jersey	Usually dry-cleaned, if washable, usually done by hand in mild suds. Avoid chlorine bleach. Iron at low temperature setting
Wool From fleece of sheep	Relatively weak. Exceptionally absorbent. Holds in body heat Creases fall out. Good affinity for dye. Needs mothproofing. Shrinks unless treated	Fabrics of many weights, textures, constructions. Used for sweaters , dresses, suits and coats Examples: Crepe, flannel, fleece, gabardine, melton, tweed, jersey can be machine-washed;	Usually dry-cleaned. Many sweaters can be washed in tepid water and mild suds; do not wring. Do not use chlorine bleach. Some wools follow instructions

Fibre and source	Characteristics	Typical fabrics and uses	Care
Man-made fibres (selection)			
Nylon	Strong. Low absorbency. Holds in body heat. Resists wrinkling, soil, mildew and moths. Tends to pill. Accumulates static electricity.	Wide range of fabric textures and weights. Often blended with other fibres. Used for lingerie, linings, swimsuits, blouses & dresses Examples: Fake fur, satin, jersey ture.	Can be washed by hand or machine in warm water. Use gentle machine cycle. Use fabric softener to reduce static electricity. Tumble-dry or drip-dry. Iron at low tempera-
Polyester	Strong. Low absorbency. Holds in body heat. Resists wrinkling, stretching, shrinking, moths and mildew. Retains heat-set pleats electricity Examples: Crepe, double knit.	Wide variety of fabrics in many weights and constructions. Used for dresses, Accumulates static suits, sports-wear, lingerie, linings, curtains, thread, filling for cushions setting for touch-ups.	Most polyesters are washable in warm water by hand or machine Tumble-dry or drip-dry. Use fabric softener to reduce static electricity. May need little or no ironing; Use moderate heat.

The textile labelling regulations in different countries aim at providing information on the fibre types which have been used to make a fabric. In dresses, the fibre content information is written on sewn-in labels ffixed at collar or in the side seams. In fabrics, it is wirtten on the selvedge. If the product is sold in a package (e.g. socks) the information is given on the packaging.

100% silk	Materials which are made 100% from only one raw material may be described as "pure" or "all"; an allowance of 7% for visible decoration material is given. Interlinings used for shaping need not be identified.
80% Nylon 20% of elastin	With blended products, the percentages by weight of the constituent fibres must be given. The fibres must be listed in decreasing order.
Minimum 85% silk	For textiles which are made from several fibres, one of which is at least 85% it is sufficient to say "85% minimum content".
60% silk with wool and viscose	If no one fibre in a blend is as much as 85%, then it is sufficient to give the percentage share of the dominant fibre with the other components listed in decreasing order .
85% cotton 15% other fibres	If one or more components are present in an amount of less than 10%, then they may be designated as "other fibres"
Outer fabric: 100% new wool Lining: 100% silk	With lined clothing, the fibre content of the main lining material must be given.

Testing of yarn twist

In the previous exercise we understood that many fibers are joined by some force to make a yarn. This force which hold the fibers in a yarn is called Twist.

Twist

Twist is the turns inserted on a group of fibers to convert it into yarn. You can demonstrate this by taking a bunch of fibers, hold it at one end and turn the other end either in clockwise or anticlockwise direction. After few turns we can see that all fibers have become one single unit.

In yarn manufacturing process, this same process is done by machines to insert twist to fibers to convert it into yarn.

Twist can make

1 Fibers convert to single yarn

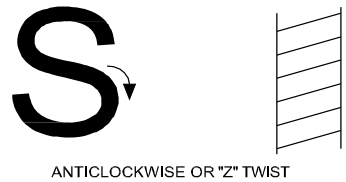
2 Two or more yarns twisted again to make plied yarn.

Types of twist

Turns can be inserted only in 2 directions.

1 Clockwise or S twist (Fig 6)

Fig 6



2 Anticlockwise or Z twist (Fig 7)

Fig 7

TPI

Twist is measured in terms of twist per inch (TPI). TPI is number of turns 1" of the yarn and this mainly depends on the yarn count. TPI is expressed as a range having a minimum to a maximum value.

Example : 50s count will have around 32 TPI

Yarns for special purposes like crepe yarn is made with high TPI to get that effect of harsh feel in fabric. Also TPI affects

1 Strength of yarn

2 Feel of the fabric

3 Fabric properties

Thus twist is one of the main criteria which affects not only fabric feel but affects its durability and service.

Type of finishing

1 Temporary and permanent finishes

Some finishes done on fabric last for a few washes or wear, its called temporary finish.

Example : Starch, Pressing/ Ironing

permanent finishes stay for life time of fabric usually chemicals are used to give permanent finishes.

Example : Bleaching

2 Wet and Dry finishing

Some finishes uses water as a medium, so its wet finishing.

Example : Dyeing

Some other finishes does not need wet medium but are done mechanically these are dry finishing.

Example : Brushing

3 Aesthetic and Functional

Some finishes helps to improve the performance and life of fabric, its called functional finishes.

Example : mercerisation

Some finishes improves the look and field fabrics, so they are called aesthetic finishes.

Example : Brushing

4 Mechanical and Chemical finishes

Mechanical finishes are done using machines mechanically mainly to improve the feel and appearance. Most of these finishes fade off on use and so are temporary.

Example : Brushing is done to have a soft feel.

Calendaring is done to impart good appearance mainly by adding shine to fabric using rollers.

Chemical finishes are permanent finishes done to improve fabric properties either the help of chemical.

Example : Bleaching is done with chemical peroxide, it makes the fabric white.

Mercerisation is done on cotton to increase strength, luster, dye up take by treating it with sodium hydroxide.

Finishing treatments change the aesthetic properties of fabric and the type of treatment given for a fabric depends on its use, cost and quality its said that finishing is like magic, it can entirely change the fabric behaviour. These treatments make the fabric a FINISHED FABRIC, which is the raw material for garment industry.

Study different fabrics and usage

A fabric is defined as a textile or texture of a cloth material.

A textile or cloth is a flexible woven material consisting of a network of natural or artificial fibers often referred to as thread or yarn. Yarn is produced by spinning raw fibers of wool, flax, cotton, or other material to produce long strands. Textiles are formed by weaving, knitting, crocheting, knotting, or pressing fibers together. (Figs 8 & 9)

Fig 8

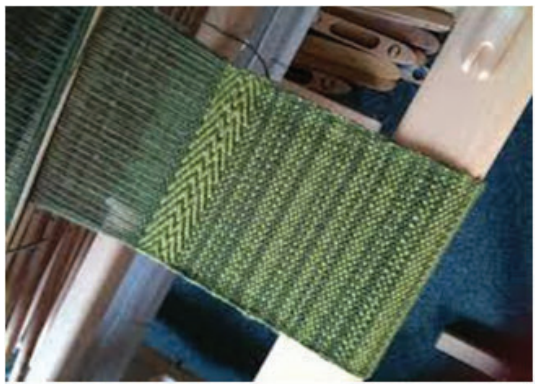
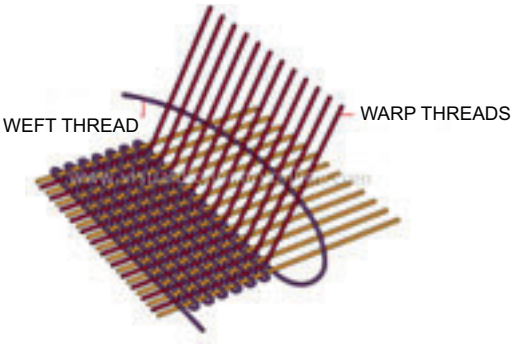


Fig 9



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Textiles have an assortment of uses, the most common of which are for clothing and for containers such as bags and baskets. In the household they are used in carpeting, upholstered furnishings, window shades, towels, coverings for tables, beds, and other flat surfaces, and in art. (Fig 10)

Fig 10

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In the workplace they are used in industrial and scientific processes such as filtering. Miscellaneous uses include flags, backpacks, tents, nets, handkerchiefs, cleaning rags, transportation devices such as balloons, kites, sails, and parachutes; textiles are also used to provide strengthening in composite materials such as fiber glass and industrial geo-textiles. Using textiles, children can learn to sew and quilt and to make collages and toys.

Types of Fabrics

Cotton

Cotton is probably one of the most common fabrics. Cotton is also called as king of fibers. Cotton is a natural fiber and is used in a wide variety of clothing and home furnishings. Cotton is easily washed and/or dry cleaned. Cotton is a good, strong fabric that is absorbent, and easy to work with.

Polyester

Polyester is one of the most used fabrics. It is made up of synthetic fiber and used in wide variety of clothing. Polyester is a crease resistance type of fabric.

Silk

Silk is a natural protein fiber, some forms of which can be woven into textiles. The best-known type of silk is obtained from the cocoons of the silkworm larvae that feed on leaves of mulberry plant. It is also called as queen of fabrics. Silk fabric was first developed in ancient China.

Wool

Wool is the textile fiber obtained from sheep which can be woven. Wool has several qualities that distinguish it from hair or fur. It is crimped, elastic, and it grows in staples. Wool is mostly used for sweaters, some winter season wear and upholsteries.

Poplin

Poplin is a very strong fabric, made with plain weave using cotton or blend of cotton. It is used for shirts, pajamas, women's wear, and sportswear and also as decorative fabric.

Satin

Satin has a very glossy surface and a dull back. It is formed with satin weave using silk, nylon or polyester. It is mostly used for party and wedding wear.

Twill

Twill is a type of fabric with a pattern of diagonally parallel lines. It is formed with twill weave using cotton and wool fibers. Twill fabric is mostly used for suiting.

Denim

Denim is a strong, durable fabric constructed in a twill weave with indigo and white yarns.

Georgette

Georgette is a sheer lightweight fabric often made of silk or from such manufactured fibers as polyester, with a crepe surface.

Jacquard

Jacquard fabric with an elaborately woven pattern is produced on jacquard loom.

Brocade fabric

Brocade is a class of richly decorative shuttle-woven fabric, often made in colored silks and with/without gold and silver threads. The name, related to the same root as the word "broccoli," comes from Italian "broccato" meaning "embossed cloth".

Chiffon

A plain, woven, lightweight, extremely sheer, airy, and soft silk fabric, containing highly twisted filament yarns is chiffon fabric. The fabric, used mainly in evening dresses and scarves, can also be made from rayon and other manufactured fibers.

Crepe

A fabric characterized by a crinkled or puckered surface with tightly twisted yarns. Crepe is usually made with all type of fabrics like cotton, silk, polyester, etc., by plain weave.

Jersey

Jersey is a knit fabric used predominantly for clothing purpose. It was originally made from wool, but now it is made from wool, cotton and synthetic fibers. Mostly it is used for T-shirts and lingerie.

Leather

Leather is a material created from the skin of animals. It is mostly used for foot wear and jackets.

Lycra

Lycra is a type of synthetic elastic fiber used for tight-fitting garments, such as swimming costumes.

Lace

A delicate fabric made up of yarn or thread in an open web like pattern is called lace work.

Net

An open fabric, which is created by connecting the intersections in a woven, knitted, or crocheted construction to form a mesh-like appearance, is called net.

Rib

Rib is type of knit fabric with rib patterns. It is mostly used for specialized uses like sleeve bands, neck bands, and sweater waist band. Light weight sweaters with rib knit provide a close, body hugging fit.

Sheer

Sheer is semi - transparent fabric that can give crispiness on the surface. It is made using thin thread and low density yarns of cotton, silk and other synthetic fibers. Sheer fabric is mostly used for draperies, sleeves and party wear.

Velvet

Velvet is a type of woven tufted fabric in which the cut threads are evenly distributed, with a short dense pile, giving it an individual feel.

Dobby

Dobby is a woven fabric produced on the dobby loom, characterized by small geometric patterns and extra texture in the cloth.

Organza

Organza is a thin, plain weave, sheer fabric traditionally made from silk. Many modern organza's are woven with synthetic filament fibers such as polyester or nylon. Silk organza is woven by a number of mills along the Yangtze River and in the province of Zhejiang in China. A coarser silk organza is woven in the Bangalore area of India. Deluxe silk organza's are woven in France and Italy.

Organza is used for bridal wear and eveningwear. In the interiors market it is used for effects in bedrooms and between rooms. Double-width organza's in viscose and acetate are used as sheer curtains.

Linen

Linen is a textile made from the fibers of the flax plant, Linum usitatissimum. Linen is labor-intensive to manufacture, but when it is made into garments, it is valued for its exceptional coolness and freshness in hot weather.

Many products are made of linen: aprons, bags, towels (swimmers, bath, beach, body and wash towels), napkins, bed linens, linen tablecloths, runners, chair covers, and men's & women's wear.

Jute

Jute is a long, soft, shiny vegetable fiber that can be spun into coarse, strong threads. Jute is one of the most affordable natural fibers and is second only to cotton in amount produced and variety of uses of vegetable fibers.

Banana

Banana fabric is another sheer fabric used in formal occasions. Made and hand woven from banana fiber, it usually comes with geometric design details. This fabric hails from the Visayas island of Negros

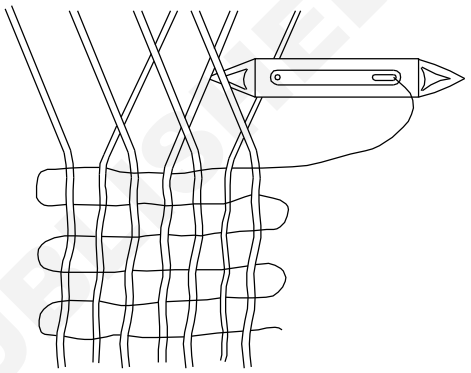
Study of weaving, dyeing and printing

Objectives: At the end of this lesson you shall be able to
- **explain weaving process**
- **explain mechanical and chemical finishes**
- **explain the principles and classification of dyes**
- **explain the properties and characteristics of dyes**
- **describe the dyeing process**
- **explain the different between dyeing and printing**
- **explain various style of printing**
- **explain procedure of block printing**
- **state the advantages and disadvantages of block printing.**

Weaving

The process of interlacing of two or more sets of yarns at right angles to each other is known as weaving. The process used machines for this is known as loom. (The weaving equipment is known as loom).as shown in Figs 1,2 & 3.

Fig 1



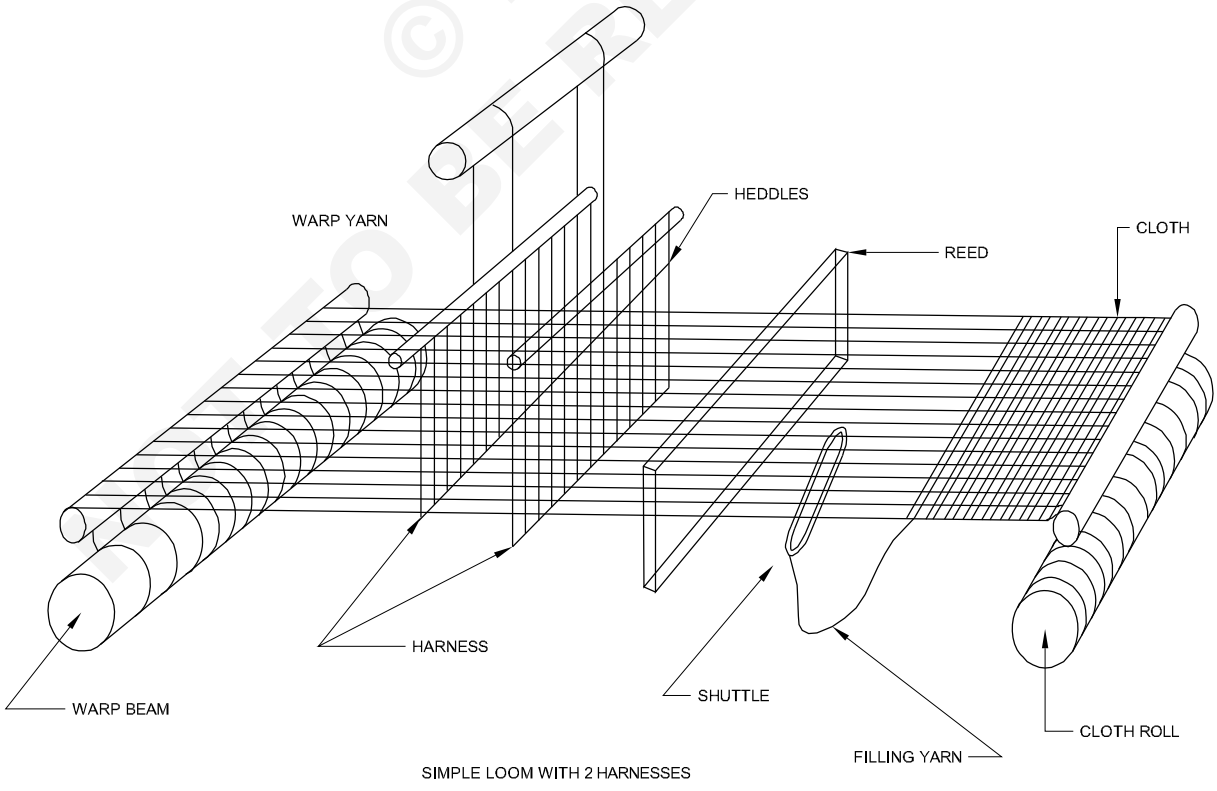
Warp Yarn

In the weaving process the length wise yarns running from back to front of the loom is known as warp yarns or ends.

Weft Yarns

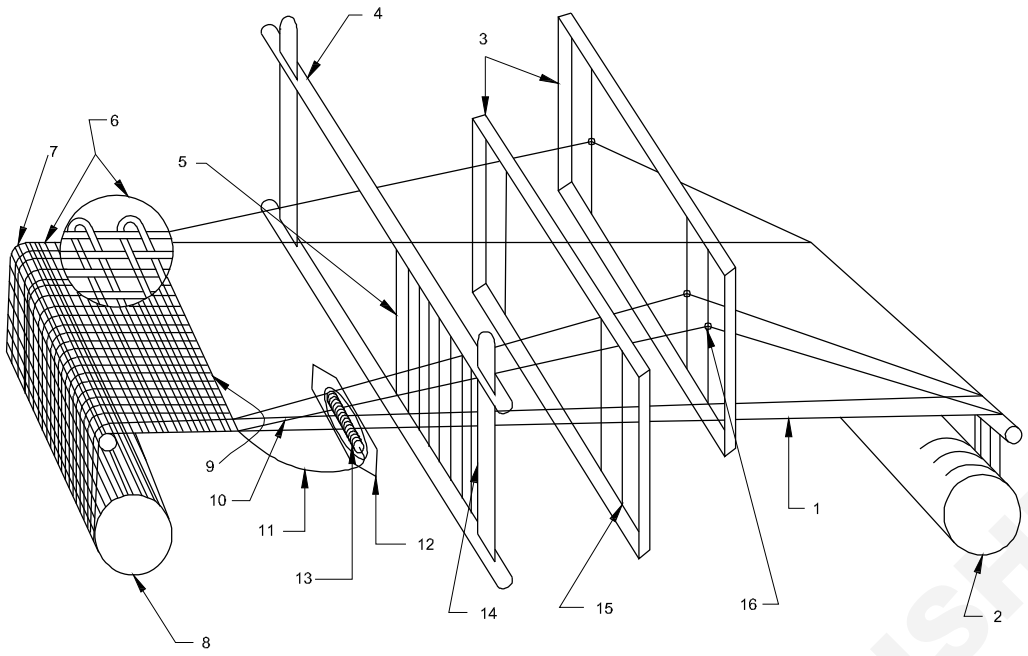
The yarns running crosswise or perpendicular are known as weft yarns or filling or picks.

Fig 2



SIMPLE LOOM WITH 2 HARNESSES

Fig 3



SIMPLIFIED DIAGRAM OF A TWO HARNESS LOOM (PLAIN WEAVE)
NOTE: REPEATS OF ALL PARTS NOT SHOWN

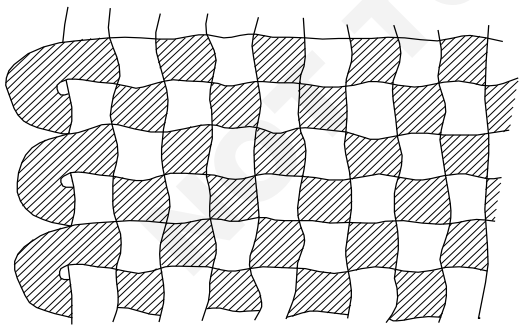
1.WARP YARNOR END
2. WARP BEAM
3.HARNESS
4.BATTEN, BEATER OR SLAY
5.REED
6.SELVAGE, SELVEDGE
7.WOVEN CLOTH
8.CLOTH BEAM
9.FEEL (EDGE OF CLOTH AS WOVEN
10.SHED (SPACE OF SHUTTLE)
11.WEFT, FILLING YARN OR PICK
12.SHUTTLE
13.BOBBIN,PIRN OR QUILL
14.DENT OR SPLIT (SPACE IN REED)
15.HEDDLE, HEALD
HEDDLE EYE

FDN163913

Stronger yarns are used in warp wise direction because these yarns undergo more friction then weft yarns.

The lengthwise finished edges where yarns are closely packed are called selvedge or self edge of fabric is known as selvedge Fig 4.

Fig 4



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Elementary Weaving Process

The warp are separated into two layers namely the upper and lower layer between which the wefts are laid at right angles. The warp yarn layers position changes continuously so that they allow insertion of weft yarns. Following the accurate pattern working out the drawing on the fabric surface that is weave.

Weaving Operations

Weaving process involves primary and secondary operations.

Primary operations are:

1 **Shedding:** Raising every alternate warp yarn to receive the weft yarn thus forming a shed. This is accomplished by means of harness.

2 **Picking:** Insertion of weft yarn through shed.

3 **Beating up and Battening:** Pushing the pick to form a compact shuttle is known as Beating and Battening.

Secondary Operations are:

1 **Taking up :** Winding up of finished fabric on cloth Beam is known as taking up.

2 **Letting off:** Releasing of warp yarns from warp Beam is known as letting off.

Introduction to Finishes

The process used for fibre, yarn, fabric, either before or after the fabric construction is called finish and the process of improving tackle and visual appearance and also fabric performance is known as finishing.

Types of Finishes:

1 **Permanent Finishes:** A substance applied to the fabric at the final stage of manufacturing and with stands the life of fabric is known as Permanent finish.

2 **Non Permanent finishes:** A finish that feeds off or gets removed when the fabric is being subjected to friction, sunlight, heat etc is known as Non Permanent finish.

The fabric undergoes some Pre-treatment process which are as follows:

a **Gray fabric Inspection.**

b **Desizing:** Removing of starch.

c **Scouring: Process** of removing oil, grease, wan oil etc using soap etc is known as scouring.

d **Kier Boiling:** When the fabric is boiled for few hours in a dilute solution of caustic soda in kiers is known as kier Boling.

e **Degumming:** In case of silk, removal of serine is carried out which is termed as degumming.

f **Bleaching:** The process of whitening of fabric by destroying coloured impurities with the help of chemicals.

g **Singeing or gassing:** The process of removing surface fibres, lints, threads, fuzz and fibres ends with hot copper plates on gas flames is called singeing.

h **Mercerization:** An optical pre-keaoment applied to cotton yarn or fabric to enhance its lustre, gives more strength.

Performance finishes: Performance finishes are classified are as follows:

1 **Aesthetic finishes:** Finishes applied to the fabric changes the look of the fabric.

2 **Chemical Finishes:** Finishes which change the basic fibre or fabric properties so as to improve some aspect of fabric behaviour.

3 **Functional Finishes:** Those finishes when applied after the functional behaviour of textile material.

4 **Mechanical Finishes:** Finishes that employ some kind of mechanical equipment such as copper plates etc.

5 **Permanent Finish:** Finishes applied at final stage of fabric construction that lasts throughout the life of fabric.

6 **Temporary Finishes:** It is also as non permanent finish which lasts only a couple of washes.

Commonly used finishes are:

1 **Calendering:** Applied to the fabric to produce a shinny smooth surface. Some effects produced are.

Embossing: Friction calendar, cine calendar.

2 **Screeinerizing :** Steel rollers are used to give buster to low price cotton.

3 **Softening:** Fabric which possess stiff free is subjected to silicon compounds to provide a soft hand.

4 **Stiffening:** A process for impact stiff or crisp effects to fabric by using chemical.

5 **Betting:** To provide buster to linen or cotton fabric.

6 **Bushing:** Bushing is done to get soft fluffy feel on this short loose fibres are removed.

7 **Sue ding:** The fabric acquire a soft nap like suede.

8 **Stain Resistant finish:** A finishing process that creates a barrier between fabric and sailing substance.

Heat set finish ,flame resistant finish and water repellent finish it has also applied as per repainted.

Dyeing process

Dyeing process is the method by which the dye is applied on to the textile materials. Application of dyes is not a simple one step process but involves series of steps as shown below.

- Dissolution – The dye particles are mostly available in powder form and hence they need to be dissolved completely in a solvent taking enough care that they do not form any lumps.
- Exhaustion – Initially, the dye should move from the dye bath on to the textile materials. The dye will be then absorbed by the fibers.
- Diffusion – Once they are on the textile materials, the penetration of dye molecules to the inner side of fibers (dye sites) takes place.
- Migration – After some time, the movement of dye molecules from heavily dyed sections to less deeply dyed parts on the fabric takes place.
- Completion of the dyeing process – After the entire dyeing is completed, the dye bath has to be cooled of.
- Fixation or after treatment – The bond improvement between dye and fiber should be increased and/or increase the solubility of dye.
- After scouring or rinsing – Even though the dyeing is complete, there will be number of unbounded dye molecules and chemicals present on the surface of the fibers and they need to be removed from fibers.

Importance of water in dyeing

Water plays an important role in dyeing and printing of textile fabrics. The fabric in its grey state or loom state contains lot of natural and added impurities, which are removed in a series of operations using water and chemicals. Hence, the processes involving treatment with water are referred to as wet processing.

Wet processing consumes huge quantities of water as it is the best solvent for dyes and chemicals. It is not only the vehicle to carry or fix the dyes on the fibres, but also the medium for all wet processing. The required shade or finish is possible only with the good quality water.

Difference between the dyeing & printing

Dyeing	Printing
Dyeing is done on both sides of the fabric	Printing is done on side of the fabric and sometimes it is on both sides
Dye penetrates into the fibre molecule	The pigment fixes on the surface of the material, whereas the dye penetrates
Dyeing is carried out in liquid baths	Printing is done with waste.
Sometimes, requires boiling temperature	Moderate temperature is sufficient while printing but requires heat to dry the print
Steaming is not required.	Steaming is required.

Styles of printing

There are three basic approaches to printing a color on a fabric, namely, Direct, Discharge and Resist.

Direct Printing: The most common approach for applying a color pattern is direct printing. It may be done on a white fabric or over a previously dyed fabric, in which case it is called overprinting. The dye is imprinted on the fabric in paste form, and any desired pattern may be produced. The dyes are usually dissolved in a limited amount of water to which a thickening agent has been added to give the necessary viscosity to the print paste. The principle of direct printing is creation of a colored design by applying a dye or pigment directly onto a textile substrate (yarn or fabric).

Discharge Printing: Another approach for applying a color pattern is discharge printing. The fabric is dyed in the piece and then printed with a chemical that will destroy the color in designed areas. Sometimes the base color is removed and another color printed in its place, but usually a white area is desirable to brighten the overall design. When properly done, discharge printing gives very good results; however, the discharged areas may literally fall out of the fabric if the goods are not thoroughly washed after printing (a rare situation today). The usual method of producing discharge prints is to print the design, such as polka dots, with a paste containing a reducing agent. A steaming follows and then there is a good washing to remove the by-products of the reaction.

Resist Printing: A third approach to obtaining a color pattern is resist printing. Bleached goods are printed with a resist paste-a resinous substance that cannot be penetrated when the fabric is subsequently immersed in a dye. The dye will affect only the parts that are not covered by the resist paste. After the fabric has passed through a subsequent dyeing process, the resist paste is removed, leaving a pattern on a dark ground.

Methods of printing

Methods of printing denote the means or appliances used for producing the printed effect; depending upon the means employed, different methods have been developed for printing. Thus in block Printing, wooden blocks are used and in roller printing, engraved rollers are used for producing the printed effect.

The methods employed are as under:

- Block printing
- Stencil printing
- Screen, printing by hand
- Automatic Flatbed Screen printing
- Rotary Screen printing
- Roller printing and
- Transfer printing (an indirect method of printing).

All the above methods represent a means of transferring a pattern to the fabric. Basically the difference is in the speed with which an original design is transferred on to the cloth. Each of the above methods has their own advantages and disadvantages.

Block printing

Block printing is the oldest and the simplest method of printing. Because of its artistic, decorative value and the purity and richness of colour produced by it, the method is still used in many countries of the world. Rich and vibrant colors are more popularly produced using block printing. Block printing was done in the beginning using natural dyes and inks but today they have been replaced by chemical dyes and artificial inks. The synthetic inks are more durable and available in an extensive range of shades. The major block printing supplies include oil based and water soluble block printing dyes and pigments, stamp kits, print blocks, brayers, cutters, glue, pigment binders, pins, trays and stamping accessories.

The main tools of the printer are wooden blocks in different shapes and sizes. The underside of the block has the design etched on it. Each block has a wooden handle and two to three cylindrical holes drilled into the block for free air passage and also to allow release of excess printing paste. The new blocks are soaked in oil for 10-15 days to soften the grains in the timber.

The blocks used in this method are made of wood with the portions to be printed are carved or raised in relief on a thick block of wood (figure 1). Designs with fine lines are too fine and difficult to be cut on a wooden block. They are therefore made by inserting short pieces of copper strips and pins. For obtaining an overall design of coloured dots, a block containing 10 to 40 needles is used.

Typical wooden blocks with carved design showing the handle. (Fig 5)

Fig 5

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Screen printing

Screen printing is a technique that uses a woven fabric mesh to block the paste at selected places using a stencil. The attached stencil forms open areas of mesh that transfer ink or other printable materials which can be pressed through the mesh as a sharp-edged image onto the fabric. A roller or squeegee is moved across the screen stencil, forcing ink past the threads of the woven mesh in the open areas.

Screen printing is also a stencil method of print making in which a design is imposed on a screen of silk or other fine mesh, with blank areas coated with an impermeable substance, and ink is forced through the mesh onto the printing surface. It is also known as silkscreen, seriography, and serigraph.

Screen printing is simply an improved method of stencil printing in which no ties are required thus giving the designer a much wider scope and freedom in planning his design than the earlier methods.

Stencil printing

This is also one of the oldest methods of printing but it is not used to any great extent. Really speaking it is not a printing process at all as the colour is applied to the fabric not by impression as in block or roller.

Knitting

Objectives: At the end of this lesson you shall be able to

- **define knitting**
- **state the terminology used in knitting**
- **explain warp and knitting**
- **list the identification of Warp knitting**
- **list the identification of Weft knitting.**

Define Knitting

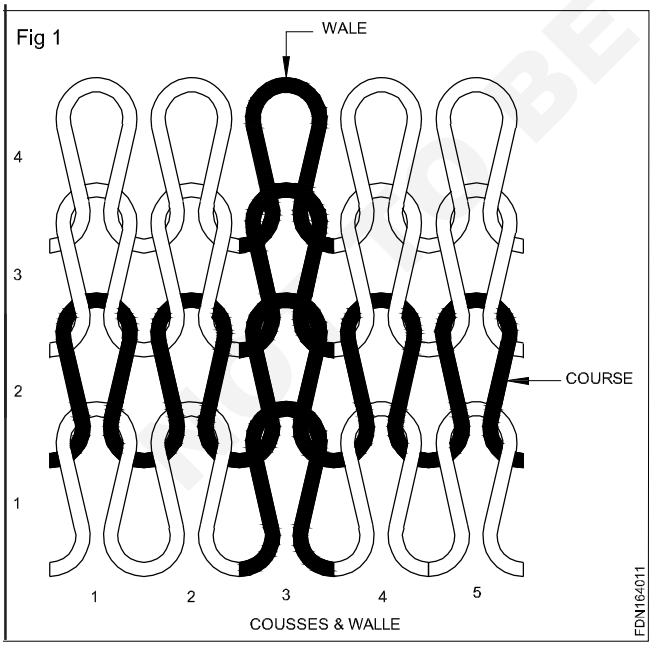
The process of constructing fabric by interlocking a series of loops of one or more yarns with Needles is known as knitting. Knitting may be done either by hand or knitting machines.

The loops may be constructed tightly or loosely depending upon purpose of fabric.

Terminology used in Knitting

1 Courses: A series of successive loops or horizontal columns. (Fig1)

Fig 1



2 Wales: A column of loops parallel to the loop axis and lying lengthwise on the fabric. (Fig1)

3 Count: Number of Wales and courses per square inch of a knitted fabric.

4 Stitch: A single loop in a knitted fabric.

5 Gauge: Finesse of the fabric denoted by number of stitches per unit width on the machine.

Type of Knits

Knitting Fabric are classified into two types

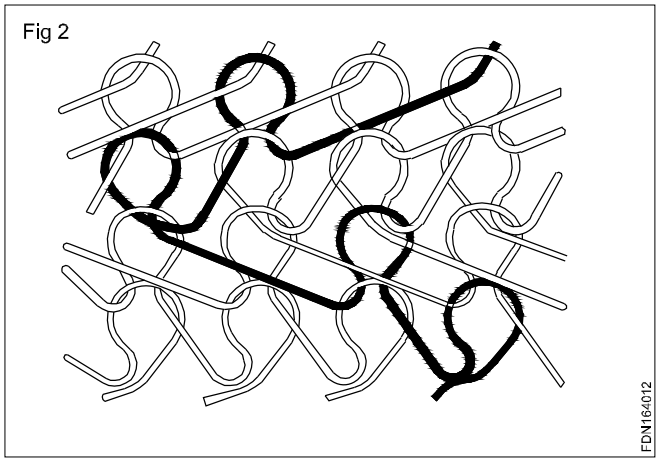
1 Warp Knit.

2 Weft Knits.

Warp Knitting

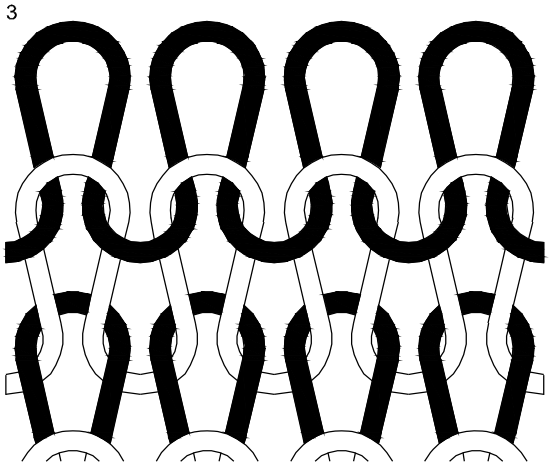
The process in which parallel yarns run lengthwise and are locked into a series of loops to get a dimensionally stable fabric is termed as warp knitting .The yarn movement is kept diagonal to inter connect loops of adjacent Wales. The warp knits have good crosswise stretch. (Fig 2)

Fig 2



Weft knitting: The process of producing tubular fabrics on circular knitting machines, having one continuous thread running across the fabric forming loops in circular direction is defined as weft knitting. Depending upon fabric desired (single knot or double knit), one or two sets of needle are arranged on the circumference of the machine. (Fig 3)

Fig 3



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Some common knitted fabric

1 Jersey
2 Rib Knits
3 Interlock Rib
4 Jacquard Knits
5 Pique etc,

Jersey Knits (Figs 4 & 5)

Fig 4

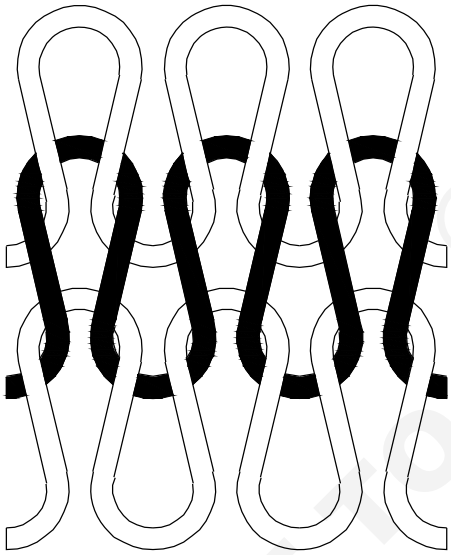

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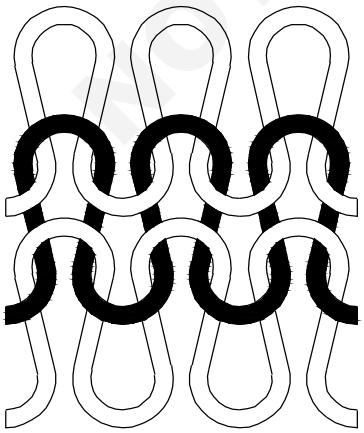
Fig 5



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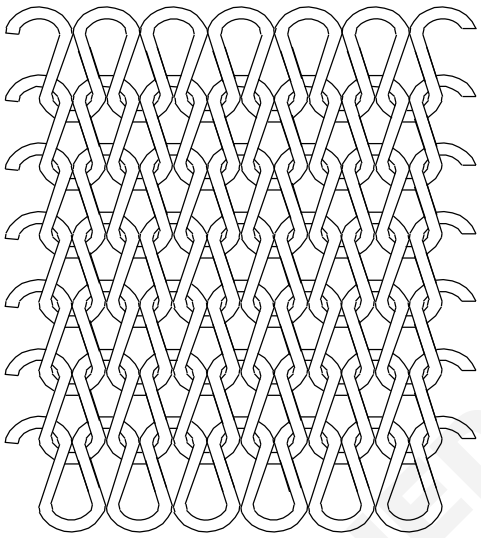
Jersey (Fig 6)

Fig 6



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Identification of Weft Knitting Sample (Figs 7 to 12)

Fig 7

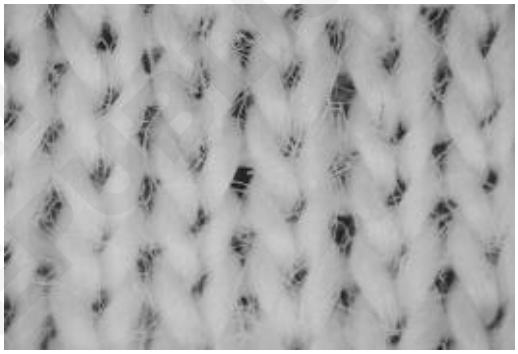


Fig 8

Fig 9

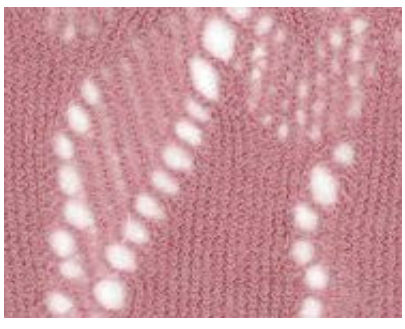


Fig 10

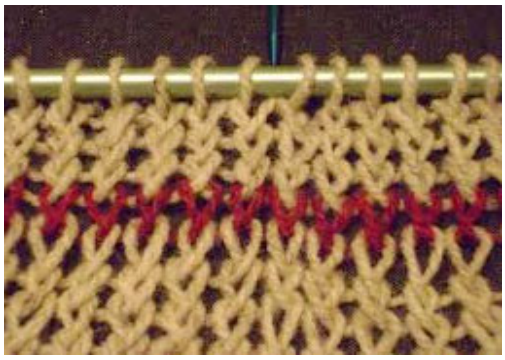


Fig 11

Fig 12

Introduction and identification of different fabric

Different kinds of fabrics available in the market.

A large variety of fabrics are available in the market these days and each one behaves differently when in use. This also means that each variety of fabric has different properties which will affect the garment properties. The behavior of the fabric in use depends on various factors such as type of fibre, durability, finishing etc. Thus, it becomes essential to first understand about most of the fabrics available in the market. The following fabrics are normally available in the market. The following is the Glossary of Commercially available fabrics:

Identification of warp knitting samples (Figs 13, 14 & 15)

Fig 13

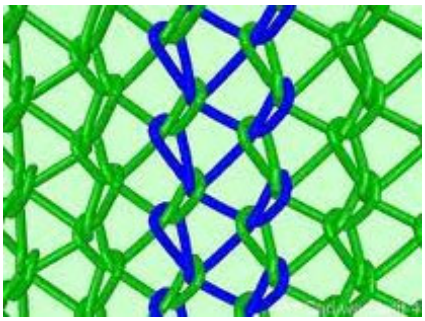


Fig 14

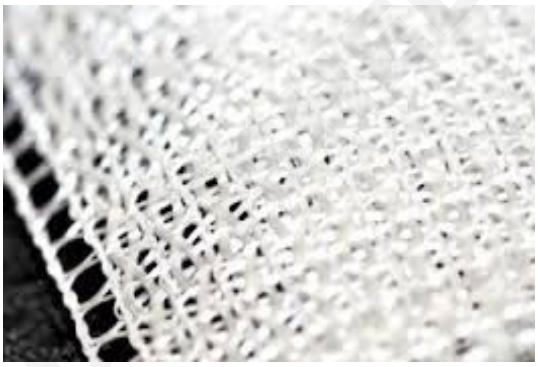


Fig 15

I Cellulosics

1 **Khadi:** Hand woven fabric made from hand span yarn. Usually coarse used for making kurta, pajama.

2 **Poplin:** A durable plain weave fabric having finer warp yarns than the weft yarns. Used for petticoat.

3 **Cambric:** A light weight, closely woven plain fabric usually given slight stiffening.

4 **Muslin:** A plain woven cotton fabric ranging from lightweight to heavyweight. Sizing may be added. Used for dresses, shirts and sheets.

5 **Voile:** Light weight, open textured, approximately square set, plain weave fabric, made with fire yarns used for dupattas, sarees. Made up of either pure cotton or polyester-cotton.

6 **Markin:** Unbleached plain weave cotton fabric used to make Quilt covers.

7 **Casement:** Light to medium weight cotton fabric, made in plains weave, used for table cloths, cushion covers etc.

8 **Glazed Cotton:** A pure cotton fabric with a shine due to finishing used in bed covers.

9 **Denim:** Medium to heavy weight, compactly woven, twill weave fabric with warp yarns dyed blue and filling undyed used for pants. (Jeans)

10 **Terry:** Uncut loop pile, used as terry towels. A heavy cotton fabric, with absorbent loops on one or both sides.

11 **Corduroy:** Cut pile fabric, high luster fabric, with raised lines in the lengthwise direction of the fabric.

12 **Organdy:** This is transparent, stiff muslin Retains its crispness for many launderings, crushes easily but is also easily pressed.

13 **Taffeta:** Fine, plain weave fabric with shine on the surface and smooth to touch. Made from rayon.

14 **Rubia:** Ply yarns are used in both directions, stronger than a normal plain weave cotton fabric and shows good amount of stretch.

II Protein

1 **Silk:** Plain weave fabric which is soft to touch and has good shine. Very expensive. Cultivated silk.

2 **Tussar Silk:** This wild silk is tan to brown in colour and is warmer and more uneven than ordinary silk.

3 **Chiffon:** Light weight, sheet, soft plain weave fabric. Can be made of silk, wool or man-made fibres it is open weave with tightly twisted yarns.

4 **Crepe:** Light weight fabric of silk, cotton, rayon, man-made or blended fibres, with a wrinkled surface produced by hard twist yarns.

5 **Satin:** Long floats running in the lengthwise direction of fabric, thus imparting a glass, lusture or shine to the fabric.

6 **Worsted wool:** Smooth surfaced yarn spun from long staple wool fibre.

III Synthetics

1 **Nylon:** A transparent, compactly woven with smooth surface, synthetic fabric. Does not have shine.

2 **Polyester:** Compactly woven, plain weave fabric with some sheen.

3 **Acrylic:** Resembles wool, but is synthetic. Easy to care and store.

IV Blends

1 **Terycot:** Cotton is mixed with polyester and the resulting fabric has characteristics of both the fabrics i.e. strength of polyester and softness and absorbency of cotton.

2 **Terry wool:** Polyester is mixed with wool. Easier to care for and store than pure wool.

Introduction and importance of Designing through computer

Objectives: At the end of this lesson you shall be able to
- **explain corel draw software**

Corel draw

Corel draw is a graphics editor. It is in some ways like the Photoshop suite where you can edit picture and also draw pictures. It is a computer software, so all the work is done on the computer rather than with paper and pencil. It makes the work go quicker. There are several graphics tools in order to fit shapes, lines and other creation together and then color them. Corel can create books, booklets, brochures, and a number of other marketing products for business. Those creating graphic novels or children's books can use the software for illustrations. One can save in layers and cut out other images that they do not like. It is a full editing suite.

The importance

Whether one is in business or doing a personal project at home corel draw can provide the software to make the product a success. Since it has several option to edit, cut and layer the work one is doing any one can create newsletter, brochures and other work. There are other software program like it, but corel is one of the leaders in the industry produced by a canadian corporation.

Business and corel

For marketing companies, advertising agencies, and other like companies corel draw can be highly important to know so that an employee can do the editing required with one of the top software programs on the market. For those who are learning graphic design for any type of business corel draw is one of the software products to be familiar with.

Use of corel draw in Design creation tool

Objectives: At the end of this lesson you shall be able to
- **corel draw in design creation**

Tool - 1 : Zoom tool

1 Select the zoom tool.

2 Drag the position to zoom the area.

3 To zoom in to all objects on the page double click the zoom tool.

4 Right click using for zoom out.

5 F - short cut tool used for zoom.

6 f 2 short cut tool used for zoom one shot.

7 And f 3 short cut tool used to decrease the magnification level to view a large portion of the document.

8 Shift + F4 used for the magnification level adjust to fit the entire page.

9 Shift + F2 shortcut key used to magnify only the selected object.

Pick tool - moving, scaling and stitching objects

To move or scaling or stitching to the objects to drag the objects stitching. This tool is used to move the objects one place to another place.

Stretching the objects means decrease or increase of the objects. (Vertically or horizontally) If we want to change the corner of the objects size used the scaling tool.

Free hand tool

This tool used for free hand drawing. If you are good with free hand drawing you can use free hand tool.

The free hand tool used to make curves and stitching line segments and short cut key is F5

Free transform tool

Free rotation tool is used to rotate a selected object around a fixed point. The free transform tool are free angle reflection tool, free scale tool, free skew tool free angle reflection used for change the angle of the objects and free scale tool for resize the object. Free skew tool used for skew a horizontal and vertical lines of an object.

Repel tool

This tool used to reshape the object. It gives more pronounced effect. If you want to change the nib size(edge) we have to use the nib radius tool. That's why this tool very useful for change the nib size

Knife tool (splitting objects)

This tool used for splitting the objects that means cut and splite the objects. So we can get some part of the objects. This tool is very useful to remove the unwanted parts of the objects.

Eraser tool

If we want to erase the parts of the object. We can easily change the object. So we can get a neat object as per choice.

Traniees make a lot of mistake in the beginning stage. But Eraser tool is very useful to us.

Shape tool in corel draw

Objectives: At the end of this lesson you shall be able to
- **explain the shape tools.**

The shape tool are smart drawing tool, rectangle tool, ellipse tool, polygon tool, star tool, graph paper tool, spiral tool, basic shapes tool, arrow shapes tool, flow chart shapes, banner shapes tool, callout shapes tool, text tool, line connector tool, table tool, dimension tool.

Smart drawing tool

To draw a shape or a line by using free hand stroke. This tool is converted to a basic shape or smoothen curve.

Rectangle tool

This tool is used for create a rectangle shape.

We can get a proper rectangle shape. The edge of the corner make a neat shapes.

Ellipse tool

Ellipse tool are pie butter or the Arc butter.

Ellipse tool is created to pie shape or the Arc shape. This shape is used for the design of the layout.

Polygon tool

Polygon is having a 6 equal sides. To adjust the number of sides or points on a selected polygon type a value in the number of points or side on polygon, star and complex star box on the property bar. To change the polygons shape go to shape tool.

Star or complex star tool

This tool is make a single or complex star with equal side. It gives a good shapes of the sides or points

Graph paper tool

We can set the number of columns and rows by graph paper tool graph paper tool make the outer boundary of the square. It is used for create the drawing in the early stage. So we can draw the objects step by step using grid lines.

Basic shapes and flow chart

Basic shapes tool used for create a perfect shapes. We can change the various size of the shapes. And the flow chart, Shapes used for create the flow charts. This is also can change the size we want. We can make a programme chart using by flow chart shapes thats why flow chart shape is very useful to explain the programme step by step.

Text tool

There are two kinds of text tool.

1 Artistic text.

2 paragraph text.

Artistic text is used for create the design of the word. We can make a some design in words. But paragraph text make a frame of paragraph. This tool used for create the lot of paragraph.

3 F8 is a shortcut of the text.

Special effects

Objectives: At the end of this lesson you shall be able to
- **explain the working styles of special effects.**

Blend tool

Blend two objects with the help of blend tool. We can get special effects and simultaneously to adjust the distance and colour progression. First we should drag the first object to second objects so that first object is start point and second objects is and points. now we can easy to create a blend of the two objects.

Contour tool

1 To select the contour tool.

2 To drag the objects to create an inside contour or outside contour

3 We can change the outline of color using color palette.

4 The size of the objects will decrease or increase of the inside contour and outside contour.

5 It gives a good effects of the objects.

Distort tool

1 To select push and pull distortion button it gives push effects.

2 Drag the mouse you are satisfied with the amount of push distortion to apply a pull effects.

   a Distort tool are a push and distortion button using for push effects

   b Zipper distortion button using for zipper effects

   c Twister distortion button used for create a twister effects

Drop Shadow tool

1 To select the drop shadow tool.

2 Drag the objects where you want to place shadow.

3 Shadow effects gives a special effects of the objects. Not only objects we can use the word also.

4 This effects mostly used for some special designs.

Color eyedropper tool

1 Colour eyedropper tool is used for making a outline of the objects with colour effect.

2 Whole objects will be coloured using colour eyedropper tool.

3 If we want to change the colour easily to do.

4 We can create a lot of colour using this tool.

5 This color gives neat and good effects of the objects.

6 We can use a eyedropper tool or bucket tool.

7 If you want to mixed with same colour you can do it.

8 The value of the color may be changed.

9 So we can create a different color using color tools

10 Outline pen is using for create the outline of the objects.

11 Shift+F12 this is a shortcut key. This key used for outliner colour palettes.

Uniform Fill colour

1 Choose a solid fill colour for an objects by using colour palettes, colour viewers, color harmonies or colour blends.

2 It gives uniform effect in one ends to another ends. So it gives good effects of the objects.

3 Shift + F11 is the shortcut key of uniform fill colour

Fountain Fill

1 F11 is the short key of fountain Fill colour tool.

2 Fountain Fill tool gives a gradient of colours and shades of the objects.

3 We can get a more effective shades and colours

4 Mostly using this tool in corel draw.

Pattern Fill and Texture Fill

1 pattern fill and texture fill tool used for colour the swatch.

2 We can use a different type of patterns and texture.

3 This tool is easily to make a swatches.

Interactive Fill

1 G is a short cut key of interactive fill tool

2 Interactive fill tool to create a fill dynamically by using markers in the drawing window and property bar to change the angle, mid point and colour.

Fabric Design

Objectives: At the end of this lesson you shall be able to
- **define corel draw in fabric design**
- **explain a corel painter used by fabric design**
- **explain the repeat design used corel draw**
- **explain fabric design tool used corel draw.**

Introduction

In the past, computer graphic design in the fashion world was limited. Now the work flow for computer aided fashion design has two approaches.

Traditional hand sketching, coloring and detailing of the model sketch by hand or software's.

Corel painter used by fabric design

Sketch design, technical drawing of garments textile pattern design and coloring with vector based software. Corel draw is very popular in the apparel industry. Fill tool, auto tracing mode editing tool is used for creating flats or technical drawing of the pattern design. Fashion and textile pattern designer use corel draw. To draw different pattern and texture in different colors.

The Repeat design

Repeat pattern is called a "rapport" or repeat. To create more versatile textile patterns to use few colors.

There are many kinds of patterns. The pattern divided into continuous patterns and discontinuous patterns. Continuous patterns are check stripes etc. Discontinuous patterns are animal prints.

Fabric tool

Drawing tool are free hand tool, rectangle tool, ellipse tool, polygon spiral and graph paper tools used to create fabric designs.

Color fill tool are fill color, fountain fill, pattern fill, texture fill, no fill used to create a fabric design color.

Some tool are used for creating a outline like outline pen, outline color,no outline, outline thickness etc,,..

Creating croquie

Objectives: At the end of this lesson you shall be able to
- **define croquie**
- **explain the croquie**
- **explain a croquies drawing in corel draw**
- **explain how to corel draw tools used croquie**
- **explain working style of the croquie.**

Define Croquie

"Croquie is a rough preliminary sketch". Is known as croquie.

Explain the Croquie

Illustration is a warped view of the human body the legs are abnormally long and the rest of the body is out of proportion. Illustrates really warped view of what we think of normal. But this is a standard croquie that designers used.

It is a favourite tool for designer Shapes styles and designs are rework it used to create old to new styles Fig 1.

Croquis Drawing in Corel Draw

Croquis drawing is quick and sketch drawing of a live model. It is easly to draw in corel draw croquie. Drawing are usually made in a corel draw in few minutes.

After the model changes pose and another croquie is drawn.

Corel draw will help to concentrate on the essential elements of the pose. We can draw all the details in corel draw. Corel draw croquie is also good method of drawing.

Corel draw croquie

Coral draw is a very user friendly software. Corel draw has best of the drawing and editing facilities with the range of effects.

The corel draw tools for a croquie

Bezier tool:

Bezier too is used for draw the basic layout of the design and fill the details.

Shape and Node edit tool: Shape tools create to different types of shape Node edit tools the basic pattern.

Corel painter

Fountain fill tool in corel painter tool it is used to make a texture and colour like skin tone.

Make Croquie (Fig 1)

1 Guide line use to create a figures. So we have to select the guide line from the ruler using corel draw software. First we have to set it to the lengthwise and widthwise of the guide line. After that we will make a face and neck using ellipse tool. Put the point to create a croquie and shape to the croquie using shape tools. After that give fleshing to make croquie.

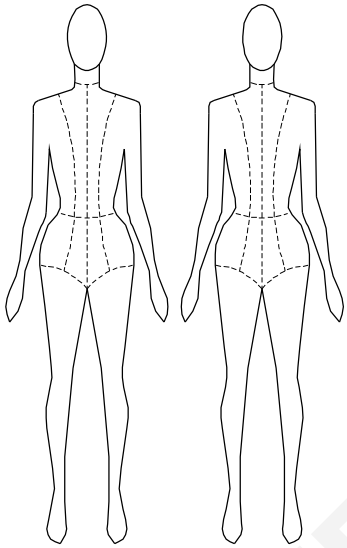
Fill the color on croquie

Fountain fill tool used for skin color to face. The value of color as deciding required.

Render a dress to croquie

Bezier tool or free hand tool used for draw a basic layout of the dress. Fill the details with the help of bezier tool or free hand tool.

Fig 1



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Render and drape croquie

Objectives: At the end of this lesson you shall be able to
- **explain what type of tools use for render and draping croquie.**

Tool use for Render and Draping Croquie

Render and drape croquie tools are Bezier/ pen tool Node edit, colour fill tool, Artistic brush tool, pattern fill/ Texture.

Use tool box

Bezier/pen tool: To draw a any segment, click where you want to place the first mode and then drag the control handle to where you want to place the next node. Release the mouse button, and then drag the control handle to create the curve you want.

Color fill tool

Outline color: (shift+F12) Choose the outline color by using color viewers and colour palettes.

Uniform fill: (shift+f11). Choose a solid fill color for an object by using color palettes, color viewers, color harmonies or color blends.

Fountain fill (F11): Fill an object with a gradient of color or shades.

Artistic Brush tool

Add artistic brush, spray and calligraphic effects by using free hand strokes.

- To draw with the artistic brush tool or Artistic media tool, drag along the path you want as with a pencil on paper.
- To choose a drawing mode, click the appropriate button on the property bar.
- To specify settings for the drawing mode you have chosed use the controls on the property bar.

If you are using the mouse press the up arrow or down arrow to simulate changes in per pressure and change the width of the lines.

Pattern fill/texture fill

Apply a preset pattern fill to an objects to create a custom pattern.

Texture fill

Apply preset texture fills to objects to create the illustrations of a variety of texture such as flower, leaf, lines, stripes etc.

Make croquie

Guide lines use to create a figures. So we have to select the guide line from the ruler using corel draw software. First we have to set it to the lengthwise and width wise of the guide line. After that we will make a face and neck using ellipse tool. Put the point to create a croquie and shape to the croquie using shape tools. After that give fleshing to make croquie.

Fill the color on croquie

Fountain fill tool used for skin color as deciding required. Drape a dress to croquie.

Bezier tool or free hand tool used for draw a basic layout of the dress. Fill the details with the help of Bezier or free hand tool.

Design accessories

Objectives: At the end of this lesson you shall be able to
- **explain about design accessories using corel draw tools.**

Design Accessories

Bezier tool or free hand tool used for draw a basic layout of the design. After that convert the shape into shape of accessories. Edit the basic pattern according to your choice. Fill the colour or texture used by fill colour tool or texture the colour tool. Put some details with the help of bazier tool. Same procedure is followed by the all accessories like purse, shoes, bags, hats and caps, belts, bangles, neck chains. etc,. So we can create a new pattern (accessories) as per choice. Different types of texture and pattern fill colour are there in corel draw. If you want to single colour used fill colour tool. We can formed shades, gradiants,tints of the colour. So that the corel draw software is very useful for designers.

Rendering of different types of fabric

Objectives: At the end of this lesson you shall be able to
- **state introduction to Rendering Effects**
- **explain the method of sketching different types of fabric textures and patterns**
- **state about fabric rendering according to weight, fall and opacity.**

Introduction to Rendering Effects: Rendering effects, usually with the use of pencils, pens, help conveying different surface textures for fashion illustration with lines dots, dashes, and various shapes, we can create the surface texture of fabric (prints and weaves). We can convey the texture of knits, leather different embroidery smoking etc.

Patterns and prints: Sketch in the main features of the pattern and fill in the areas with the lightest colour, loosely following the pattern and leaving the remaining patterned are white. Build up the pattern by repeating this with the next darkest colour and so on. Leave highlighted are white or lighter than the rest of pattern. Bring up fine details by outlining with a fine black or coloured pen or pencil.

Checks and stripes: Folds, tucks, pleats, darts, body contours, design lines and panel lines distort the direction of the stripes or check, so this needs to be shown. Horizontal stripes follow the flow of a hemline, so start from the bottom and work up. Build up a check or plaid by starting with the lightest coloured stripes and adding darker colours either horizontally or vertically.

Fur: Furs are bulky, so round off edges, cuffs and collars and make the garment thick and luxurious on the figure. The treatment depends on the type of pelt. Some such as lynx, are long and fluffy, white other, such as mink, are smooth and sleek. Fur is treated somewhat like hair. The mass is built up by background shaping, and the effect of individual hairs is added last. Keep the direction of your shading and lines controlled so that the fur looks sleek and well groomed not tangled and matted.

Most furs show where the edges of the pelts are joined, so lightly shade these broad lines.

Apply distinguishing markings like stripes, spots or coloured flecks as flat loose shading, and indicate darker shadows in the few plush folds a fur has leaves plenty of white space to create a light any feeling.

Soften all edges so they look fuzzy and the indicate the hairs with short flicking lines. A dry paints brush with gouache is effective for fur.

Denim and Leathers

Rendering effects are further used on the illustration of garments/apparel. A denim fabric can be distinguished from a fur just with the use of different lines /dots.

A leather surface can be distinguished from knit surface just with a difference types of lines used.

Rendering of fabric

Rendering of fabric can be done with the help of pencil, pens, crayons etc,.. per the weight of fabric. There are three types of fabric as per weight of fabric for illustration of fabric.

Light weight fabric

Light weight fabric are soft in texture, slightly transparent to illustrate light weight fabric we can use the medium of pencil crayons or water colour

Medium weight fabrication

Med weight fabric can be rendered with the help of poster colour or thick texture effect of pencil crayons

Heavy weight fabric

For illustrating the heavy weight fabric like corduroy, velvet, denim. We can use the medium of poster colour. We can accentor like fevicol or gum to give a thickness effect.

Rendering Fabric according to opacity

Rendering of fabric for designers is very important as we have to allegories of fabric as per opacity. one is opaque and other is transparent.

For showing opaque effect in any rendering we have to use either of the medium for eg:

1 Poster color

2 Pencil crayons

3 Wax crayons etc.,

For giving Transparent effect: Transparency is required for many of the garments design to create a transparent effect we can render it through water color medium or stealer color with very light use of color.

Rendering of fabric according to fall fabric

drapes and falls are equally important for any design

To render fall of heavy weight fabric we must know that there are very few falls or folds created in heavy weight fabric. so it can be created with the help of poster color or stealer colors.

To create folds or fall in medium weight fabric such as cotton, linen etc,,.. We can use the medium of poster color as well as water color or stealer colors also.

To illustrate the folds or falls in light weight fabric only water color medium can be used always this to give deep folds as very good fall can be fall in light weight fabric for eg. chiffon, net, etc,,.

Neckline sketching

Objectives: At the end of this lesson you shall be able to
- **explain different types of necklines**
- **explain different types of collars**
- **explain different types of collars with lapels.**

Different types of Necklines

Necklines are the prime part of a garment. A beautiful and properly finished neckline will automatically attract the others because of its top portion of the garment with easy visibility. There are different types of necklines are available and we have to select the type and shape of the neckline according to the style, age, sex and occasion while designing the garments. The different types of necklines are Basic neckline, 'U' neck line, Scoop, Square, Horse shoe, Built-up or Funnel, Sweet heart, V shape, Wide square etc.

If the bodice of a garment is extended round the neck to form straps and a fastening, then it is called as Halter neck. In this type, there is usually only a band of fabric across the back. Bateau, Slashed, Sabrina are the examples for wide neck lines. In One shoulder neck type, an asymmetrical neckline is used where the garment is supported by strapping on one shoulder only. The other portion is bared. If the neckline with a slit at the front or the back which is faced and fastened, edge to edge, then it is called as key hole neck. The neck edge is fastened with a single button and Rouleau loop.

Scalloping effects are used in scalloped neck line for decoration. Sometimes, a slit that has an elasticated insertion is used in neck line, then it is called as Inset neckline. In Envelope types of necks, a wide neckline where the back overlaps over the front and is usually made from a knitted fabric and trimmed with a fine rib.

Cowls are also used in the necklines. A draped neck line, usually cut on the bias to create more soft folds of draping in wide cowl necklines. This is a wider and very draped cowl from a funnel or built up type neckline.

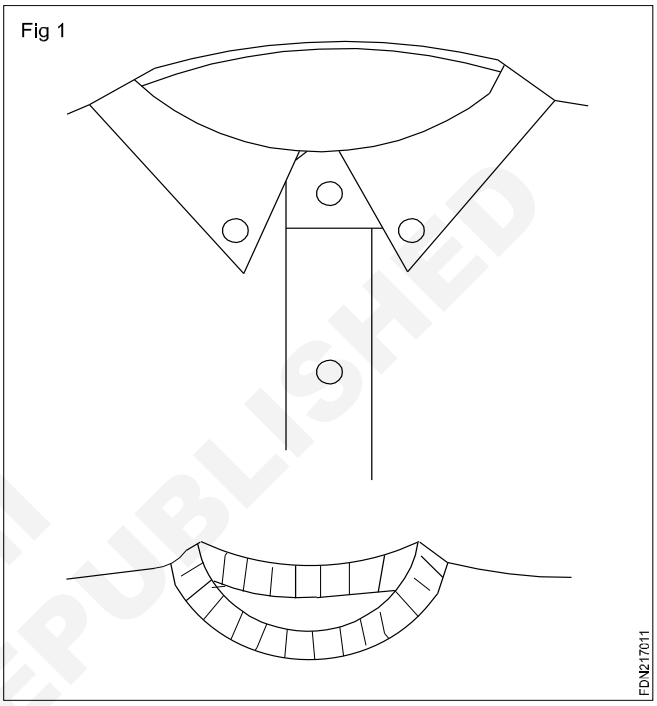
Different types of Collars

A Collar can be defined as the head part of the garment which added to the neckline in order to enhance it's appearance. It is also used to cover the neckline of the garments. (Fig 1)

In straight band collars, a strip of fabric encircling the neck. If a wide piece of fabric, usually knitted or cut on the cross, that folds back to form a roll neck collar, then it called as Polo Collar or Turtle neck Collar. Mandarin or Nehru collar is an oriental collar that is straight band, but that opens at the front and has curved edges. Also popular in India but generally the edges are straight rather that curved. But in Cossack collars, a narrow band around the neck that is fastened on one side. It is similar to the asymmetrical straight band.

Shirt Collars are also important one in the types of Stand Collars. It has two parts, Collars and Band and the fold over collar that is supported by a stiffened stand. If the Shirt Collar has buttonholes near the collar points, then they are called as Button down Collars. The buttons are applied at the collar points for decoration.

Fig 1



Peter Pan Collar is one of the flat types collar which has a flat, curved shaped collar with no stand. Convertible collars are straight, pointed collars, which can be worn open or closed. There is only one seam at the back of the neck. It is seen most frequently on shirts or blouses.

Bow or Tie collar is a soft collar that has extended ties for fastening and tied in a soft bow. Frills or ruffles used in Cascade or jabot collars which attached to the front of a garment. If the collar has a wide neckline supporting a fold over collar that overlaps at the front, then it is called as Portrait collar. Puritan, Bertha, Perrot are the other important notable collar types in fashion designing.

Different types of Collars with Lapels

The front placket with facing folding towards the Front in a line from neck point to a point in Centre Front called as lapel line and the turned part is called as Lapel. In the different types of Collars with Lapels, Shawl is a long, roll back collar that follows the line of a jacket or coat that is cut as a 'V' and then wraps over to fasten. There is a seam at the back neck. If the Shawl with a notch cut out to create shaping, then it is classified as Shaped Shawl. Tuxedo is similar to the shawl collar, but here longer and usually made from a contrast satin or silk for use on evening wear.

The revere is formed by the folding back of the lapel. The lapel is faced to form the top collar, the under collar on the lapel being an extension of the body of the garment. The

top and bottom collars that wrap around the neck are two separate pieces. If the revers are in shaped form, then they are called as Fish mouth Revers, Clover Revers and L-Revers according to the shapes and curves of the lapels.

Italian Collar is similar to the convertible collar and popular in Italy on suits. In Sailor Collar varieties, a V-shaped neckline with a collar with a deep, cape-like, square back, usually trimmed with contrasting braid are used. In Chelsea type, a V-shaped neck with a straight collar set in that meets at the front.

Collar: It is the part around the neck of a shirt, blouse, jacket or coat, either upright or turned over.

Convertible collars : A convertible collar is a type of collar that can give a garment a rather versatile look. Found in garments with front openings, this is a collar that can be worn in either of two ways, in an open style and in a closed style. Convertible collars are attached to the garment neckline, and the collar facing, which incorporates the raw edges of the material during the sewing process,

Non convertible collars: closely follows the actual shape of the neckline. This type of collar will stay in place when the garment is not buttoned. The most common example of a non-convertible collar is the Peter Pan collar. The Peter Pan collar is drafted from the shape of the front and back neckline seams.

Collars typically fall into five main categories

1 Stand Collar: collar that has no fall or roll. It stands straight up from the neck edge. Examples include the mandarin or Nehru.

2 Flat Collar: (also called non-convertible) the neckline edge of the flat collar closely conforms to the neckline edge of the garment. When the garment is unbuttoned, the collar stays in place. The Peter Pan is an example of a flat collar.

3 Rolled Collar: collar that has both a stand and fall integrated into the collar. The shape of the collar's neckline edge that attaches to the back neckline of the garment determines the amount of "roll" a collar will have. In general, the straighter the neckline edge of the collar, the greater the amount of roll at the back neck. Examples include the convertible or shirt collar.

4 Shawl Collar: collar that is "cut on" or connected to the bodice.

5 Notched Collar: two piece collar attached to a "cut on" lapel.

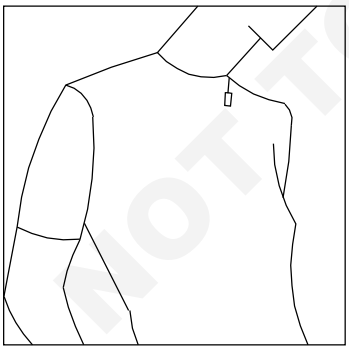
Sleeves sketching

Objectives: At the end of this lesson you shall be able to
- **explain different types of sleeves**
- **explain different types of sleeves with modified armholes.**

Different types of sleeves

Sleeves are the important parts in a garment which covers the upper limbs of the human body. There are different sleeve types are available. The normal plain sleeve has been illustrated in Fig 1.

Fig 1



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Set in sleeves are shaped around the arm and has a seam on the underarm. The top of the sleeve, the sleeve head, is curved to accommodate the roundness of the shoulder. The shoulder is constructed and then 'set into' the bodice. Puffed sleeves are set in sleeves that has fullness at the sleeve head and base. It is set into the bodice and controlled at the base by a cuff or elicitation to give a 'puffed' effect. If the puff sleeves whether short or long, with a drawstring to draw the sleeve to the desired size then it is denoted as drawstring puffed sleeve. The drawing up forms a small frill at the hem of the sleeve. Here the head is not gathered. Mamaluke Sleeve or Virago sleeve is a long, full sleeve, that is partitioned into five, full sections. The five sleeve parts are drawn and seamed together to fit around the arm.

Leg 'O' Mutton Sleeve is a full, gathered sleeve head is set into the bodice and the long sleeve tapers to fit towards the wrist. Bishop Sleeve is the reverse of the leg of mutton - the top part of the sleeve is fitted and then flares out towards the wrist where the sleeve is gathered onto a cuff. Short Lantern sleeve is a short set in sleeve constructed in two parts. The top part flares slightly from the sleeve forwards the bottom part. The bottom part flares towards the top and ends just past the elbow for giving a short lantern shape.

Bell sleeves has the upper part of the sleeve fits the arm, the lower part flares out into a full, bell shape with short sleeve length finishing around elbow length. In Frill types sleeves, the upper part of the sleeve fits the arms, the lower part has a deep, gathered frill attached at about elbow length. If the sleeve is cut without an underarm seam and is shaped and folded on the upper arm, then it is called as Petal or Lapped Sleeve. In Cape Sleeves varieties, a full, flared sleeve that is set into the armhole. The sleeve could be cut as a circle to give more flare at the hem.

If the shoulder is extended and shaped around the shoulder in a sleeve, then it is called as Dropped Shoulder Sleeve. There is more shaping and the extension is usually longer; also a sleeve is actually set into the armhole. The sleeve construction is modified by removing that part of the head that is now covered by the extension to the shoulder. The sleeve head then looks less curved. Two piece tailored sleeve is a shaped sleeve that has a seam down the front and the back to allow for shaping. There is no underarm seam, consequently the sleeve is constructed in two pieces.

If the Sleeve reaches half way between the elbow and the wrist, then that is called as Bracelet or Three quarter sleeve. Shirt Sleeve is an important sleeve type with two pleats at the buttoned cuff and a placket which normally used in men's shirts.

Different types of Sleeves with modified armholes

Apart from the regular sleeve styles, the armhole modification creates lot of new sleeve styles. In these important types, Raglan sleeve is derived from the Set in Sleeve but with the shoulder added to the sleeve head. It was named after Lord Raglan who led the Charge of the Light Brigade in the Crimean war and wore Raglan Sleeved Jackets. The sleeve is cut in one piece and the raglan is extended to accommodate the top part of the bodice, achieving a 'yoke' effect. There is a seam along the top edge of the sleeve and at the underarm. Peasant sleeve is a full, short sleeve that is attached to a full bodice with a raglan effect seam. The garment is drawn in with elastic or a drawstring at the neck and at the sleeve hem. There are many variations to this theme.

The armhole is shaped like a square with a right angle at the corner in Square Armhole sleeve types. The construction is as a set in sleeve. Dolman Sleeve are also notable one. In these styles, the shoulder seam extends through the top of the sleeve and the underarm seam follows from the side of the bodice through to the wrist. There are no other seams and any shaping is made from these two. Sometimes, the dolman sleeve has a gusset set under the arm to allow for more 'lift'.

Kimono Sleeve is a long sleeve that is a complete extension of the bodice to the wrist. The seam lines are along the top of the sleeve and at the underarm. A traditionally Japanese sleeve used on the garment with the same name. Batwing sleeve has the same principle as the kimono. This sleeve narrows towards the wrist and has a curved underarm seam.

In capped sleeve types, an extension of the shoulder just covering the shoulder point are applied. In strapped or Banded Sleeves, from the neck point to the wrist is a narrow band of fabric giving a strapped effect. In Epaulet and Elbow patch sleeve type, a strap or tab on the shoulder, normally seen on uniforms, to carry caps. Here there is also a patch on the elbow to protect the garment and prolong its life in heavy duty use.

Yokes sketching

Objective: At the end of this lesson you shall be able to
- **explain the uses of yokes.**

Yokes

Yokes are one types of decoration to a chess to hold gathers or pleats at one point.

A yoke can be seen on the bodices and skirts of the dress. It can be at the front or back of a dress especially on female costumes, but occasionally. These can also be stitched on male garments.

It is made of contrasting fabric or the same fabric cut on different grain lines. It is a utility purpose.

Different types of yokes are

1 Round yoke
2 'U' shaped yoke
3 Triangular yoke
4 Straight yoke
5 Innovative yoke
6 Pointed yoke
7 Saddle yoke

Gathers sketching

Objective: At the end of this lesson you shall be able to
- **explain gathers.**

Gathers

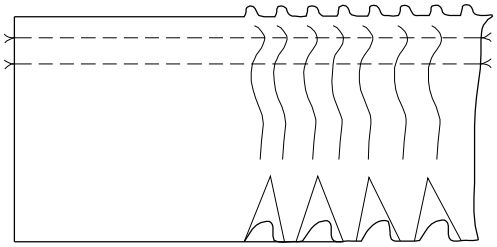
Gathers are used in different way in a garment. It is used on yoke, sleeve, skirt, pockets cuff.

Gathers are used to reduce the consumption of a fabric at a particular place. It is reduced to ½ of the material consumption.

Gathers give good effect to a garment. It depends on the fabric selected to be gathered.

If the fabric is light weighted them the gather are very closely and softly draped formed, if heavy fabric then dap and bold gather are formed. Always follow the flow of the fabric or length wise grain to form gathers which would give good effect to the design also try to work gather on different fabrics which will give you different effect. Gather are constructed by giving two long stitches on one side and gather pulled will give the effect. (Fig 1)

Fig 1



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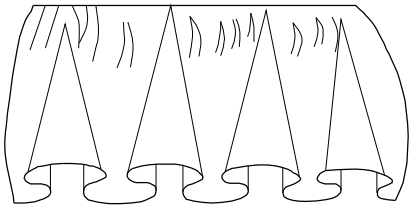
If done an cotton or heavy fabric the effect is shown in below. (Fig 2)

Fig 2



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When in this fabric. (Fig 3)

When in softer fabric. (Fig 4)

To start to sketch designs in sketch book with fashion note.

Do the design work.

Fig 3

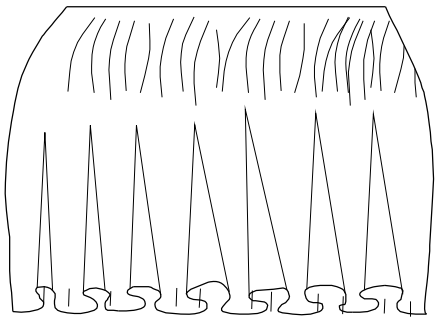

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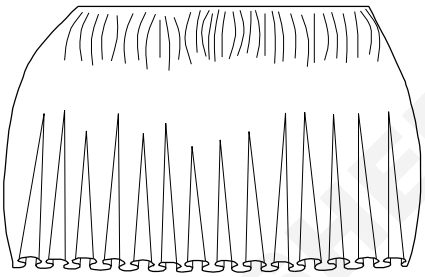
Fig 4



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Pleats sketching

Objective: At the end of this lesson you shall be able to
- **explain pleats.**

Pleats

These are folds of a garment and are used in detailing. Pleats give movement. It may be stitched on one side or both sides as required by the design. At some places pleats gives an elegant look to the garment and some times can be put in use.

In sketching drawing few lines and curves direct the effects of pleats are named accordingly. Very small pleats are accordion pleats, slight bigger pleats facing one side in knife pleat. The same pleats facing each other in box pleats. The reverse of box is called inverted box pleat.

These pleats are offer used in casual and children war.

Ties

Objective: At the end of this lesson you shall be able to
- **explain different types of ties and bows.**

Ties

A piece of string, ribbon, cord, etc., that is used for fastening, joining, or closing something.

Ties, either in the garment fabric or in contrasting novelty braids can be used to secure garments. Ties are adaptable to both casual and dressy styles. Ties are popular on ethnic garments. Ties give a complete look.

Types of Ties

1 **Cravat:** the officers of Royal Cravattes regiment were wearing brightly colored handkerchiefs fashioned of silk around their necks. These neck cloths struck the fancy of the king, and soon made it a sign of royalty. The word "cravat" is derived from the croate.

2 **Four-in-hand:** Four-in-hand ties are generally made from silk or polyester.

3 **Six-and seven-fold ties:** A seven-fold tie is an unlined construction variant of the four-in-hand necktie which pre-existed the use of interlining. A six-fold tie is a modern alteration of the seven-fold tie. This construction method is more symmetrical than the true seven-fold. It has an interlining which gives it a little more weight and is self tipped.

4 **Skinny Tie:** A skinny tie is a necktie that is narrower than the standard tie, and often all-black. Skinny ties have widths of around 2 2 inches at their widest, compared to usually 3-4 inches for regular ties.

5 **Pre-tied:** The "pre-tied", or more commonly, the clip-on necktie is a permanently knotted four-in-hand or bow tie affixed by clip or hook, most often metal and sometimes hinged, to the shirt front without the aid of a band around a shirt collar.

Hats and caps sketching

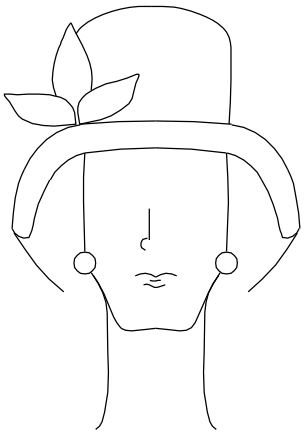
Objective: At the end of this lesson you shall be able to
- **explain drawings of hats and caps.**

Hats and Caps

It is important for a designer to think of a shape which should be neat complete look.

Hats drawings should be light colour and making sure that hat surrounds the head. While drawing hats draw simple few lines to indicate the shape as shown in Fig (1)

Fig 1



Head gears are made up of a variety of materials like wool, feather, cane, Plastic wires, Trends, fabric wood, rubber board etc. So we should give a difference texture and stroke from the drawing.

Types of Hats and caps

1 **Ball Caps:**: As a general rule, if it has a front facing brim and panel construction, it is a ball cap. Ball caps include fitted, snapback, strap back, flex fit, trucker and 5-panel styles.

2 **Fitted:** Fitted hats are standard baseball caps, made from 6 cloth triangles and topped with a fabric-covered button called a, yes, this is the real word, squat chee.

3 **Snapback:** Snapbacks use plastic snaps to adjust the diameter (size) of the hat. Snapbacks can generally be found on truckers, baseball, and old school Starter style hats.

4 **Strap back:** Strap backs overlap with traditional 6-panel and 5-panel hats. They are similar to snapbacks, but instead use an adjustable leather or poly band to adjust the head diameter.

5 **Flex fit :** These hats were all the rage in the '90s (expect to see a resurgence soon). They are made out of a "poly-weave spandex" and stretch to fit your dome.

6 **Trucker:** Trucker hats were originally used by truck drivers and farmers. Truckers are made with mesh and foam instead of the sweat-magnet called cotton and are generally snapbacks.

7 **5-Panel:** Five-panels are a descendent of cycling caps. Usually, 5-panels are made with a strap back style closure for adjustability. They are made with different construction than a standard ball cap - two top panels, two side panels and a front panel compared to the standard 6 triangle constructions.

8 **Beanie:** Beanies keep your head warm and the hair out of your face.. Skullcap style beanies are tight fitting and give off a tough vibe; they should be accompanied by at least one facial Roll up beanies do what they sound like they would and are quite versatile;

9 **Fashion Hats:** Fashion hats include fedoras, cabbies and bowlers, to name a few. Generally, they are less casual and go well with a collared shirt. The longer and potentially wrap around brim is designed to protect you from sun or rain.

a **Bowler (Derby):** Charlie Chaplin loved the bowler. It has been popular in the Americas for over a hundred years, worn by the good, the bad and the ugly. The Bowler is defined by its close fitting brim and low crown.

b **Cabbie (Ascot):** The Ascot is a firm, rounded short cap, usually made of wool or felt. It is also called a cabbie due to its historic use by cab drivers.

c **Fedora:** Typically creased down the center of the crown, fedoras have a medium sized brim extending all around the hat for optimal wear protection and Depression era sneeze.

d **Beret:** It is a soft, round, flat-crowned hat, usually of woven, hand-knitted wool, crocheted cotton, wool felt, or acrylic fibre

e **Panama:** A Panama hat is a traditional brimmed straw hat. Panama hats were made from the plaited leaves of the palmate plant, known locally as the tequila palm

f **Viking:** It often included chain mail for body protection and a cap or helmet.

Pockets

Objective: At the end of this lesson you shall be able to
- **explain different types of pockets.**

Different types of Pockets

A Patch pocket is the basic type pocket and is pressed and sewn on to the exterior of a garment. And it can be constructed with a box pleat to create more space within the pocket in the Patch with Pleat style. Shirt Pocket is normally a breast pocket placed on any kind of shirt but usually a work shirt. It is a patch pocket with a shaped bottom and a turned back and top-stitched welt effect at the top. In **Patch** with **Flap type**, the patch pocket is finished with a flap, the same width as the patch and stitched above the patch, to cover the opening. It is finished with a button or stud fastening. **Double pocket** is a patch pocket that is layered to create two pockets. The zipped top is the entrance to one pocket and here the left side is the entry for the other. In **Bucket type**, a patch pocket cut with flare at the top, like a cowl neck, and applied to the external surface of the garment. It creates a draped silhouette.

Jetted pocket is constructed by cutting through the garment to the required length of the finished pocket, then the edges are bound and a pocket bag attached to the back of the garment. Welt pocket is Similar in construction to the jetted pocket in that the garment is slashed to the length of the finished pocket and a folded and bagged out piece of fabric, the width of the finished pocket, plus seam allowance, is set into the slash and stitched up the sides. The extended flap is stitched down at the sides and covers the pocket opening. In post box in patch type, the patch pocket and jetted pocket combined in that the entrance to the pocket is through the jet, the patch being stitched all the way round.

In **side seam pocket** the pocket is set into the side seam of a garment. In curve Inset pocket types, the pocket is constructed as part of the front of the trouser or skirt, the back of the pocket is also part of the construction. The back of the pocket bag is and extension of that part of the garment, the front of it is effectively a facing to the front part of the garment. The slanted inset type is similar as the curved inset but the shape of the pocket is that of a slant instead of a curve. Ticket pockets are introduced to carry railway tickets around 1860 in European countries. The ticket pocket is frequently seen on denim jeans. Cargo type of pockets are applied to the waist of jeans or dungarees. The belt passes through the top of the pocket.

Epaulet pocket is similar to the hidden in seam pocket and used in body garments. The seam being part of a raglan sleeve and set close to the shoulder. Consequently, the pocket has the name epaulet, i.e. shoulder ornament.

Cascades sketching

Objective: At the end of this lesson you shall be able to
- **explain different cascades.**

Cascades

Cascades is useful for portraying the look of the dress. Cascades are falling from cutout necklines or inserted into sleeves and other types of garment.

The cascade is one of the skirt pattern. The drapery pleats end near the princess lines on the opposite side of the skirt or can end at the side seam. The drapery pleats and their placement can be varied by the same instruction.

The fold of the radiating pleats can be made to fold up or down by changing the shape of the pleat underlay.

Belts, Ties & Bows

Objective: At the end of this lesson you shall be able to
- **explain belts and its uses.**

A belt can help the garment look better because a belt will fit the garment to the body. A belt is a one of the decorative accessories.

A shift dress with a belt gives the customer the option of belting the dress or wearing without defining the waist. Defining the waist with a belt goes in and out fashion. A small waist is very fashionable in the 1940 s and 1950s.

The average waist measurement for a size 10 was 24 inches. A loose dress with no definition (the chemise) in 1960. Manufactures found that women's waist lines had expended. A size 10 waist line had increased by 2 inches to 26 inches.

There are three major shapes for belts (Fig 1)

1 Straight

2 Contour

3 Tie

Ties

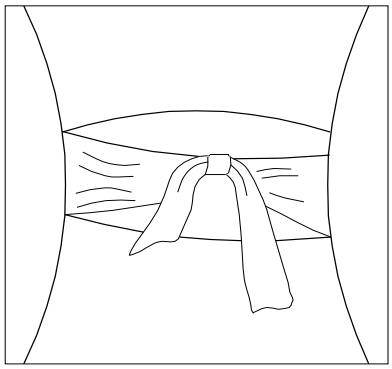
There are several types

1 Straight tie belt

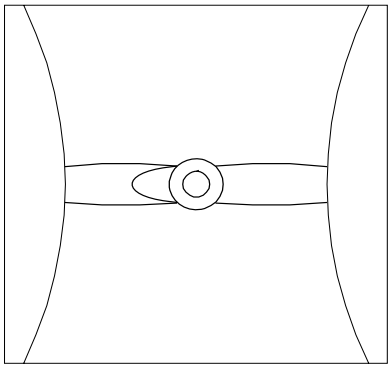
2 Spaghetti ties

3 The bias belt

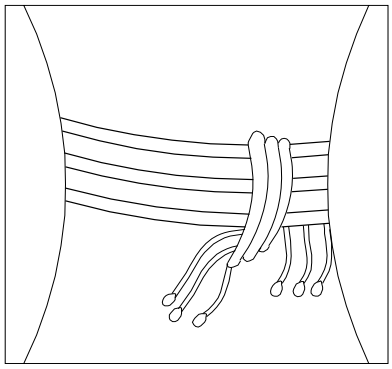
Fig 1



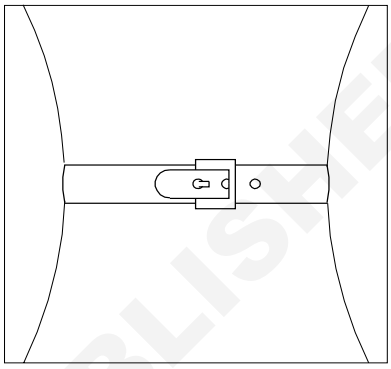
BIAS TIE



CON TOUR



SPAGHETH TIE



STRAIGHT BELT

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Straight tie belt

Straight tier belt is cut on the straight grain. It cannot be too wide unless the fabric is very soft. This belt might have a light inter facing. So that it knots Gesphy when tied.

Spaghetti ties

It is a long narrow cords covered with the garment fabric. It is made up of plastic or leather. The ends can be finished with a knot or a novelty finish.

Bias belt

Bias belt cut on the flexible grain of the fabric. It has a soft bow. Similar to a scarf. A biar belt can be wrapped the waist several times for dramatic effect and this is costly. Because it user a more fabric than a straight belt.

Style lines

Objective: At the end of this lesson you shall be able to
- **explain style lines.**

Lines helps to co-ordinate a group of styles. That's why styles finally presented reflect a theme. This range of collection is called an assortment. An illustration of a line of garments for a particular theme, season, collection, and client, can all be represented through creating a line of garments.

Lines is one of the most important functions of a fashion designer. A fashion show collection is presented initially through a line. Fashion industry, the initial collection in presented in a line. Any changes, if needed can be made in the line illustrated. Fabric swatches also accompanied along with the illustration.

Style lines

Princess line is the name commonly given to panel lines that go through bust point, absorbing the dart value into the panel line. The panel line commonly curves from the armhole, down to the waistline through bust point, or from the center of the shoulder down through bust point to the waistline.

These seam line shapes are often then reflected in the seam lines of the back pattern pieces, so that on both front and back pattern pieces the panels curve into the armhole, or both panels meet at the shoulder.

A style line is a seam in a garment made primarily for the purpose of its visual effect, rather than for the purpose of shaping of structuring the garment. By contrast, a dart or pleat by itself would not be considered a style line because although each can be used to produce a pleasing visual effect, their main purpose is to shape the garment by taking in ease or adding fullness respectively. Clearly though,

there can be some ambiguity as when a dart is made as part of a seam which continues beyond the dart point. If the seam beyond the dart is straight, that is, not effecting the garment's fit, it would be considered a style line.

Two types of lines are

1 Items lines

2 Group lines

Items Line: Item lines are those hot items selling in a store without a co-ordinated group.

Group lines

Group lines are organized fabric groups. The types of lines and the important of fabric. Some garments are designed for each fabric. In a line, a designer offers mere selections than an average buyer will buy. All pieces are not sold so the line should have enough number of pieces to give the buyer a choice. Sometimes a designer tries an outlandish idea, to attract customer's attention.

A Story or styling theme is best done by designing similar items in are fabric and a story style story is easier to advertise. The cost of the groups, greater variety of price and the types. Styling can be incorporated. The most seasonable fabric group can be cut first and second the late season fabric.

A princess line or princess dress describes a woman's fitted dress or other garment cut in long panels without a horizontal join or separation at the waist. Instead of relying on darts to shape the garment, its fit is achieved with long seams and shaped pattern pieces. A rarely used alternative name for the Princess line was French-dart-line dress, after the specific darts used in its construction.

The waistline is the line of demarcation between the upper and lower portions of a garment, which notionally corresponds to the natural waist but may vary with fashion from just below the bust to below the hips. The waistline of a garment is often used to accentuate different features. The waistline is also important as a boundary at which shaping darts (such as those over the bust and in the back) can be ended.

1 Diagonal line

2 Drop waist

3 Raised

4 Natural

5 'V' shape

6 Inverted 'V' shaped

7 'U' shaped

Fashion drawing

Objectives: At the end of this lesson you shall be able to
- **explain fashion figure.**

They are three types of figures

1 Stick figures

2 Block figures

3 Flesh figures

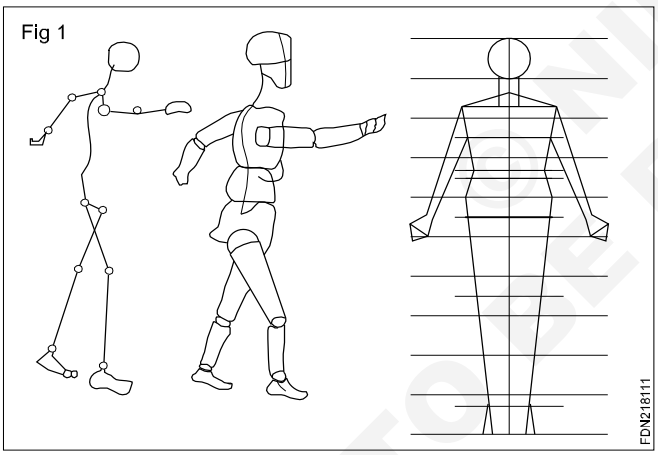
1 Stick figures

A stick figure is a very simple type of drawing made of lines and dots. In a stick figure, the head is represented by a circle. Sometimes embellished with details such as eyes, mouth or crudely scratched out hair. The arms, legs and torso are all represented by straight lines.

Adopt stick figure to block the figure

Block -style figures marked by a generally simplistic representation of the human form, usually made of block. Shaped append eyes and torsos. Generally, the block-style figures are easily drawn with the support of stick figure. (Fig 1)

Fig 1



Develop block into flesh figure: The block forms of the image will help to work out the problems of pose and proportion. Here to draw a flesh figure you will need a support of block which helps to underlay a structure of bones and muscle. Develop the flesh of a human figure keeping the block as a base.

Fashion figure poses

Fleshed fashion figure in a one type of figure. It is popularly called a croqui. Croqui can be made in front, back, side, ¾ view. Croqui with its various poses in the most effective medium for fashion illustration.

Thin layer of flesh in added all over. Curved lines replace the straight, diagonal lines and sharp points are replaced by curves.

While fleshing the figure, one must understand the human anatomy, and put thin layer of flesh on bony parts of the body and give shaper to the upper arm, bust, thighs as illustrated.

Fleshing of front, side, ¾, and back of block fashion figure should be done. One must make poses of upper and lower torso of the fleshed body. Again keeping the weight of the body line in mind, an illustrator can make a varied poses.

Draping

Objectives: At the end of this lesson you shall be able to
- **explain principles of draping**
- **explain method of draping**
- **explain draping techniques.**

Principles of draping

Draping is a method of creating original design using commercially produced patterns. This method is called draping directly work with the fabric and avoid the paper pattern stage. Flat pattern drafting is very useful to create a draping method.

Draping directly on to the human figure is the method of designing. The designer is free to translate an variety of ideas into finished garment.

Different type of fit can be developed to the current fashion figures (silhouette)

Ideas also can be created, adjusted, adapted from the figure.

Draping method requires imagination, good creative sense, balance and inspiration, appreciation of the behaviours and quantities of fabrics and fibres.

The fabric in directly apply to the figure and the design in created by pinning, shaping and cutting the desired style and fit of the dress form.

Home dressmaker, draping teaches are connected with the fabric, figure and fashion.

Fabrics and style

The professional designer can design by draping method with all types of fabric and styles.

The soft handling quality fabrics are chiffon, grape, lace, velvet, lightweight wools, jerserys, soft cottons etc. Fibre is not important and materials made from man-made from man-made fibres can be used.

The professional designer are used actual fabric of the garment for draping on the figure or a chess form.

The designer may experiment first on a half-size of the form because they are using expensive fabric.

In initial practising the beginner to do the trial shaping in an in expensive fabric like muslin, mull, light weight cotton, un bleached calico or old sheeting are all suitable.

The designer should analyse the characteristics of the garment fabric like the fineness of chiffon the pile of velvet etc.

The beginner might use soft paper or newspaper It can provide an economical way of gaining experience. Paper should be used for practising not for place the designing of an actual garment.

Equipments used for draping

1 Tailor chalk

2 Pins

3 Blue and red pencils or felt pens

4 Needles

5 Measurement tape

6 Tracing wheel

7 Tracing paper

8 Ruler

9 Thread in several colour

10 Padding and wadding

11 Foam rubber.

Dress form

A dress form is useful piece of equipment and drape garments for yourself. It is in valuable for experimenting and practising when draping a garment for some one. It possible to do the work directly on the figure.

A dress form enables work to be done without haste or fean of tiring the model.

Several types of chess form are available in the market.

The cheaper card board or chipped -wire- mesh forms are not suitable for draping. A solid form is very suitable for draping. It is better to buy a slightly smaller than the figure measurements and increase it to individual proportions by padding out a covering based on adjusted basic pattern.

Method of draping

Draping is fabric on the dress form is a method used to create three dimensional models. It is developed into a collection of finished sample garments. Draping method is used in muslin. The designer should know the properties of the finished garment. The hand, construction, weight, and surface finish all give to the final effect of the design. Some fabrics are draping the garment pattern directly in the fabric of the finished garment. This method is used only for experienced designer. Because the cost of most fabric makes mistakes and expensive.

Muslin is a plain weave unfinished cotton fabric. The direction of the grain is muslin is visible and low cost use for experimentation and development. Muslin able to marked with pencil line and the finished muslin pattern. Muslin pattern can be used repeatedly.

Garments have been draped on the dress form. The muslin pattern used to stitched and adjusting the fit on the human body.

Grain

Length wise grain is called warp and width wise grain is called weft of fill.

Length wise grain

1 Length wise grain is a parallel to the selvage.

2 It is a strongest grain

3 Length wise grain is a least amount of stretch

4 Falls easily along the lines of the body.

Width wise or cross wise grain

1 Cross wise grain in perpendicular to the selvage.

2 It is a weaker yarn

3 More stretch than the lengthwise grain.

Bias

1 Bias is a diagonal is across the weave of the fabric

2 More stretch than the lengthwise and width wise (Cross grain) of the fabric.

3 Fabric is cut off grain at any angle to garment bias.

4 Fabric is cut at a 45 angle to the width wise and lengthwise grain to the true bias

Draping techniques

1 Tearing

2 Blocking

3 Pressing

Tearing

1 Estimate the seam allowance, extra fabric for ease, and styling for the size of muslin.

2 Clip edge of muslin with scissors and tear across the grain with limited pressure to break yearns evenly.

3 The true crosswise grain or length wise grain should form the edge of muslin for draping. Because the selvage is closely woven and hold in the muslin throw the weave off center front and center back should be planned at least 3 inches from the selvage.

Blocking

1 Blocking is a before draping. Muslin may be reshaped that way yarn of the crosswise and lengthwise grain are at the perfect right angles. Muslin should reshape, pull the edges diagonally until the fabric is squared.

Pressing

1 The position of the yarns is set with the steam and heat of pressing. Because the fabric has been blocked.

2 Press should be lengthwise and width wise grain not on the bias.

Seam allowances

1 Seam allowances is depending to a large extent on the type of sewing machine used in manufacturing.

2 The conventional lock stitch machine can stitch seams of any width.

3 The width of the seam allowance difference from shape and location of the seam. Because of alteration and the selling price of the finished garment.

4 The over edge and safety stitch machines is used in knitted apparel, Sportswear, sleepwear and casual wear clothing requires for 1/4 inch to ½ inch.

Contour principle

To fit the contours of the upper closer than does the basic garment. The pattern must be reduced within the frame. To fit the dimensions of the body, above, below and in between the bust and shoulder blades.

Corollary

To fit the upper closer than does the basic garment. The outlines of the pattern is trimmed to fit the slope of the shoulder and the side seam.

Contour designs

Contour design include the empire style line, bra top strapless, surplice, cutout arm holes and necklines.

Contouring and corollary designs must be

Contour draping

One of the most comfortable and flattering shapes in fashion is the shift. Cut in are piece without constraint at the waistline, shift allows freedom of movements and camouflages the less than perfect figure.

The shift draping techniques lends to many variations in silhouette, extending from the body skimming sheath, to the slightly fitted shape, to the straight shift, and to the flared tent.

The basic technique used to drape the shift applies to draping the fitted torso which is a hip length version of the sheath. Smocks, blouses and dresses with a blouses silhouette are also developed using shift draping methods.

When a shift is shaped and fitted close to the body, it is a sheath. A sheath is cut short, ending at the hipline, it becomes a long torso. The same draping technique is used for both versions.

The A-Line shift

The shift with a slightly shaped side seam and moderate flare at the hem.

Armhole depth for basic sizes

Size	5	6	7	8	9	10	11	12
Armhole depth	5 3/8	5 1/2	5 1/2	5 5/8	5 5/8	5 3/4	5 3/4	5 7/8

The Basic sleeve

Sleeve measurement for basic sizes

Sizes	5	6	7	8	9	10	11	12
Underarm length	16	16 1/4	16 1/4	16 1/2	16 1/2	16 3/4	16 3/4	17
Biceps circumference	11 1/4	11 1/2	11 3/4	12	12 1/4	12 1/2	12 3/4	13
Elbow circumference	9 1/2	9 3/4	10	10 1/4	10 1/2	10 3/4	11	11 1/4
Cap height	6	6 1/8	6 1/8	6 1/4	6 1/4	6 3/8	6 3/8	6 1/2

Sleeve lengths for the two-piece

Jacket sleeve

Size	6	8	10	12
Sleeve length	23	23 1/2	24	24 1/2

Equipment needed

Muslin - There are three basic types of muslin:

1. A coarse weave of medium weight used by beginners because the grain is easily recognized.
2. A lightweight, finely woven fabric used for soft draping.
3. A heavyweight, firmly woven fabric used for draping tailored garments. This is also known as toile muslin.

Scissors - Nine-inch, good-quality scissors are recommended; they must be kept well sharpened.

Tape measure - The tape measure should have a smooth surface and be clearly marked in inches.

Clear plastic ruler - Eighteen inches by 2 inches, marked with squared lines at 1/4 inch intervals.

French curve - A clear plastic, irregular curve used for armholes and necklines.

Fair gate vary form curve rule - An 18-inch curved ruler that is particularly useful for shaping sleeve caps and armholes in tailored garments.

Hip curve - A shallow curved, 24 inch metal ruler.

L-Square - An L-shaped metal ruler; the long arm measures 24 inches and the short arm 14 inches.

Pins - Number 17 steel satin pins are recommended.

Key to Abbreviations
CF - Center Front
CB - Center Back
SS - Side Seam
Sh.S - Shoulder Seam
PS - Princess Seam
PP - Princess Panel
WL - Waistline
NL - Neckline

Tracing wheel - There are two types of tracing wheels. The tracing wheel with the small serrated edge is used to mark fabric for draping purposes, and the tracing wheel with small spikes is used on paper for flat patternmaking.

Tracing paper - Large sheets of carbon tracing paper should be mounted on oak tag or poster board to facilitate the transfer of lines from one piece of muslin to another. Contrasting colors may be used on muslin for easy visibility, but since these colors are indelible, they cannot be removed and should never be used when draping directly in the fabric of the finished garment.

Pencils and pens - Number 2 pencils, well sharpened at all times, are used to mark and draw patter outlines on muslin. Some designers prefer an automatic fine line pencil or a fine-line ballpoint pen for this purpose.

Style tape or graphic tape - Style tape is a narrow, woven ribbon tape, usually black to contrast with muslin. Graphic tape is nonwoven tape that adheres to paper or fabric. It is made in various widths but only the narrow width is recommended for our purpose. Either tape may be used to indicate style lines.

Indo western ladies wear as per fashion & style

Objective: At the end of this lesson you shall be able to
- **western ladies wear.**

Indo - Western ladies wear

Indo-western clothing in the fusion of western and south Asian fashion with increasing exposure of the Indian subcontinent to the western world, the merging of women's clothing styles war inevitable. Many Indian women residing in the west still prefer to wear traditional salwar kameez and sarees. Some women, particularly younger generation, choose-Indo western clothing. The clothing of the essential Indo-western ensemble is the trouser suit, which is a short Kurta with straight pants and a dupatta. New designs often sleeveless tops, short dupatta and pants with slits.

New fusion fashion are emerging rapidly as designers to produce designs in tune with current trends.

Indo-western clothing represents include wearing jeans with a choli, salwar, or kurta adding a dupatta to a western style outfit and wearing a long skirt with a tank top or halter top.

Sleeve length

The traditional salwar has long or short sleeves. An Indo western design might sleeves altogether the sleeve are replace with straps, resembling the styles of a tank or haller top. There are also poncho-styled tops and one sleeve designs that follow contemporary western trends. Raglan.

Shirt length

Indo western kurtas and salwar's trend to be much shorter than traditional worn, so that they resemble western style blouses.

Neck lines

Some Indo-Western tops are available with planning necklines in contrast to the traditional styling of salwar's and kurtas.

Fashion and style

Fashion design is the out of the application of design and natural beauty to clothing and accessories. Fashion designer work in a number of ways in designing clothing and accessories, because of the time required to bring a garment on to the market must at timer anticipate changing consumer taste.

Fashion designer attempt to design clothes which are functional. They must consider who is likely to wear a garment and the situations in which it will be worn.

They have wide range and combinations of materials to work with and a wide range of colours, patterns and styles to choose from. Though most clothing worn for everyday wear falls within a narrow range of conventional styles, unusual garments are usually sought for special occasions such as evening wear or party dress. Most clothing is designed for the mass market, especially casual and everyday wear.

Wardrobe planning

Objectives: At the end of this lesson you shall be able to
- **explain wardrobe planning**
- **state about selection and wearing of dress**
- **state about selection of colour and pattern**
- **state develop good taste in clothes**
- **state dressing according to personality.**

Wardrobe planning

A wardrobe plan is a strategy or formula for clothing needs. It can be simple or detailed, but it should be designed to own needs.

How to select and wear the dress

Having good clothes can boost attitude and give a sense of importance. Clothes can help with worn properly. The first step to confidence in self confidence.

1 Wear the right kind of clothes

Good clothing after starts with the fit.

a High collars shorten necks

b Shoes with straps shorter legs.

c Tight tops with short sleeves and breast pockets are detracting from figure.

d The torso can be shortened or narrowed with seam lines, belts, collars and bows.

e Thicker vertical lines in plaids lengthens and slims.

f A short necklace can shorter neck.

g Printer around the neck and over the shoulder can make appear wider. Wear prints near the parts of figures assets, because they are usually more eye catching than a solid colour.

h A scarf or belt thats hangs down towards the legs will make the legs appear longer. Knitted texture, lace, floras, prints, and plaids can assist in creating illusion.

i Wear a longer print where you want people to look and smaller print where you do not them to look.

j All over print can camouflage figure problems. But prints here and there can create a fuller.

k When buying pants be sure they fit well. Defects are emphasized in a pair of pants that may go unnoticed in a skirt. Depending on body types, different pants will flatter in different ways.

2 Wear clothes that will emphasize and create the illusion of a very fit body

a Wearing clothes are too tight or too big will make look bigger. So wear clothes that fit.

b Wearing too large clothes will exaggerate your figure not hide it. But never wear a shirt that exaggerates your body too much.

c Thinner fabrics are more slimming

d Avoid belts unless you have a slim waist.

e Top and bottoms of one colour will make look thinner, but be sure to do different shades of the same colour.

f Use accessories carefully looking at to many accessories will give the illustration of being too big.

3 Check the quality of clothes

Make sure the material in good quality and make sure don't sketch too much.

4 Look after clothes

Read the labels so you know how to wash, dry and iron

5 Don't just follow fashions

Choose clothes that will flatter figure and suit. Not all fashionable clothes were meant for every body. So find the clothes that are right.

How to select colour and pattern: Colour

Dressing in the right colours can improve self esteem and confidence. It's an easy way to look good, feel good and co-ordinate wardrobe.

1 Evaluate life style.

2 Choose flattering neutral or basic colours for basic clothing items.

3 Buy clothes in styles and colours that flattens figure type.

4 Work with a colour scheme.

a Choose two or three colour that look good

b As you shop if you stay in your colour range you will find everything can be worn with more than are item.

c Choose flattering neutral or basic colour for coats, suits blazers, shoes etc. Bright colours can be used in accent accessories.

d Acquire additional blending colours in tops, shirts blouses and sweaters.

Dressing according to personality

1 Complement your personal colouring, which is based on your dominant colour (eye, hair and skin colour)

2 Dress according to body shape, proportion and scale. It is important to understand how to chess to build in order to create the appearance of a balance body.

3 Dress appropriate for the occasion, how to get it right for each occasion no matter how varied they might be.

4 Dress for personality in a way which reflects lifestyle and character at work and play. It is personality which will put an outfit and look together.

5 Look current make sure that outfit does not look dated in fabrics, cuts and accessories. Nothing is more aging and drawing that wearing clothes which look out of fashion. Make sure that investment buys have a time-less look and feel, so you can adapt them to current fashion trends.

Many of us are a mix of various personalities. Remember that there are no strict ruler in dressing up. What is most important is that feel confident and comfortable, no matter the circumstance.

a **Classic -** Dominated by wardrobe basic such as shift dresses. Striped tops, ballet flats, clean and straight lines, neutral colours such as black and white.

b **Dramatic** - Make a strong statement. Style tend to be glamorous and intimidating. Use of bold jewellery and straight lines.

c **Romantic** -A love for every thing pretty and nice, delicate jewellery. Ruffles, lace, pleats, soft fabrics.

d Sporty - Easy to wear clothes like casual tees and jeans.

c Trendy - Conscious of the latest IT items.

f Electric - Mixing different styles in one. Creative people like to contrast various styles.

Three principles of basic wardrobe planning

Are strategize, organize and shop.

Strategize

Strategize are based on fashion archetype style, lifestyle

Organize

Organize are based on declutter closet, identify outfits.

Shop

Shop are based on cover key needs, consider multi purposes.

Wardrobe planning

	Outfit planner day wear				
	Top	Jacket	Bottom	Shoes	Accessories
Monday Tuesday Wednesday Thursday Friday Saturday Sunday					

Favourite outfit planner

Favourite Item	
Outfit - 1	
Outfit - 2	
Outfit - 3	

Favourite Item	
Outfit - 1	
Outfit - 2	
Outfit - 3	

Favourite Item	
Outfit - 1	
Outfit - 2	
Outfit - 3	

Favourite Item	
Outfit - 1	
Outfit - 2	
Outfit - 3	

Select the wear the dress

Objective: At the end of this lesson you shall be able to
- **select the dress & according to female figure shape.**

The female body comes in many different shapes and sizes, all of which can be celebrated. Learning how to dress your body shape is crucial to finding the most flattering fit for your silhouette (as you see fit). It's not always about wearing the trendiest outfit but really about choosing clothing that suits you the best and makes you feel confident. Dresses can definitely be a girl's best friend, ranging from dresses for an apple shape to an hourglass shape.

No matter what shape you are, they're versatile, comfortable and fun. But the first step is being able to identify your body shape. Most fall into one of four categories: pear shaped, Hourglass shaped, Apple shaped and athletic shaped.

Once you've figured out, your shape, then the next step is matching your body type to the perfect dress, style and cut. I've put together a guide and some of my favorite dresses that I would recommend for every figure: from there, it is up to you to decide which features you want to highlight or conceal (if any), Remember, the choice is always yours!

Dress for pear shape

- Usually carry weight on your hips or thighs.
- Have relatively narrower shoulders and bust in compare to your hips.
- You have a clearly defined waist. (Fig 1)

Fig 1

What to look for in a dress

Definitely consider your waist as a focal point when it comes to choosing a dress for any occasion. An open or V-neckline will help to elongate your overall look. If desired, you can also create the illusion of an hourglass figure by adding more volume (like a ruffle or puffy sleeve) to your upper body so that it balances with your relatively wider lower body. Fit-and flare is the way to go if you're looking for more symmetry with your hips or thighs.

Suitable dress for pear shaped body

1 Maxi dress

2 Shift dress

3 A-line dress

Dresses for hourglass shape (Fig 2)

- Describe your body as cur
- Have a well-defined waist.
- Bust and hip measurements are roughly even.
- May have fuller bust, hips and thighs.
- Have a rounded bottom
- Have a beautifully symmetric front and side profile. From top to bottom, your figure may be described as in harmony or balance.

What to look for in a dress

Flaunt your curves!!! since you already have a well-balanced figure, your dresses can reflect the same. Figure-hugging and form-fitted should definitely be top considerations -

Fig 2

you'll be able to accentuate those beautiful curves and follow your body line. Just be sure that the dress sits well at all the right places.

Suitable dress for a hourglass shaped body

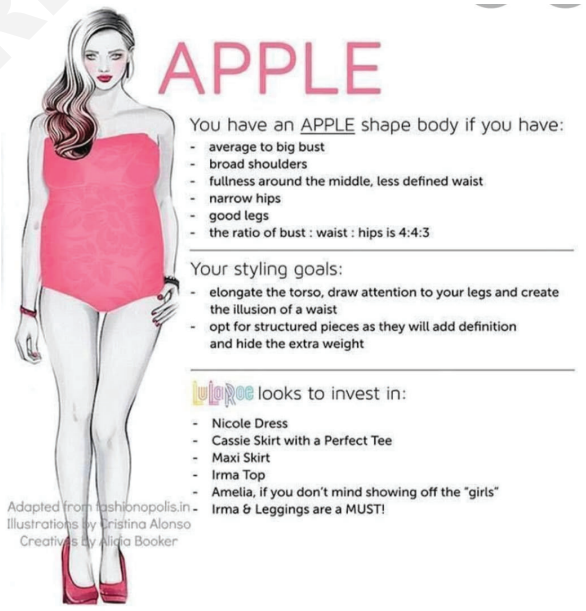
1 Bodycam dress

2 Wrap d

3 Mermaid dress

Dresses for apple shape (Fig 3)

Fig 3



- Generally well-proportioned.
- Shoulders are broader than your hips.
- Not necessarily as curvy through your hips.
- Tend to carry weight in your mid-section.

What to look for in a dress

When it comes to styling dresses for apple shape, things that can draw away attention from your upper body alone (i.e. using belts and waist-ties to create a more defined waist) are worth considering V-necklines will also draw attention to your waist and give you an instantly flattering look without looking top heavy. If you want to change it up and show off those gorgeous legs, then consider a short smock tunic.

Suitable dress for apple shape body

1 Flowy tunics

2 Midi dress

3 A-line dress

Dresses for athletic shape

- Not especially curve.
- Slightly more narrow in the hips than.
- Waist is less well-defined (more straight up and down).
- Weigh is evenly distributed throughout your body.

Fig 4

Athletic shaped (Fig 4)

What athletic figures, it is perfectly possible to enhance your figure in a way that will bring more of an hourglass effect! Dresses with draping or rushing or those that are cinched at the waist can play up your curves. Working with volume, angles, unique necklines, swirls or embellishments can all help balance your upper body to your narrow hips by giving your body a slightly flier shape.

Suitable dress for athletic shaped body

1 Asymmetrical dress

2 Halter dress

3 Wrap dress99

How to select colour

Check the color of your veins to determine your skin tone. Take a look at the color of the most prominent veins in your wrist.

Wear cool, ocean-toned colors if you have cool-toned skin...

Try warm, earthy colours if you have warm-toned skin...

Match your clothes to our eye shade to make them pop.

Most people have a favorite color, but your favorite may not be the best one for your wardrobe. Everyone has a unique group of colours that makes them look their best and another that makes them look their worst. Coordinating the right colours together makes the difference between a stunning cut fit and an ugly one.

Frock

Objectives: At the end of this lesson you shall be able to
- **explain the different features of plain frock**
- **name and describe the suitable sleeves**
- **explain the different methods of waistline finishing.**

Frocks are prepared in many ways, styles and fashions. It is nothing but the combination wear of both skirt and blouse stitched together. The upper part of the frock is known as bodice part and lower part is known as skirt part. It is the common girls wear widely used. The frock style is also mentioned by the type of skirt used (i-e) when the umbrella skirt is attached to the bodice, it is called umbrella frock.

The style variations in plain frock is brought down with modifications in (Fig 1)

- Sleeve
- Dart
- Waistline finish
- Collar
- Seam

Fig 1

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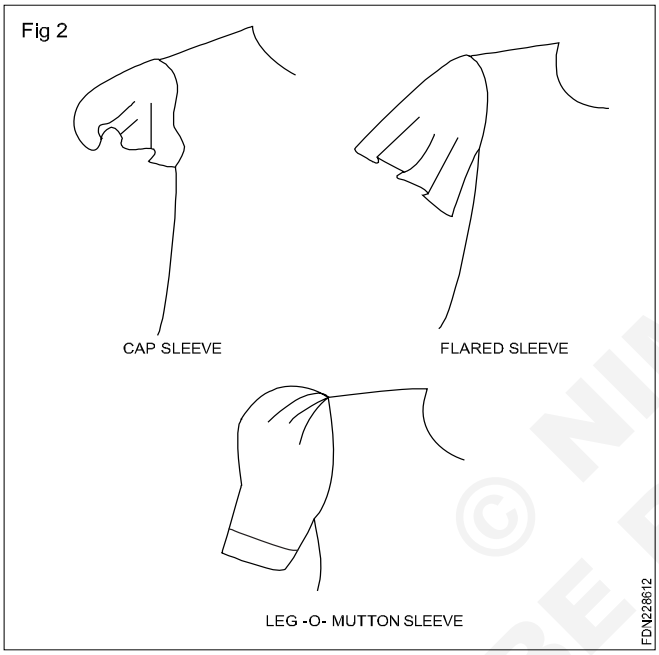
Plain frock is stitched with simple features like plain bodice with dart, gathered skirt part, sleeves, along with or without collars. It is constructed with round, V or square shaped neck designs. The length of the bodice part is equal to the waist length. Contrast coloured fabrics are used for piping or binding at neckline. sleeve bottom etc. Simple decorative trims like lace, satin ribbon can be used. The frock is

stitched with side belts to tie – up at the back part. The open is always stitched at the back part and finished with fasteners like button, press studs, zipper etc. The skirt hem is worked with machine stitching.

Sleeve: There are different varieties of sleeves suitable for plain frock. These sleeves can be developed from the basic sleeve pattern (Fig 2). **1) Cap sleeve** are small sleeves, which just covers the top of the arm, but does not have under arm sleeve. **2) Flared sleeve** are sleeves with flare at its bottom width of the plain sleeve without gathering. To construct the flared sleeve increase the bottom width of the plain sleeve in cut and spread method. **3) Leg – o – mutton sleeve** have more fullness at the top but tightly fitted at the bottom. The sleeves are joined to the armhole with small pleats, similarly the sleeve round is stitched with darts for tight fitting. (Fig 2)

Fig 2



Puff sleeves are the suitable sleeves for plain frock. There are four different types of puff sleeves with variations in gatherings (Fig 3). The **first** type of puff sleeve is gathered at both the armhole and sleeve round and finished with sleeve band. In the **second** type of puff sleeves both the length and width of the sleeves are increased to give more puffed effect than the first type. The **third** type of puff sleeve is with excessive fullness at the top of the sleeves and the sleeve round is finished with elastic to give gathered effect. The **fourth** style is finished neither with sleeve band nor elastic of the sleeve round but with darts. The darts are placed from the centre of the sleeve and the dart width depends upon the sleeve round measure.

Dart: The front and back bodice part is prepared with half darts to give shape to the garment. The frock bodice is also stitched without dart, when it is prepared as a loose garment. (Fig 3)

Waistline finish: The waistline of the frock is either finished with gathering or pleats at the skirt part. Waistline seam is used to join the bodice and the lower part of a garment. The seam line can be at the natural waistline or almost anywhere below the bust and above the hip. The seam can be either a straight horizontal line or curved or shaped towards bust or hip. (Fig 4)

Fig 3

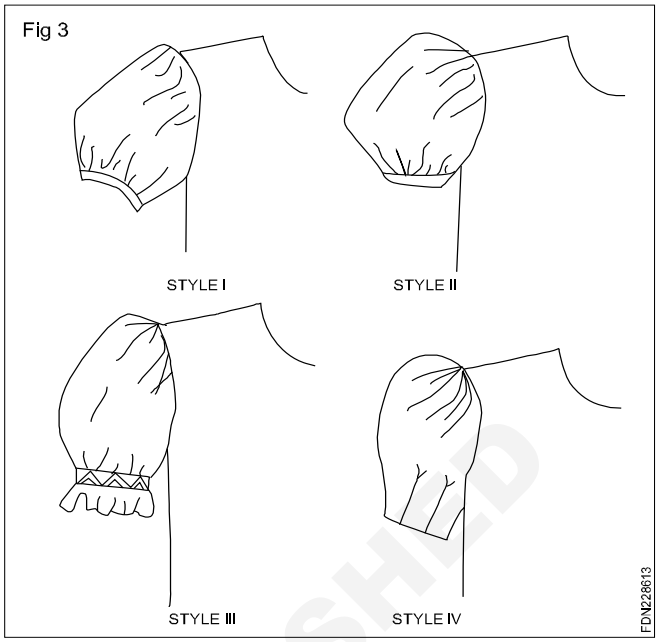
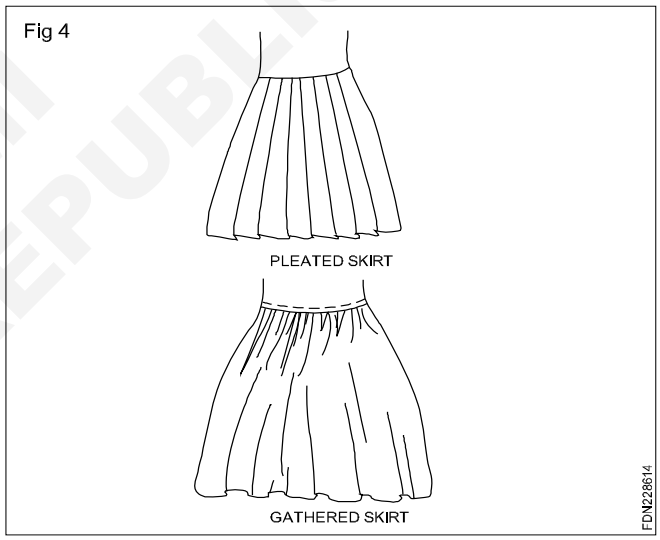


Fig 4



Location of the waistline seam should follow the natural body curve to give a better fit. The seam should not show below or above while using a separate belt. Before setting the waistline seam the following steps should have been completed.

- Stay stitch is given on the waistline of both the bodice and the lower garment to prevent stretching.
- Darts, pleats and tucks should be completed.
- Bodice underarm seams and skirt side seams should be stitched, seam edges neatened and the seams pressed open.

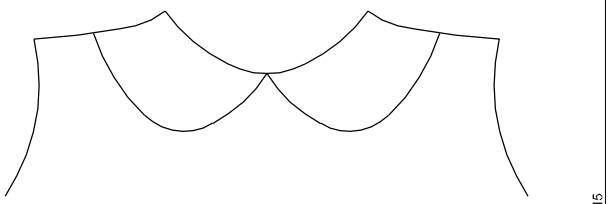
Waistline seam can be either a plain seam or a lapped seam.

Plain seam is used when both upper and lower garments are bulky. The seam allowance is pressed away from the bulky part towards the flatter or less bulky part. The waistline may be either closely or loosely fitted.

Lapped seam is used wherever the waistline is of unusual shape and of close fit. Here also the seam allowance is pressed away from the bulky part towards the less bulky part. This seam gives a better fit on the shaped area.

Collar: To add to the beauty of the plain frock, the collar is stitched to the frock. Collars are made from either single or double section of fabric and attached to the neckline, so that the ends meet, either at the centre front or back. It also serves to finish the raw edges at the neckline. They are made of double layers of fabric with the outer edge hanging free. The top layer is the upper collar. The lower layer is called under collar. Some suitable varieties of collar are peter pan collar, frilled collar etc. **Peter pan collar** has rounded ends at front and back, with opening at the back (Fig 5)

Fig 5



PETER PEN COLLAR

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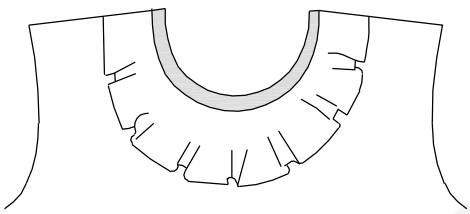
The neckline with collar is either finished with facing or corded piping. It is a round flat collar and can be of one or two pieces. Two-piece peter-pan collar is applied at frocks, as the one-piece collar is used on front open dresses. **Frill collar** are straight collar piece of desired width, hemmed at its one end and gathered at the other (Fig 6). The gathered end of the collar is attached to the neckline and finished with piping.

Seam: The frock bodice and skirt sides are generally joined with plain seam. It can also be stitched with French seam in case of synthetic fabric, whose raw edges ravel out easily. This seam leaves a neat seam finishing with and invisible raw edges at the wrong side. This seam is stitched twice, first from the right side and secondly from the wrong side of the frock (Fig 7). The French seam is suitable for all fabrics, on which the raw edges have to be secured.

Fig 6



FRILLED COLLAR

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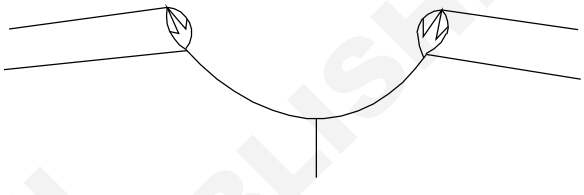
Fig 7



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The style features of plain frock selected for stitching

- French seam
- Peter pan collar
- Puff sleeves
- Side belts
- Zipper placket

The material required for stitching a plain frock

2 length + 10cm

Night suit

Objectives: At the end of this lesson you shall be able to
- **state the criteria for good fit**
- **explain about gents night suit**
- **explain the features of night suit**
- **explain about ladies nighty.**

The success of a garment depends mainly on its fit. Good fit is the most important aspect of a garment. The factors which determine a good fit are comfort, balance and the right choice of fabric.

Comfort: A well fitted garment should be comfortable to wear while sitting, walking, bending. There should be no strain on the fabric. Therefore the garment must be stitched with sufficient ease for the movement.

Ease is the difference between the actual body measurement and the garment measurement at any given point . Besides the amount of ease required for proper movement there might be given additional ease for special types of garments (loosely fitted garment).

Independent from the type of garment some minimum amount of ease is provided also in closely shaped garments, specially on bust, waist, hip etc. The chart given below shows the minimum amount of ease required:

Body measurement	Minimum ease
Bust	+ 7 cm
Waist	+ 2 cm
Hip	+ 5 cm
Crotch depth	+ 1cm
Front crotch length	+ 1 cm
Back crotch length	+ 2.5 cm

Balance is another factor for good fit. Balance mainly depends on the smooth fall of a dress. This is achieved by proper cutting and stitching. It is of immense importance to follow the indications for grainlines in the layout of components. Even a slight deviation will affect a good fall: bottom lines will not be parallel to the floor, vertical seam lines will turn to front or back. (Fig 1)

If crosswise grains are not parallel to the floor, bottom lines will poke out. (Fig 2)

If the garment has a centre seam line in the front or back, then the grains on the left side should match with that of the right side, otherwise bottom line will also poke out.

During stitching the marks for seam lines have to be followed exactly because deviations will also affect the fall of a dress.

Fig 1

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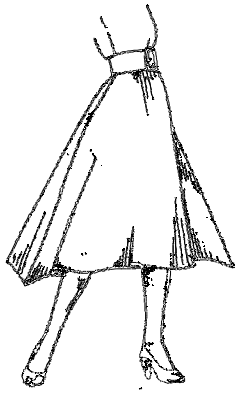
Fig 2



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Seam lines must be in correct position:

– The shoulder line should not be tilted either towards the front or to the back but should fall exactly on top of the shoulder.

– The armhole seam should fall along the natural curve of the arm.

– The side seams should not be tilted towards front or back part.

– The neckline should be flat without gaping.

– The darts should point to the fullest part 2 to 3 cm away from it.

– Bottom hem should be parallel to the floor.

While joining the components the balance marks (notches) have to be matched exactly in order to achieve at a balanced garment. Symmetric components have to be of the same shape, e.g. collars, pockets etc.

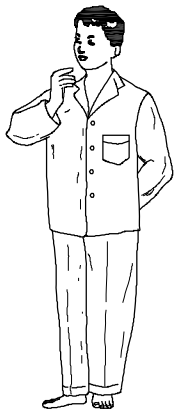
A good fall and fit of a garment will also be influenced by the right choice of fabric. Thick fabrics are not suitable to stitch garments with narrow pleats, frills or gathers. Soft and pliable fabrics are better suited for these designs. Test the fabric by holding it in folds before buying.

Knitted fabrics tend to cling to the body, at the same time they are stretchable and therefore comfortable to wear. The design dresses stitched from knitted fabrics should be without too many seams, pleats and darts since the fabric looses shape easily in those areas.

Crisp and stiff fabrics are not flexible. Their choice will depend on the design of the dress. Since they don't cling to the body they have the ability to hide the irregularities of the figure.

Night suits (Fig 3) are used in night time with pyjama. It is a loose fitting garment. It gives pleasant and comfortable feeling to the wearer. The shirt is stitched with an open collar or shawl collar. The shirt is prepared (stitched) either with a fold or seam at the centre back with enough material outside for facing. A plain sleeve with inside turning at its bottom is more suitable to this shirt.

Fig 3



NIGHT SUITS

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The pyjama is prepared with casing arrangement or with fly bottom arrangement. Plain, striped cotton, poplin, and terycot materials are used to prepare the night suit. This garment is worn by boys, gents during bed time.

Nighty (Fig 4)

Fig 4

NIGHTY

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This garment is worn in bed time, so it is called nighty or nightdress. It is a chemise type of garment with or without sleeves. Though the full length varies according to person's choice, most commonly ankle level nighty is preferred.

Bust line of nighty is gathered for decorative effect. (Fig 4) The back can be finished without gathers.

Nightdress is made from cotton, nylon, or any synthetic fabric.

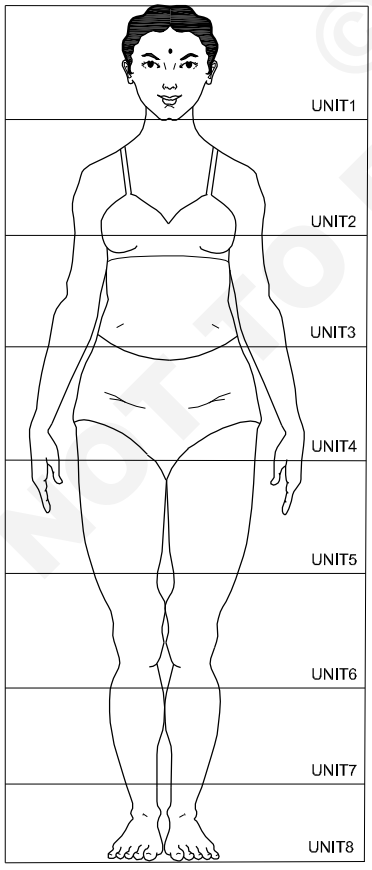
Anatomy, joints and muscles

Objectives: At the end of this lesson you shall be able to
- **explain the proportions in human body with the help of the eight-head theory**
- **state the anatomy of body.**

The knowledge of the anatomy (shape and formation) of the body is essential for the construction of a garment. And although every human figure is of individual, i.e. different shape some general proportions are similar in almost every figure. The eight-head-theory is a helpful system which describes some ideal proportions of a human figure. According to this theory the body is divided into eight equal parts. The size of the head-height is the measure for all the other units.

Head 1 (UNIT 1)	hair to chin
Head 2 (UNIT 2)	chin to nipple
Head 3 (UNIT 3)	nipple to navel
Head 4 (UNIT 4)	navel to public organ
Head 5 (UNIT 5)	public organ to mid thigh
Head 6 (UNIT 6)	mid thigh to below the knee
Head 7 (UNIT 7)	below the knee to above the ankle
Head 8 (UNIT 8)	above the ankle to toe (Fig 1)

Fig 1



Actually the total human height is compared to 7 ½ heads but for easy calculation the height is taken from hair to the foot standing tip toe, thus making eight equal parts.

Further, proportions of the body can be described as such when a person stands and stretches the arms horizontally, the measurement taken from one middle finger tip to the other middle finger tip is equal to the whole height of the body. Half the length of the arm locates the position of the elbow. Half the width of back is equal to one fifth of the chest measure. The shoulder measured from one end to the other is equal to half the chest measurement. The elbow line falls on the waist line.

In garment construction this means, that only a few measurements have to be calculated on the basis of such proportions. But this method is only valid for proportionate figures.

Proportionate figures of men and women: Same proportions generally differ in men's and women's bodies. The following main different features are valid for the women's body:

- Less body height
- Less shoulder width and narrower chest (thorax)
- Larger hip
- Limbs more delicate
- Torso a little bit longer
- Softer forms.

Bones, joints and their movement: The human body is made up of bones and muscles. From childhood both - bones and muscles - develop until the body reaches maturity. After maturity the bony structure will not have any growth but the muscles may undergo many changes, in particular chest, waist and seat. Lack of proper nourishment, overfeeding sportive activities etc. may change the shape of the body.

The joints between the bones which enable for easy movement of the body are of different structure:

Gliding joints are found in spine, ankle and wrist. These joints are having qualities of rotation and they rotate to some extent.

Ball and socket joints are formed in the top of the thigh bone and shoulder. These bones rotate very easily and have a maximum rotation.

Hinge joints are of two types. The first type can move forward only (elbow) and the second type can move only to the back (knee).

The knowledge of joints and their movement make the dressmaker understand the requirements of ease to be allowed at different parts of a garment.

While constructing a garment tolerance must be given in pattern. Tolerance means the extra loose or ease compared to the actual measurement taken from the body. In ladies' shirt for example the chest measurement might be 80 cm, but the chest measurement for the garment will be 85 cm. The difference of 5 cm will be known as tolerance which is required for the movement. Tolerance should not be either too much or too less, because both will spoil the shape of the garment. Therefore the tolerance depends on the style of the garment.

Measuring techniques

How to take body measurement?

When taking measurement, it is most accurate with undergarments or garments worn should be plain and well fitting.

Measurement charts: Every person has an individual height and shape of the body. Big, small, fat persons don't match with the ideal proportions. While stitching a garment the shape of the garment has to be adjusted to the shape of the body as much as possible.

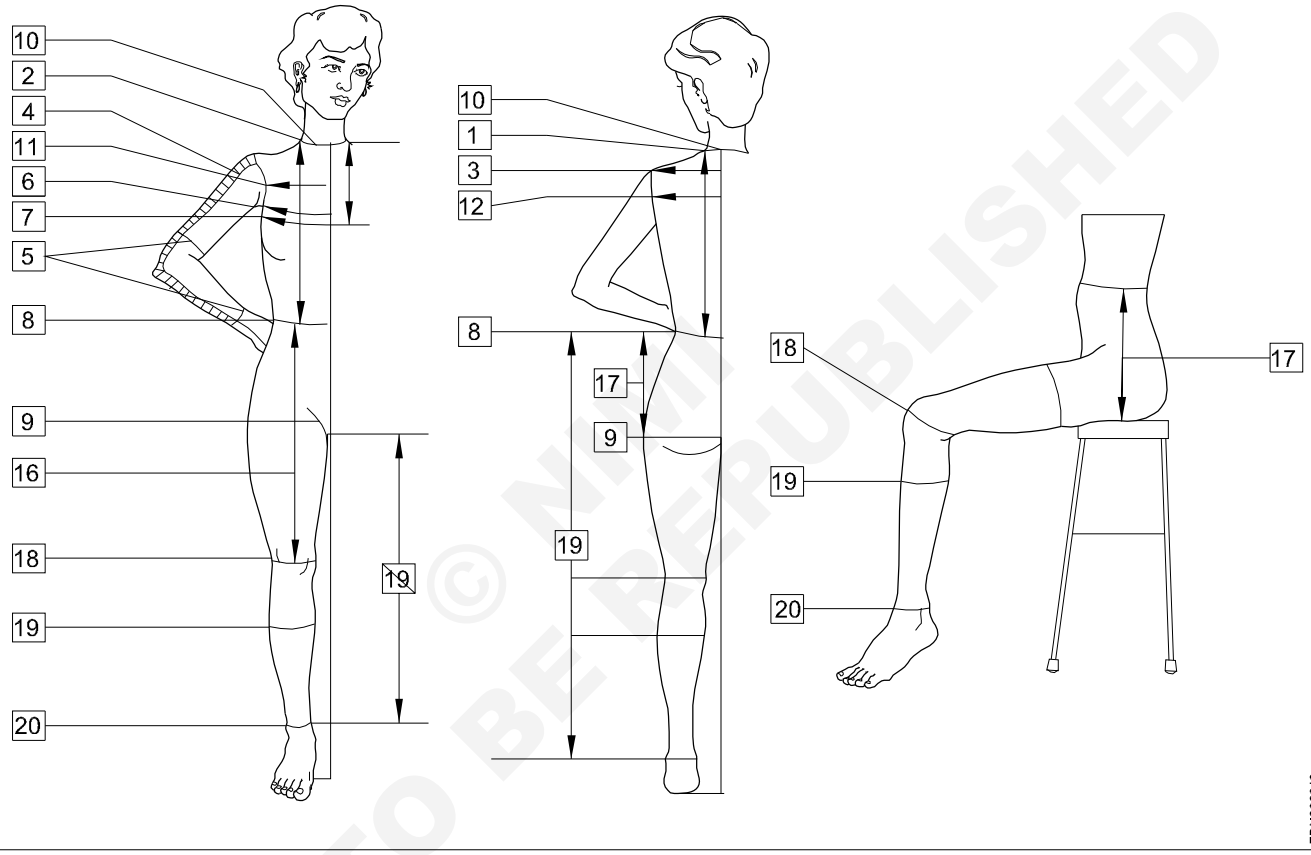
The most accurate way of shaping a garment according to the individual body takes place on the basis of measuring an individual body. This measurement will reflect all individual conditions. Since the garment industry does not produce for an individual customer they produce dresses for body measurements which represent a larger number of persons. These measurements are found by measuring thousands and thousands of people of a certain region/country. The date found in such a survey will be systematically organised in a chart valid for that particular area.

Even though many charts can be seen in books a proper measurement chart for the Indian population is still missing. Therefore the Trade Practical book is not referring to a chart. The measurement given with every garment are based on experience, but it is always the person to stitch the dress for.

S. No.	Body measurement	Abbreviation	How to take body measurement?
1	Natural Waist	NW	Measure on back from nape to waist.
2	Full Length	FL	Measure from neck point to waistline up to the desire length of garment.
3	Shoulder	Sh	Measure from left shoulder end to the right shoulder end (where you find the ball moving while moving your arm)
4	Sleeve length	SL	Measure from shoulder end to desire sleeve length (for full length arm should be in a bended position)
5	Sleeve bottom or round arm	SB	This is a garment measurement. It gives the desired girth of sleeve at bottom line.
6	Chest	Ch	Measure around the fullest part of chest/bust above the nipple line (one finger loose)
7	Bust (Ladies' garment)	B	
8	Waist	W	Measure around the natural waist line, draw the tape close but not too tight.
9	Hip	H	Measure firmly around the fullest part of hip.
10	Neck	N	Measure loosely around the base of neck.
11	Across chest	ACh	Measure across the chest line on skye level.
12	Across back	AB	Measure on back from one sleeve joint to the other on cue level (Above the blade bole)
13	Bust level	BL	Measure from neck point (which is on the level of neckline at side) to bust.
14	Leg Length (Side length)	LL	Measure outer leg length from waist to ankle (or desired length of garment)
15	Inner leg length	ILL	Measure from fort to ankle or leg length- body rise

S. No.	Body measurement	Abbreviation	How to take body measurement?
16	Knee length	KnL	Measure from waist to knee on side of body.
17	Body rise	BR	Measure from waist to seat line on side of body.
18	Round knee	RKn	Measure firmly girth around the knee.
19	Round calf	RC	Measure firmly girth around the calf.
20	Round bottom	RB	This is a garment measurement. It gives the desired bottom girth of paint. (Fig 2)

Fig 2



Study of eight head theory & fashion figures

Objectives: At the end of this lesson you shall be able to
- **explain the fashion figure**
- **describe basic silhouettes**
- **explain flat sketches with the specifications.**

Eight Head Theory

Designers constantly sketch out ideas and concepts in notebooks before they create. It is important that students will continually sketch whenever they can.

Eight head human theory is applied on the figure of a human to segregate the part exactly from head to toe proportionally or equally.

Application of Eight Head Theory

The "heads" should align on most figure drawings this way:

1 First head length: head!

2 Second head length: chest line at nipples.

3 Third head length: waistline, at bellybutton.

4 Forth head length: groin area.

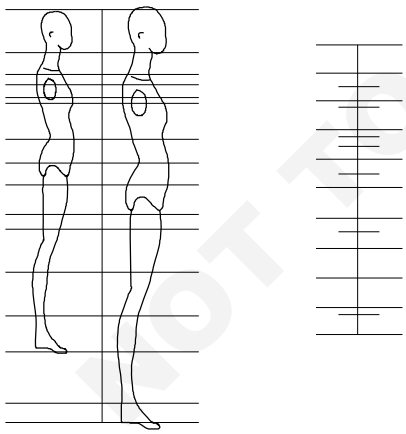
5 Fifth head length: a bit above the knee.

6 Sixth head length: just below knee.

7 Seventh head length: above ankle (or mid-calf, if the person is 8 heads).

8 Seven & 3/4 (or eighth) head length: at bottom of feet. (Fig 1)

Fig 1



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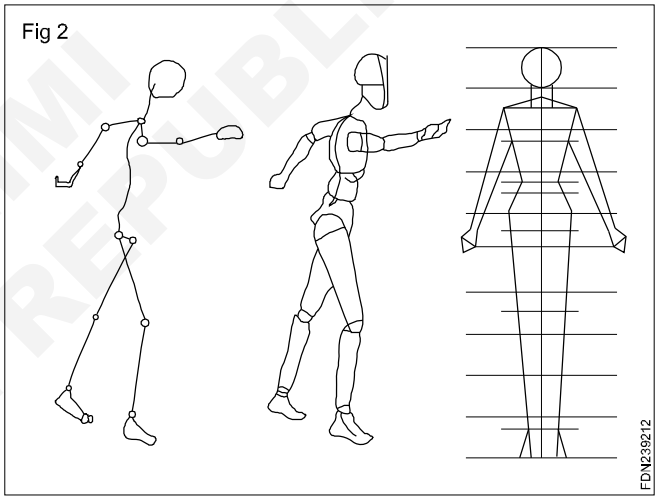
Other measurements that should be noted

- When the arms are at the side, the wrist bone aligns with the groin area.
- The elbow aligns with the waistline-around or above the bellybutton.
- Shoulder width, side-to-side is about 2 to 2 1/3 heads wide.

Stick Figure: A stick figure is a very simple type of drawing made of lines and dots, often of the human form or other animals. In a stick figure, the head is represented by a circle, sometimes embellished with details such as eyes, mouth or crudely scratched-out hair. The arms, legs and torso are all represented by straight lines.

Adapt Stick figure to Block the Figure: Block-style figures are a type of collectible toy action figures marked by a generally simplistic representation of the human form, usually made of block-shaped appendages and torsos. Generally, the block-style figures are easily drawn with the support of Stick Figure. (Fig 2)

Fig 2



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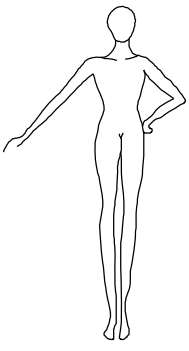
Develop Block into Flesh Figure

The blocked forms of the image will help to work out the problems of pose and proportion. Here, to draw a flesh figure you will need a support of block which helps to underlay a structure of bones and muscles. Develop the flesh of a human figure keeping the block as a base. (Fig 3)

Fig 3



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Fashion Illustration

Fashion Illustration is the communication of fashion that originates with illustration, drawing and painting. It is usually commissioned for reproduction in fashion magazines as one part of an editorial feature or for the purpose of advertising and promoting fashion makers, fashion boutiques and department stores. (Figs 4, 5 & 6)

Fig 4

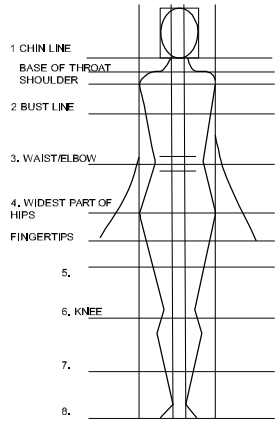
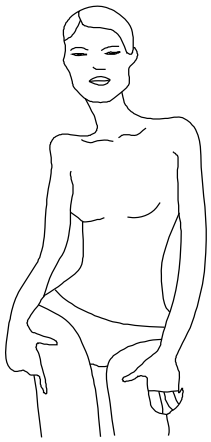


Fig 5



Flat Sketches and its specifications (Figs 6,7,8 & 9)

Fashion designers convey their fashion concept/idea often in the form of the fashion illustration or sketch. This type of sketch is useful to apply the style, fabric and overall feel of the design.

However, this sketch gives no clue about the parts or sections that make up each garment. For this reason the flat or technical sketch is needed.

Fig 6

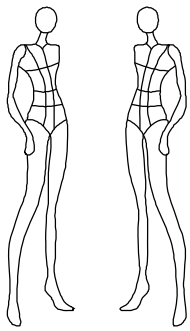


Fig 7

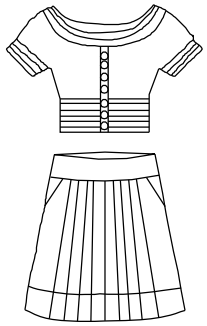


Fig 8

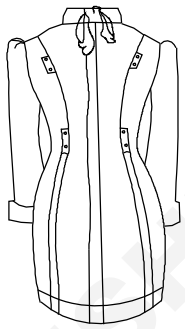
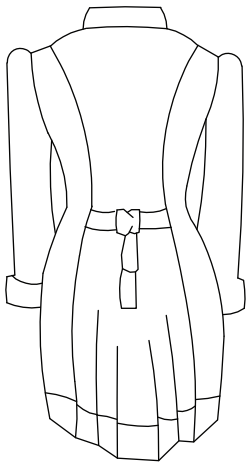


Fig 9

Fig 9



A flat sketch is a line drawing of the fashion designers illustration. When drafting a flat sketch, the back of the garment must also be drawn along with the front.

When drawing a flat sketch by it is useful to have a straight ruler and a set of French curves handy. These tools will enable you to make accurate straight and curved lines for the sketch.

The technical sketch shows every seam and garment detail of the design. This sketch is used by the patternmaker as a guide for when it is time to draft the pattern for the design. It is also an integral part of the garment specification or style sheet that goes to the pattern maker and construction team (sewing team).

Flat Sketching by Hand

Typically, a fashion illustration will either show a frontal view of the design or a 3/4 view of the design. Rarely the back of the garment is illustrated.

Lightly Sketch the garment starting with the garment's silhouette first. Next lightly draw all seams and style elements that are within the body of the garment.

Now take a medium to thick point sharp and trace over the outline of the garment. Using a fine point pen, trace over the inner style lines of the garment.

To render topstitching in a flat sketch, create dashed lines where the topstitching would appear on the garment.

Fashion Croquis

Sketching fashion figures and poses can be time consuming when you draw every croquis from sketch. Instead of sketching figures for every new illustration, most fashion designers work from a library of fashion croquis.

Start your own library of fashion poses using these Samples of fashion templates and get your fashion design sketches completed faster. (Figs 10 & 11)

Fig 10

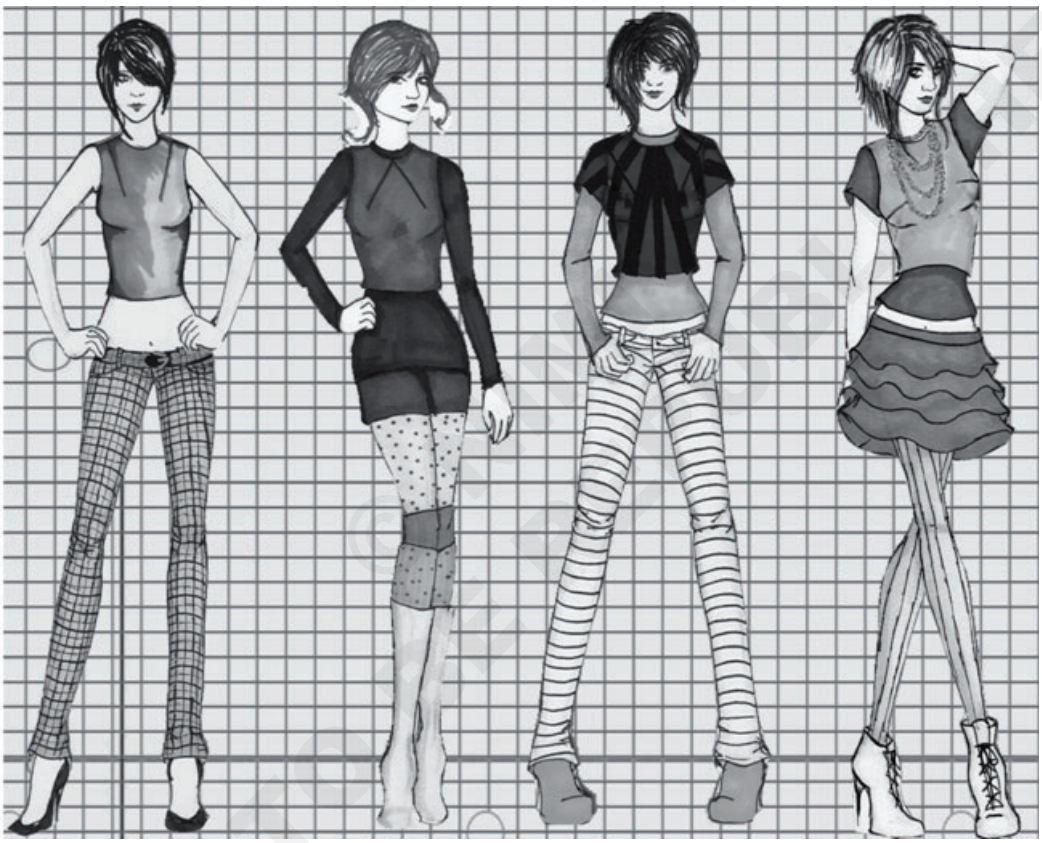


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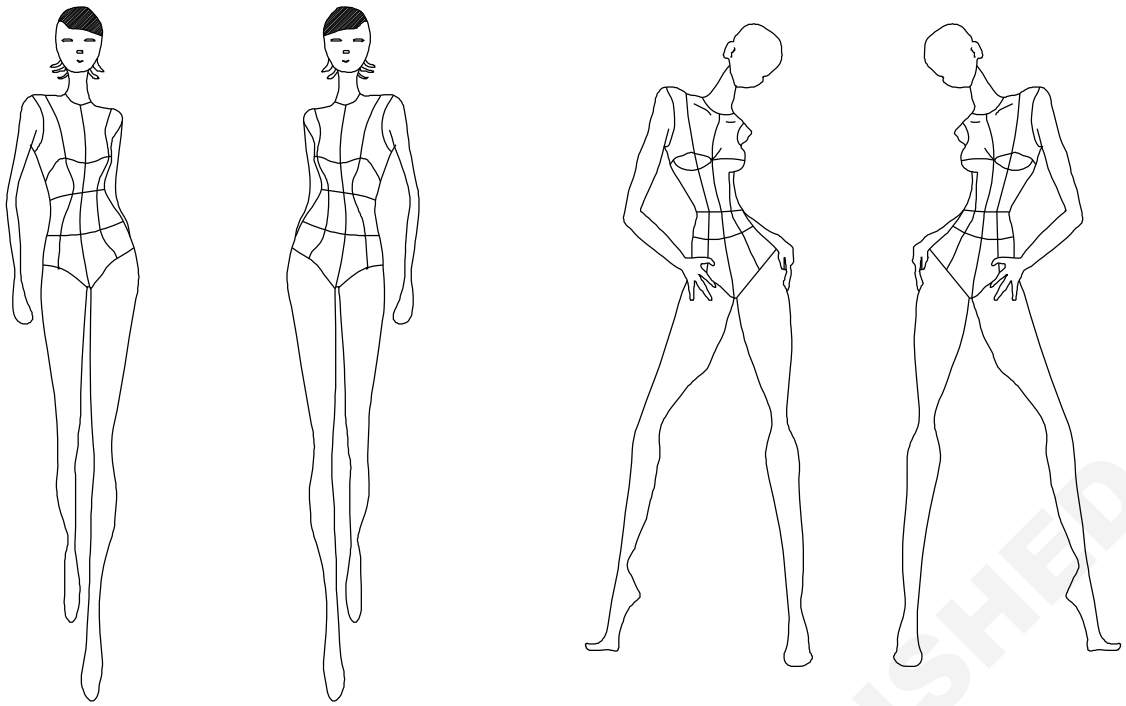
Fig 11



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Types of human figures

Objectives: At the end of this lesson you shall be able to
- **explain different types of figure and their remedy.**
- **explain about body measurements their importance and types.**

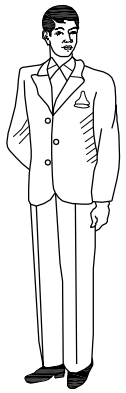
No man can be a successful cutter unless he is an observer of the human figure. Make a habit of observation of various types of person you meet in the routine life, some people have different types of body structure during birth by accident or by virtue of this occupation, if the degree of deformity is judged only by comparing with the normal figure.

Normal figures are proportion to width and height without any deforming. According to Indian standard figure measurement for ladies and gents are:

	Height	Chest	Waist	Hip
Gents	5"to 6"	36"	32"	40"
Ladies	5"to 4"	36"	28"	40"

Eight head theory applies very well with normal figure only. (Fig 1)

Fig 1



NORMAL FIGURE

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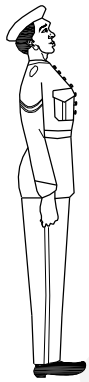
Abnormal Figures: The Width and height in abnormal figures are not proportionate to each other. It has deformities.

Erect figures: These kinds of figures are normally seen in army or police personalities. The body is bend on the backside and straight in the front. Due to this back length is shorter than front. Across chest is more chest is round in shapes hollowance on the back blade bone can be seen in Fig 2.

Tall and thin figure: In this figure the height is more when compared to the width measurement is less than normal. Neck height is more, shoulder measurement can be more or equal compared to normal figure. (Fig 3)

Stooping figure: These kind of figure is bend on the front side and back slightly round shape. Front length is less. Back length is more. Across chest is less across back more compared to normal figure. It is just opposite to erect figure. (Fig 4)

Fig 2



ERECT FIGURE

FDN239412

Fig 3

TALL & THIN FIGURE

FDN239413

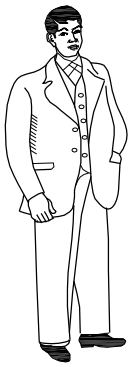
Fig 4

STOOPING FIGURE

FDN239414

Short and stout figure: In this figure, width measurement is more than compared to the height. Hip is prominent, thigh are very close to each other girth measurement is lesser. Different between chest, waist and hip is lesser according to normal figure. (Fig 5)

Fig 5



SHORT & STOUT BODY

FDN239415

Sloping shoulder: It is not parallel to chest and waist line. Shoulder slope is more, neck height look longer depth of skye is compared to normal figure. (Fig 6)

Fig 6

SLOPING&SHOULDER

FDN239416

Square shoulder: In this figure shoulder seems to be square having less shoulder shaping, neck height look out to be short, shoulder sloping is parallel to waist and chest line. (Fig 7)

Fig 7

SQUARE SHOULDER

FDN239417

Corpulent figure: This is due to abnormal growth in stomach area. Front length is more than back length across back is less, waist measurement may be more than hip, neck height is smaller, across chest more. (Fig 8)

Semi corpulent figure: In this kind of figure waist hip and chest measurement are equal. Balance of front and back is equal. No curve in waist. (Fig 9)

Fig 8

CORPULENT FIGURE

FDN239418

Fig 9

SEMI-CORPULENT FIGURE

FDN239419

Individual body measurements

The ability to take accurate measurements from body forms and live models an important skill that all patternmaker must learn. Working with a body form is less complicated than working in a live model. Body forms can be drawn on are always available and never gain or loose weight. Live models must be treated gently, their modesty needs to be respected and they may gain or loose weight, however your final garment is produced for a live person to wear.

Measuring from forms

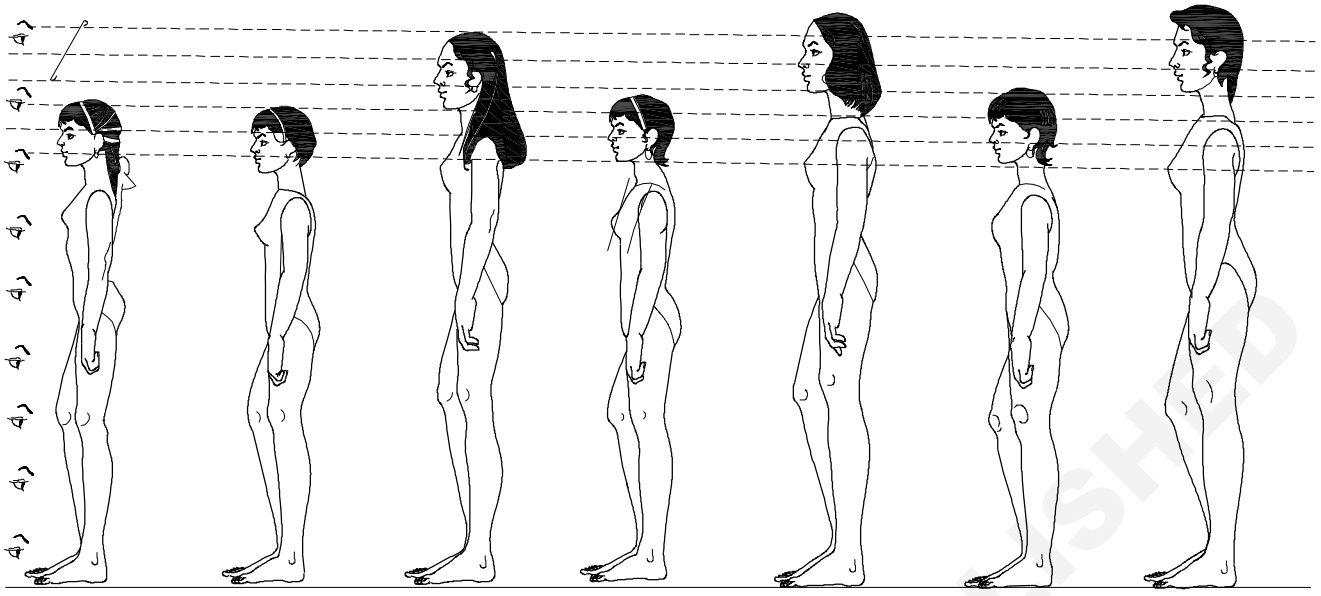
During the past 40 years dress forms have evolved to keep pace with changing silhouettes and fashion trends. The original forms were shapeless, willow-caned, with woven mounds that were padded to individual specifications. Today forms are made of metal and canvas having collapsible shoulders and attachable arms and legs. Forms can be ordered to specific measurements, and also with ease added. Different types of forms and sizes are available from infants, toddlers, children's, teens, missy and larger sizes for the both male and female. Forms are available for specific garments: dresses, evening gowns, skirts, and pants.

Standard Measurements (Fig 10)

To response to national standards and consumers needs the pattern industry established the measurement standard committee, which devised its own standard set of figure types and sizes. Attempts to standardize sizes in America originally began in the late 1800s, when manufacturers mass produced farm labor uniforms in small, medium, and large sizes, which proved less than ideal for those smaller

or larger than size range. The next serious effort was made by the military in their attempt to mass-produce well fitting uniforms. In 1901, the federal government created the National Bureau of standards (NBS), a no regulatory agency for the purpose of standardizing measurements for science and industry. By 1970, NBS had developed the complete size range standards based on frequency measurements from large segments of the population.

Fig 10



Garment measuring system

The ability to make a knock off pattern is a useful skill for a patternmaker to possess. Knockoffs are copies of designs of clothing, accessories, or any other product. Patternmakers should not routinely copy the work of others, but it is an excellent way to learn about pattern shapes and proportions. Once you are finished with design school, making knock off patterns is one way to continue your education about patternmaking and garment construction.

Knockoff-pattern techniques allow you to create a new garment from an old one, which may be too worn for continued use. If you have an item of clothing that you love but it is no longer wearable, or wish to have copies of it in other colors of fabrics, a copy of the pattern may be made with or without taking the garment apart. It is possible to make copies of garments without damaging the originals. The shirt in figure 1 is used as an example to present three methods of drafting knockoff patterns.

Making a copy of an existing style without damaging it is not a simple task. A knowledge of pattern making and fit is necessary when attempting knockoffs. Many garments, especially those for women, do not lay flat on a table because of darts, style lines, tucks, pleats, gathers, and so on. The patternmaker must be able to establish the straight and cross grainlines of the garment in order for the new pattern to hang and fit correctly. Copies may be made from woven and knits, but care must be used so that stretchy garments are not stretched out of shape while being measured or traced.

Introduction to kids pattern

Objective: At the end of this lesson you shall be able to
- **explain the features in children's growth.**

The **proportions in a children's body** are very different from the ones in adult bodies. With age increasing their proportions develop towards the adult ones. The shape of a children's body will differ from the adult's in the following aspects:

– bigger head length in comparison to body height

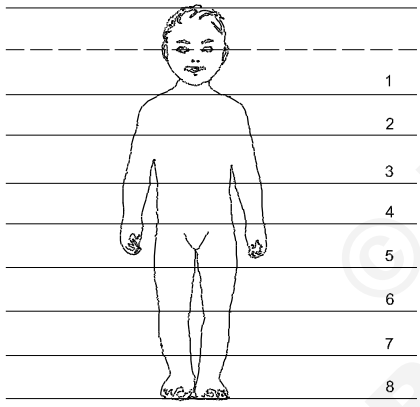
– from chin to navel the proportions are the same as in the adult's body

– in comparison to the body height the torso is longer than in the adult body

– the thorax is relatively small

– limbs are short in comparison to the body height. (Fig 1)

Fig 1



Before taking measurements on children, it is important to understand their way of growth. Children are grouped according to their age. Similar to the eight-head theory of a fully grown-up body, the children's height can be classified with the help of head size but the proportions are different from a grown up person.

New born	:	height is equal to 3 head
One year	:	height is equal to 4 head
1 1/2 years	:	height is equal to 4 1/2 head
3 years	:	height is equal to 5 head
6 years	:	height is equal to 5 1/2 head
8 years	:	height is equal to 5 1/2 head
10 years	:	height is equal to 6 head
12 years	:	height is equal to 7 head
14 years	:	height is equal to 7 1/2 head.

Between birth and 6 months the head of babies is proportionately largest. The breast, waist and hip have no difference in measurement. So while making children's garments for this age group special consideration should be taken into account like long plackets easy to put on, for example full open or with shoulder opening. Preferable is a back opening so that the babies chest is fully covered. In place of buttons and hooks use tapes and velcro. Nappy allowance should be considered. (Fig 2) **Toddlers** are called the children from 6 months to 4 years of age. In this stage there is also not much difference in measurements of breast, waist and hip. This age group also requires nappy allowance. In this stage the growth of body is very fast. (Fig 3)

Fig 2

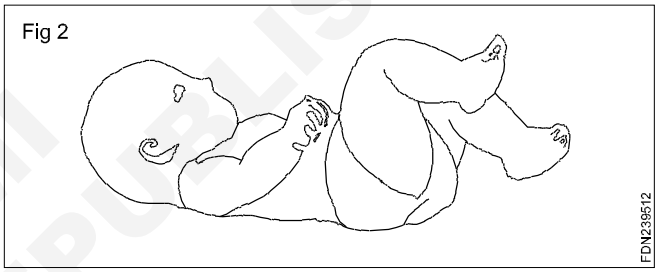
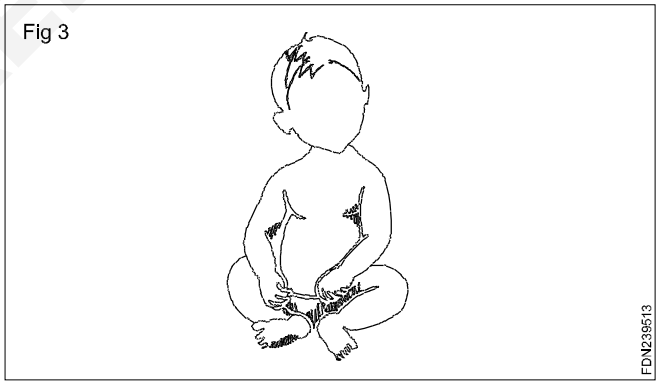


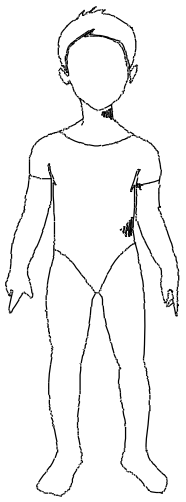
Fig 3



The third stage is called the children's stage. This includes the age from 4 to 14 years. But they are grouped into two categories. From 4 to 6 years is one group. During this period children tends to develop difference in body measurement, ie. in chest and hip, though these differences may be marginal. During this stage the body height starts increasing and also the shoulder and arms. Hence it is necessary to take shoulder, arm and dress length measurement. Generally, till the age of 6 years there is no difference in the measurement of boys and girls. (Fig 4)

The second group covers the age from 7-14 years. During this period a strong physical development takes place. Children tend to develop difference in chest, waist and hip measurements. Normally during this period the girls height is more than the boys of same age. In this stage we need to take all the required measurements because of their body development.

Fig 4



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Dress for a baby

Objectives: At the end of this lesson you shall be able to
- **explain about baby garments**
- **explain about toddlers dress**
- **explain the drafting for kids garments**
- **explain the fabric estimation**
- **explain about te laying of garments.**

Jabala, the basic children's wear is also stitched with open. Front open is mostly preferred for convenient wearing of the garment to the child. In some cases, back open is also preferred. The jabala placket is always finished with safe fasteners like fabric made buttons and button loops, hook and loop tape etc.

Avoid using metal fasteners or buttons.

The hook and loop tape attachment makes dressing easy for little ones, as fastening needs little dexterity and they are harmless. The neckline and armholes are often finished with facing or bias binding.

Binding is used to finish and straighten raw edges or to add a decorative trim to a garment. It is a neat finish also for reversible garments. It is used to finish neckline, armholes. Readymade bias binding piece can also be used. (Fig 1)

Bias bindings can be applied in two ways: **Single binding** is cut to double the finished width plus two seam allowances. Bindings are handled in the opposite manner to facings at inward and outward curves. Stretch bias on inward curves and ease it in outward curve. **Double binding** or **French binding** is used on sheer fabrics. Here the width is four to six times the required width. The binding piece is folded first and applied to the garment. It gives a corded effect when finished.

The style variations in jabala (Fig 2) can be brought down with some modifications like

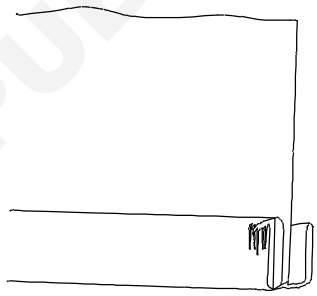
1 Opening

2 Fasteners

3 Tucks

4 Trims

Fig 1



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Opening

The garment is stitched either with centre front or centre back full open. (Fig 3) Sometimes the opening is also placed at left side shoulder seam, (Fig 4) which is finished with fasteners like buttons and press studs. The placket is often finished with self facing or straight piece facing of same colour fabric. (Figs 3 and 4)

Facings are strips of cloth, straight or curved, which are used as designing aids on, in or at dress items. (Fig 5)

Extras for the seams for sewing together the facings are ignored here and in the following exercises.

Fasteners

Safe fasteners are used in the baby wear – jabala to finish the placket. The placket length is equally divided for fixing fastener. They are of various types, some are decorative and some others are meant to be conspicuous. The common fasteners used in jabala are button loops with shank buttons (only at Front open), Velcro, press studs (at shoulders).

Fig 2

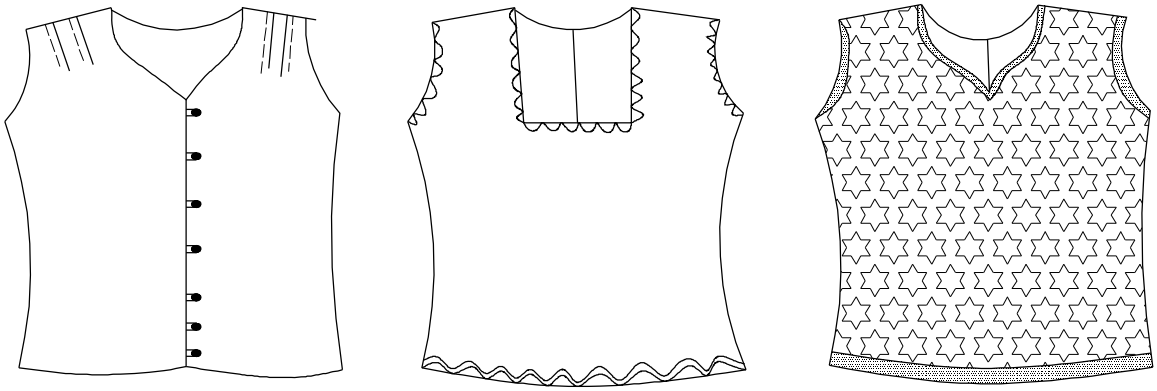

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Fig 3

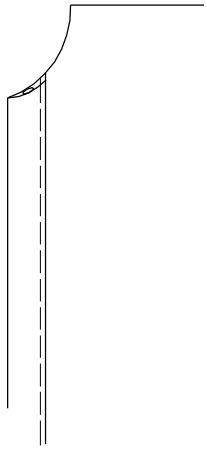

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Fig 4

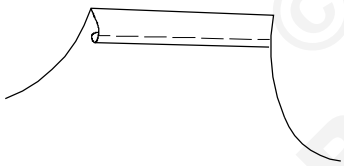

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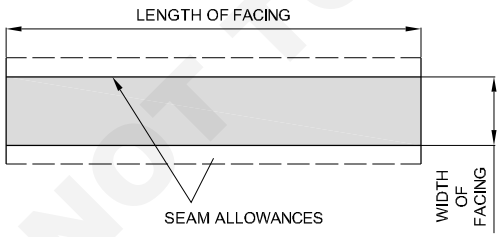
Fig 5



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Care of fabrics: For washing and drying of garments special care has to be taken. The type of fabric, i.e. the fibre and the finishing require different handling. In most of the cases symbols for washing etc. are given on the sewn–in label. (Fig 6)

Dress for toddler

Clothing for toddler child may become may become a major problem for the family because it is expensive, yet is used for only a short time. It should be selected to help the child develop self-reliance, practice social skills and interact

Fig 6

with peers. Garment should be flexible comfortably worn, easily cleaned, soft durably encourage self-reliance, convenient for frequent toileting adjusting to the rapidly growing body, and alterative in design and fabric children of this age also need make – believe clothing to accordant their dream world fantasies.

Allowance for growth:

Growth is most rapid during the toddlers age buying clothes with growth features will enable a garment to be worn over longer period of time.

To provide for growth in height:

Skirts and dresses with deep hems or tucks at the bottom need to be provided. Dresses and trousers with tucks at the waist line the lengthen the crotch. Overall with adjustable long straps and deep hems are included. Stretch fabrics and two – piece garment are suitable cloth for toddlers.

To provide for growth in girth or width:

Use raglan or kimono sleeves rather than set in sleeves. Introduce tucks pleats or gathers at the shoulder line. Use of large underarm or leg seams to let out as needed.

Toddler's Dresses

Bloomers

Bloomer suits knitted are used by all the section of the society for their children as a dress material. These bloomers have taken the place of textile items as these are available in very attractive designs and colours and are easy to wash. Bloomers are made out of the tubular blended knitted cloth which is available in the local market. The places are cut as per size and shape of the item and are stitched accordingly. Embroidery and patch work is also done to make the attractive design on the t-shirt, which is a part of the bloomer set

Romper

Rompers is a single piece clothing which is mostly worn by toddlers. Usually rompers are designed with ease of diaper change with some kind of closure on the legs for quick change without having to undress your baby. Just unbutton or unzip the closure and change the diaper. Rompers are indeed simple and comfortable to wear, they do present some styling challenge.

Jumpsuit

There are many ways to define a jumpsuit however, for toddlers jumpsuit are considered a one-piece type of clothing. It is a one-piece garment consisting of a blouse or shirt with attached trouser. In addition, jumpsuit can come in many different styles including full length sleeves full length pants half/mini sleeves short sleeves. Short pants etc. However the one thing similar to all these styles is both pieces are attached (One-Piece).

Pinafores

Pinafores are usually worn by young girls to keep their dresses clean, although not every boy escaped wearing one. It is a decorative apron – like garment pinned to the front for both function and style.

Frock

Frock is a type usually worn by baby girls. It consists of body part skirt part and sleeves. The garment is featured with yoked bodice gathered or smocked skirt and puff sleeves. The neck is generally cut in round or binding. The opening of the garment is at the centre back. Which is fastened with zipper or hooks. Cotton fabric is most suitable for stitching baby set (fig 5)

Drafting

This method is very useful for beginners as well as experts as it helps in acquiring proficiency in dress designing. Also it eliminates the risk of material being wasted due to errors in cutting. In this technique of drawing a paper pattern with mechanical precision using accurate body measurements.

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

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

The following details should be mentioned on pattern:

1 Name each piece

2 Number of piece to be cut

3 Seam allowance to be mentioned

4 Lengthwise grain

5 Providing matching notches

6 Centre front and centre back should be marked

7 Fold lines should be clearly shown; fold for hem allowance should be mentioned

8 Darts, pleats making should be marked on paper pattern

Steps in preparation of material

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

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

Calculating fabric requirement (Fabric estimation)

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

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

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

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

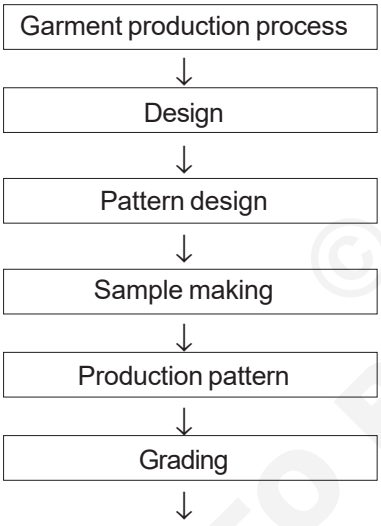
Introduction of garment industry

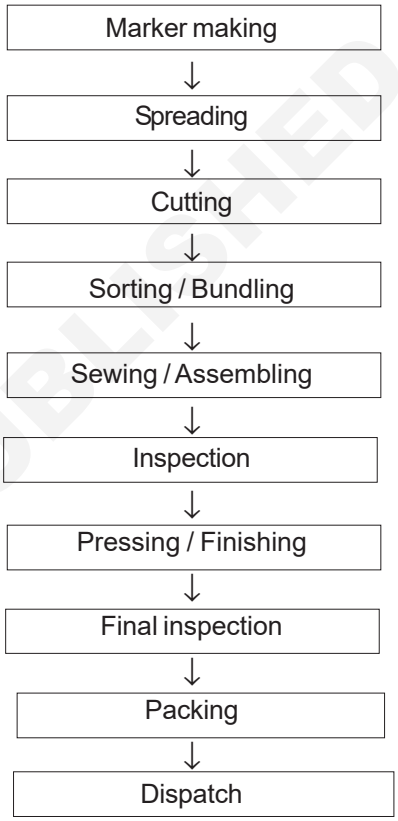
Objectives: At the end of this lesson you shall be able to
- **explain garment production process**
- **state introduction to quality control**
- **explain raw material quality control**
- **explain fabric quality control**
- **explain defects classification**
- **explain about fabric care.**

Introduction to garment industry

Garment industry processing depends on steps and techniques. Outfit developing techniques means the clothing running actions and methods for the huge creation in company time frame for company reason. Garment plants based on items. Garment factor are classified into

1. Woven garment factory
2. Knit garment factory
3. Sweater garment factory





Introduction to quality controls and its requirement

Objective: At the end of this lesson you shall be able to
- **explain about fabric care.**

Introduction

Quality control

In the apparel industry where fashion dictates the market place and there is a multitude of variables in terms of raw materials manufacturing processes, operators and so on, the importance of quality is not universally recognised. But the success of garment made mainly depends on quality (Quality is the main ingredient in a product that delights the customer by either meeting or exceeding expectations.)

A survey conducted by experts reveals the following two findings such as directly related to quality

1 Eighty seven percent of consumers always look for top quality.

2 Eighty four percent of consumers will pay more for top quality.

Various research studies have indicated the following six benefits of quality.

- Greater market share
- Higher growth rate

- Higher earnings
- Premium price
- Royal customers
- Highly motivated employees.

Quality means different things to different people, depending on their perception of the value of a product under consideration and their expectations of performance and durability for that product. Quality is defined as essential nature; a trait; characteristic; superiority; relatively considered. Quality can also mean any of the following.

- The degree of excellence that an item possesses
- Being the best money can be buy
- Meeting a specification
- Craftsmanship
- No more than 1% defective lot
- Anything Japanese

There are eight dimensions of quality, performance, features reliability, conformance, durability, serviceability, aesthetics and perceived quality. Quality doesn't become complete without any one of these dimensions.

Quality can also be defined as a combination of the characteristics of properties of a product which make the product usable. Therefore, the quality of a product may be described in terms of whether the product is fit for use or not. Fitness for use is the most widely used concept of quality and is determined by those features of a product that a user can recognise as beneficial, that is, the fresh baked taste of bread, clear reception of radio, programs, timeliness of busy train etc., wear life of a pair of shoes; fitting of a garment and so on. Fitness for use should be judged from the consumer's point of view and not from either the manufacturer's or seller's perspective.

A garment can be decided whether a quality one or not by the following guide lines.

Some quality relates terminology taken from an American National Standard "ANSI/ASQC A3 Quality Systems Terminology" published by the American society for quality.

Quality management: That aspect of the overall management function that determines and implements the quality policy.

Quality system: The organizational structure, responsibilities, procedures, processes, and resources for implementing quality management.

Quality plan: A document setting out the specific quality practices, resources, and activities relevant to a particular product, service, contract, or project.

Quality policy: The overall intentions and directions of an organization as regards quality as formally expressed by top management.

Quality assurance: All those planned or systematic actions necessary to provide adequate confidence that a product or service will satisfy given requirements for quality.

Quality control: The operational techniques and the activities used to fulfil requirements of quality.

Statistical quality control: The application of statistical techniques to the control of quality.

Inspection: Activities, such as measuring, examining, testing, gauging, one or more characteristics of a product or service, and comparing these with specified requirements to determine conformity.

Testing: A means of determining the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating actions and conditions.

Some of the factors that influence consumers' perception of quality. These factors are:

Price: Consumers tend to associate quality with higher price. There is some evidence that price is used by shoppers in quality estimates and that for some products consumers' estimates of quality are affected by price.

Technology: This indicates factors such as fabric and seam strength, colour fastness, shrinkage, and other properties that are affected by the state of technology in the industry.

Psychology: A garment can be reasonably priced and the best that technology can offer, but if it is not attractive in appearance, if it is not fashionable, if it does not meet the aesthetic requirements of the customers, then it is not attractive in appearance.

Time orientation: This includes durability. Of course, the importance of durability varies with categories of garments, that is, children's garments are expected to be more durable than ladies' high fashion garments.

Contractual: This refers to a product guarantee, the refund policy of a store, etc.

Ethical: This refers to honesty of advertising, courtesy of sales personnel, etc.

Quality garment

1 It must be free from defect, such as stains, material (fabric) defect, open seams, loose hanging (untrimmed thread, misaligned buttons and button holes, defective zippers, and so on).

2 Must fit properly for the label sized.

3 It must perform satisfactorily in normal use, meaning that a garment must be able to withstand normal laundering / dry cleaning / pressing cycled without colour loss or shrinkage, seams must not come apart, fabric must not year, and so on)

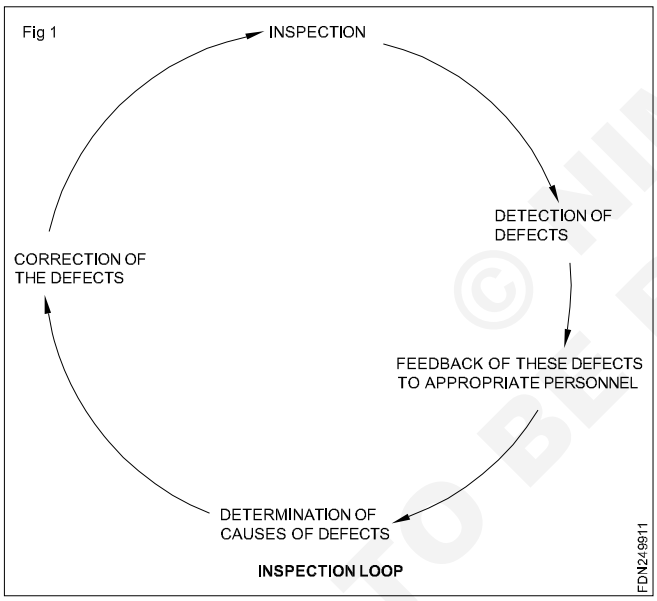
Quality Control

Quality Control is the process of maintaining given standards in the product, from the design phase to the customer's use of the product for a give life with given conditions. The American Society for Quality control (ASQC) defines quality control as a systematic approach to the search for excellence (synonyms : productivity, cost

reduction, scheduled performance sales customer satisfaction, team work, the bottom line).

Inspection is the mai means by which quality control is achieved through. Inspection can be defined as the visual examination or review of raw materials (such as fabric, buttons, zippers, sewing threads, etc). partially finished components of the garments and completely finished garments in relation to some standards, specifications, or requirements, as well as measuring the garments to check if they meet the required measurements.

(Quality control is not just finding out the defects but also includes rectifying the faults and preventing its recurrence in future. The principle involved in quality control is the early detection of defects, feedback of this information to appropriate people, and determination of the cause, ultimately resulting in the correction of the problem. The main objective of inspection as the detection of defects and non conformance as early as possible in the manufacturing process so that time and money are not wasted later on in either correcting the defect or writing off defective garments. For inspection to be effective, the entire quality control cycle shown in the following figure must be completed. (Fig 1)



Most of the quality problem can be reduced once there is a clear understanding between the buyer and the supplier. Since the garment industry is the fashion oriented industry the buyer keeps on changing his specifications. A close follow up and updating of the information and effective communication to the shop floor is most essential to meet the exact requirements. In an average Indian setup, the breakup of the quality problems goes as follows.

Sewing faults	75%
Fabric faults	14%
Finishing faults	10%
Trims and Thread faults	1%

The major percentage of the claims by the consumers has been directed towards bad quality of garments due to simple sewing mistakes.

Management and the quality control department provide production workers with assistance information and support in their efforts to produce garments which confirms to specifications. But quality in production can be controlled only by the production workers as they make the product.

Quality control in a garment industry can be divided into three sections.

Raw material quality control

In - process quality control

Final quality control (or) Finished Product Quality Control

2 Raw material quality control

Quality control is a must for raw material, which not only governs, aesthetics, durability, and utility but also governs the cost of processing, packing, and / or shipping, because if a garment is manufactured with a defective raw material this will result in not only material waste but also labour, power and time etc which were utilised to manufacture that garment. Quality control of incoming raw material (i.e fabric, sewing thread, zipper, interlining etc) should begin as soon as the material is received.

The first step in raw material quality control is the establishment of raw material quality standards for fabrics, interlinings, thread, zippers, closures and other findings. Even labels and tags need to conform to quality standards. Although fabric account for more than 90% of the cost of all materials, each component, however seemingly in significant, requires control of quality to avoid problems which may result in large number so dissatisfied customers. A broken zipper renders a garment useless even though its cost may be a dime. Poor thread can result in skipped stitches and excessive pucker, along with many other problems. Trim items may bleed on to the base fabric if colour fastness is not specified and controlled.

Importance of fabric quality control

1 If the fabric having full of defects and faults, as a raw material it will affect the total production.

2 The defective fabric leads to most of rejected garments and that leads to rejection of the order.

3 Defective fabric defects affect the production and quality, which consumes more time for production.

4 Defective fabrics affect all the process from cutting to packing.

5 Future orders will be spoiled by the more fabric defects.

Quality control in spreading

1 Check whether the lay is compact and without wrinkles.

2 Line matching of the lay should be inspected.

3 Check the number of pattern pieces, sizes and pattern directions of the layout.

4 Check the pattern grain and fabric grain quality.

5 Check the marking quality.

Quality control in cutting

1 The cut component should be properly matched with the actual patterns.

2 The cutting parts should not have serrated or frayed edges.

3 Check the parts are correct without any over or under cut.

4 Check the portions of the notches and drills.

5 Check the fabric grain of the cuts.

Quality control in sewing

1 Check the garments having proper measure with specifications.

2 Check the garments have defects free. These should not have a sewing defects (miss stitch, puckering etc.) b. Seaming defects (Raw edges inside closing, puckering in seams, etc.) c. Assembly defects (Collar middle variation, sleeve up and down etc.)

3 Check the fasteners, trims, labels and their position and placement.

4 Check the garments frequently at the primary, middle and final stage of the sewing process.

5 Check the quality of stitches, SPI and other details like embroidery works, decorations if any.

Quality control in finishing

1 Check the quality of pressing and the garments should be wrinkle free.

2 Check the garments are trimmed well without any protruding threads.

3 Check the garments are free from stains.

4 Check the quality and position of the individual piece packing materials.

5 Check the folding quality of the garment.

Final inspection

Final inspection process

1 Check the quality of the cartons and presentations. Check the type and method of packing.

2 Check the quality of the presentation and trimmings.

3 Check the measurements of the garments.

4 Check the garments free from raw material defects and sewing defects.

5 Check the appearance and drape of the garments.

Different techniques or methods of final inspection

The main purpose of inspection is to decide whether the garment lot is to be passed or rejected. An out of the total bulk quantity of garments, we cannot decide that how many garments to be inspected. The following are the different techniques.

a No inspection

No inspection means the lot is passed without inspecting even a single piece of garment. If it is a defective lot, it will create the buyers' and customers' dissatisfaction.

b 100% inspection

100% inspection means each and every garment of the lot is thoroughly checked. It is the best method but it will consume more time.

c Spot checking

This method consists of inspecting random shipments. In this method, the lots are checked randomly without any idea. By this, there is a chance or stopping some defective materials and it is only partially effective.

d Arbitrary sampling

In this method, some part of the shipment (normally 10%) is thoroughly checked and decided whether the lot is passed or rejected. But this, percentage (10%) not suits for all the orders. Sometimes, it leads to wrong decision.

e Acceptance sampling/Statistical sampling

This method is also called as "Statistical Quality Control" (SQC). The application of statistical techniques to control the quality is known as "statistical Quality Control". It is mainly based on the AQL preferred by the buyer. AQL is known as Accepted Quality Level is maximum percentage of defective accepted by the customer or buyer.

In this method, statistics or norms are set according to the order quality. An example for set norms has been given below.

Sl. No.	Order Quantity	No. of pieces to be inspected	Defects - Major/Minor
1	1 - 50 Nos.	10	No defect
2	50 - 100 Nos.	15	1 minor
3.	100 - 500 Nos.	35	1 Major / 2 Minors

By these norms, the lot is passed or rejected. But these norms will vary according to the buyers and company. This is a suitable and widely used method and based on the AQL % of the buyers.

Managing quality in the apparel industry

There are various fabric inspection systems, as listed below. However, we will discuss only the 4-point system because it is used most widely:

1 4-point system

2 10-point system

3 Graniteville "78" system

4 Dallas system

5 Textile distributors institute (National federation of textiles-1955) system

6 4-point System-Revised

4-point system

The 4-point system also called the American Apparel Manufacturers Association(AAMA) point-grading system for determining fabric quality, is widely used by producers of apparel fabrics and by the quality, is widely used by producers of apparel fabrics and by the Department of Defense in the United States and is endorsed by the AAMA as well as the American Society for Quality Control(ASQC).

Fabric flaws or defects are assigned point values based on the following:

Length of defect in fabric, either length or width points

Fabric inspection

1 In garment industries, the quality of received fabric is found out by fabric checking.

2 For that, they are using fabric inspection machine to check the fabric.

Fabric inspection machine

a This machine is used to inspect the fabric quality.

b Here, the fabric is unwound from a beam and being wound on other beam.

c In the middle, the fabric is moved on a glass table which is having a series of tube lights.

d With the help of the brightness, one can visually check the fabric and can mark the defects by placing necessary colour or arrow stickers.

e A counter is also used to know the number meters been checked or wound the fabric winding roller.

3 They are normally following 4 point system to value the fabric either to be passed or rejected.

4 The defects are classified to major defects, minor defects and damages. According to that they are deciding the fabric to be passed or rejected.

5 They use different colour stickers to know the types of fault or defects like major, minor, damages or stain for easy identification.

Point system

In this system, according to the length of the defect the points are allotted. They are,

Defects

upto 3”	-	1 point
upto 3” - 6”	-	2 points
6” - 9”	-	3 points
Over 9”	-	4 points

Holes and openings

1” or less	-	2 points
Over 1”	-	4 points

Here total defects/100 Sq.yards is calculated and normally those fabric rolls contain more than 40 points per 100 Sq.yards are considered as “Rejected”. By this system, the checked fabric is passed or rejected. This is the widely followed system in garment industries. This is suitable for knitted fabrics also.

Common fabric defects

1 **Weft bar :** Weft bar is a band running weft-wise across the full width of the cloth.

2 **Weft crack:** It is thin place or missing weft across the body of the fabric.

3 **Thick and thin places:** These are similar to weft bar bt unlike weft bar it repeats at intervals.

4 **Weft loops :** When a small portion of weft is caught by warp threads and that portion of the weft forms loops. This is seen on one or both sides of the cloth.

5 **Box marks :** Box marks are seen on the cloth as a result of something brushing or staining the weft while it is in or near the box.

6 **Missing ends :** Absence of warp ends at this proper place in fabric is termed as missing end.

7 **Floats:** Improper interlacement of warp and weft ends in the fabric over a certain area is known as float.

8 **Broken picks/double picks :** The partial pick inserted in the fabric because of weft break/exhaustion is called as broken pick.

9 **Lashing-in :** It is the length of weft yarn that has been pulled mistakenly into the shed during weaving.

10 **Temple marks :** These are in fabric because of the incorrect setting of the temple rollers.

Fabric defects classifications

Fabric defects are generally classified as either major or minor. The definition of exactly what constitutes a major defect and minor defect depends upon the type of fabric and the end use, as well as whether the fabric is being graded in the grey or finished state for example, a defect that would be considered as serious (a major defect) in a high quality combed poplin would most likely not be classified on the same way in a low - quality carded print cloth.

Defective fabric classification is done in many industries using the following principles.

Sub minor : A defect which is not obvious and may not be noticeable at first glance. It would not likely cause a garment to be defective to such an extent that the garment would have to be sold as a second. No grading points would be assigned to these defects but if they occur with a high frequency, this fact should be called to the attention of the supplier. If an excessive number of this type defect

occurs in a single piece of fabric consideration should be given to grading the entire lot as seconds.

Minor : A fairly obvious defect which is noticeable more or less at first glance and might easily cause a defective garment. Points will be assigned to such defects, depending upon length.

Major : An obvious or very obvious defect which can easily be seen from a considered distance and would most likely cause a defective garment.

Critical Defect : This is a classification used for defects of such severity that would cause a garment not to be saleable even as a second.

Weft slubs and warp slubs are probably the most common of all defects, especially in the lighter weight garment fabrics, and in some cases amount to fifty - percent of the defects in a piece. Following closely behind slubs in frequency of occurrence and importance are holes, broken picks, jerked -in filling, coarse picks, thick and thin places, and broken selvedges. The finishing defects which appear with the highest frequency are over bleaching, stains, streaks, dye specks, over dyeing, over or under shrinkage, creases, selvedge to selvedge shading and end to end shading. Common defects for fabrics woven from filament yarns would include faults such as mixed yarn, shiners, twist variation, broken filaments, barr, and reed marks.

Fabric defect description

Defect	Description
Bad selvedge	Wrong draw in selvedge; selvedge damaged by template
Broken picks	Separation of picks of cloth
Broken warp ends	Long ends loose on face of (or) loose ends fabric
Double ends	Two ends weaving as one
Draw backs	Tight warp ends
Filling hanging	Loose ends hanging from left hand side of cloth.
Floats	Misweaves of warp or filling or both, with ends floating usually ½" to 2" square.
Holes	Cuts or tears through fabric
Mispicks	Two picks in same shade for the entire width of fabric
Mixed filling	Wrong count of weft in cloth
Oily filling	Weft with oil spots
Stack thread	Warp end running in loosely
Thick pick	More density of weft than desired in certain area
Warp end cut	Thread not weaving in cloth for 3" or more

Defect	Description
Wrong pattern	Weaving designs are not uni form and correct
Uneven repeat	The repeat size in checks de sign uneven
Clip marks/Pin marks	Fabric slightly distorted or prominent holes near selvedges
Dye stains	Thick colour spots in dyed fabric
Dye streak	Colour concentrated as a bar
Selvedge mark	Different shade along the fab ric selvedge due to folded or doubled selvedge
Uneven dyeing	Variation in shade in lengthwise or widthwise
Uneven brushing	The brushing intensity difference in the fabric
Unbrushed spot	Unbrushed spots caused due to folding of fabric
Shade bar (or Barr'e)	Horizontal band of a different shade running across the fabric
Colour patch	Uncontrolled flow of colour on fabric in printing
Mispattern	The printing not exactly over the other in multi colour printing.

Cutting defects are

Cutting quality is a prerequisite for quality in a finished product. In addition, cut work quality affects the ease and cost with which construction is accomplished. The quality of work leaving the cutting room is determined by how true the cut fabric parts are to the pattern; how smooth or rough the cut surface is; material or fabric defects in the cut fabric parts; shade differences between cut fabric pieces within the bundle.

In addition, various factors in cutting that can affect the subsequent quality should be checked, such as under- or overcut, size, placement and sequence alignment of notches and drill holes, ripped or pulled yarns, etc. Dunlap lists the following defects that may arise in cutting.

Frayed edges: May impede cutting time by clogging the knife action and/or mar the fabric with rips or pulled yarns. The amount of fraying depends on fabric construction and finish. Improper cutting tools or dull knives cause excessive fraying in a pattern as the section is cut.

Fuzzy, ragged, or serrated edges: The result of poor cutting implements. Such edges will impede sewing and/or diminish sewing quality. Such a condition is caused by faulty knife edges such as burrs, chips, or dullness.

Ply-to-ply fusion: More common and troublesome. Adjacent plies in a block are fused together, which makes it difficult for the sewing machine operator to pick up a single ply quickly. Fusion occurs due to heat created by

excessively high speed of cutting or by the friction of a dull knife. To prevent fusion, check knife speed, keep knives sharp, place wax paper between fabric plies, and lubricate cutting blade.

Single-edge fusion: Consists of single ply whose cut yarn ends are fused to form a hard brittle rim on the cut edge. Sometime, this is desirable to prevent fraying; however, hardness and brittleness are undesirable if they impede sewing manipulation or may result in seams uncomfortable to the consumer.

Pattern precision: Misshape or distortion of the pattern perimeter as cut. Whether it is under- or overcut is due to the poor manual control of the cutting machine and poor lines on the marker. To assure precision in a pattern, check markers before cutting, use tensionless spreading, or allow time for the fabric to relax. After a cut, check the top, bottom and middle plies against the pattern.

Notches: Notch size refers to the depth of a notch. If the depth is too great, the notch may show after a garment is sewn. If the notches are too small, sewing operators may have difficulty locating them quickly, resulting in decreased efficiency. Misplacement of a notch may be due to an improper spread marker, poor control of a cutting machine with the cutter's notching tool stroking diagonally instead of vertically, incorrect marker in that the notches for mating parts do not coincide. Check notch placement against mating piece. Quality control in stitching may be a problem if notches are not aligned.

Drilling: The drill hole may be too large or too small in diameter. In addition, a drill may become too hot due to high speed or wrong size, causing the plies to fuse together at the drill hole. The drill must stroke vertically to the table for uniform placement throughout the bundle. Sometimes fabric properties are such that the slight movement of yarns in a fabric would close a drill hole. In such cases, it is necessary to drill holes with a marking fluid. The drill used for such a purpose is hollow and carries marking fluid(ink) that is deposited at the drill point on the fabric as the needle is withdrawn. Such marks should last long enough so that further processing can be finished without difficulty, but should be easily removable after processing or in case of an error.

Fabric care

Care of fabric is very essential for improving the life and service of a fabric. Fabric care means maintaining fabrics properly clothes need

1 Frequent laundering and cleaning to remove dirt, stairs etc. Its better to wash in lukewarm water with a mild detergent.

2 After washing it should be dried properly. Drying should not be done under direct such as it can fade the colour as well as affect the fiber.

3 Regular ironing should be given to maintain the fabric as well as to get a fresh look.

4 Mending should be done on proper time as the torn fabrics will reduce durability of fabric. As the saying goes "A stitch in time save nine", has to be correctly followed.

5 Stains if any present has to be removed by proper method or dry cleaning.

6 Proper methods of storage should be done for these clothes which we do not use regularly.

7 Washing, Ironing, drying, storing etc should be according to the care label instructions attached to the garment. If we do the above things properly the appearance, feel of fabric will be fresh and durability of fabrics will be high.

Storage of fabrics

1 While washing, see that its cleaned thoroughly to avoid dirt, stains etc and dried well if drying is not proper, it attracts the growth of figures insects which attacks the clothes and destroy it.

2 Do not store in plastic bags or air tight containers proper air circulation should be there.

3 Use a desiccant to absorb moisture in the storage place as moist atmosphere attracts fungs mildew.

4 Dry to store in a dark well ventilated place as constant exposure to light can fade the colour.

Dry cleaning: its a method of cleaning textile materials using chemicals, mainly to remove dirt, stairs etc. The usually used chemical is per chloroethylene (PERC). The dry cleaning chemical should be gentle and should not harm fabrics, should give good cleaning action and stable. Petroleum based solvents are mostly used for this. Care should be taken during this treatment as it can lead to destruction of the fabric itself.

Uses of starch and whitening agents

Starching is a temporary finish given to fabric to enhance its appearance, firm flimsy feel. Usually it done for cotton and cotton blends. It helps the cloth to have better soil (dirt) resistance and also makes ironing easier.

Whitening agents are those which can enhance fabric colour in white/creams fabrics without using bleaching agents. They are known as optical brightness. These are usually added in detergents to a certain level as it helps to have a much cleaner look.

These whitening agents can be used after washing the material thoroughly to remove the dirt and soil lemon is a good whitening agent.

Starching and whitening are usually done at home after each was to enhance the feel and appearance of the fabric and it also increases the serviceability of the material.

Managing quality

Objectives : At the end of this lesson you shall be able to
- **manage quality through inspection**
- **explain histogram and pare to chart**
- **explain defects and their causes.**

In the beginning, to obtain an overall picture of where you stand in terms of quality, perform 100% final inspection of all styles for atleast two to three weeks and collect information. The following are various defects to look for:

1 Broken buttons

2 Broken snaps

3 Broken stitching

4 Defective snaps

5 Different shades within the same garment

6 Skipped stitch

7 Exposed notches

8 Exposed raw edges

9 Fabric defects

10 Holes near zipper

11 Loose/hanging sewing threads

12 Misaligned buttons and button holes.

13 Missing buttons

14 Broken needle found in garment

Knots

Piecing of broken threads with tail end or improper knotting.

Causes

When the thread breaks during the process of winding, warping, sizing and weaving if the knotting machine is not used it results in long tail end or thick knot.

Weaving defects

Missing ends

The fabric is characterised by a gap parallel to warp.

The number of ends missing may be one or more.

Causes

1 Loom not equipped with warp stop motion.

2 Drop wired dirty. Accumulation of lint may prevent their dropping.

3 In electric warp stop motion, the electro bars are dirty or corroded.

4 Bent or broken drop wires.

5 Even when the loom is equipped with warp stop motion the sized beam is such that it cannot be woven with warp stop motion on. This is in case of *soft beam*h and *damp beam*h or wet beam.

6 Excessive warp breaks.

7 The weaver is careless is not tying the end in time.

8 The basic yarn is of poor strength for the quality of fabric woven.

Oily or soiled ends

These are oily or soiled warp threads of longer length frequently seen at short intervals.

One skip on securing stitch or obvious skips on decorative thread affective appearance.

Immediate repairing & Inline checking

Objectives : At the end of this lesson you shall be able to

- **explain inline checking**
- **explain different aspects of factory visit**
- **explain types of packing**
- **explain packing material and its uses.**

Inline checking

During the sewing operation each component sewing portions to be checked thoroughly. Each checker will be appointed and this checking process can be carried out. Minor errors can be rectified by the serving operator and expected result of quality can be obtained.

End line/Final checking

The end line checkers are one of the most important people in deciding whether the garment will rejected at a later stage. The end line checkers check the garment thoroughly and only the pieces that are passed go to the next stage of production. The garment checkers segregate the garments by virtue of its defects in the following manner.

1 First pass pieces

2 Fabric defects

3 Stains

4 Immediate alters

5 Line alters

6 Rejections

The defects are then rectified accordingly and sent back to checkers for inspection again and this process continues till all defects are removed again and corrected again. Then they are audited again and this process continues till the pieces are passed.

Legend for layout of checking area.

B = Bins

FF = Form finishers

BU = Buttoning, alteration, security label attachment

R = Reject pieces storage

SR = Stain removers

Then after a particular lot has been checked by the checkers, it goes for an audit, this audit is done by the auditors who choose randomly certain pieces (10 pieces if the lot is less than 100 and 20 pieces if the lot is greater than 100) and inspect it thoroughly.

It is inspected with a 2.5 A.Q.L and if any defect found greater than the acceptable limit, the whole lot in rejected, and the garments are 100% checked.

How to take the in-line checking?

In-line inspection should take place as early as possible.

The idea of the in-line is to identify problems so they can be fixed before they become a major problem. This will also assist in determining if the manufacturing process is achieving the desired level of product quality. Preparation QC must have the case files for each order to review and follow up at factory at least one month before delivery date.

Case file should be contained the following information.

1 Garment purchase order

2 Design worksheet

3 Sundries worksheet

4 Trim card

5 PAF & P.P comments

6 Fabric/Color swatches

7 Wash standard-Hand feel standards

8 Approval shade band

9 Any fabric/ Lab test report

10 Approval Pre Production sample

Review the pre-production sample, the pre-production sample evaluation document, and all standards in the "Case file". The more you prepare for the in-line, the more effective the result. If standards are available, contact buying office immediately for answer.

Establish the critical operations and the main focal point(s) of the garment. Review with your manager/supervisor and the merchandiser.

Give the factory much notice as possible of the pending in-line inspection, so that they can arrange to have the correct technical people present.

During factory visit

1 Start to complete the in-line inspection report;

Complete the top of the form (Manufacturer, PO, order qty, style no., date, etc)

Record production status by indicating units and/of approximate percentage in each production phase.

Record nos. of sewing/linking line for inspection report, nos. of sewing/linking operators and daily output in timely basis. Add your comments if you foresee any delivery slide of the shipment.

Review hand feel samples and compare to standard review color of production fabric and compare to color standard and shade band.

Proceed to the production area "Walk" the production line(s) and check each operation in the correct sequence. Review all or part of the following depending upon the style and wash treatment etc.

Inspect bulk fabric at factory due for fabric problem.

Conduct an in-line inspection for workmanship on partially finished goods at different stage in the sewing room, operator handling, machine setting, etc.

Check logo especially our trademarked lion logo crest & flag-color, layout and quality of embroidery stitching.

Check kelly green button-hole on our trade marked color, stitch density, bite depth, thread thickness and bar tack flatness.

Measure small particulars such as pocket flaps. pocket/ collar/cuff, etc. to ensure specs are correct.

Compare color of rub on collor/cuff/bottom to determine color matches and ensure there are no shading problems.

Check all trims quality, standard and placement are correct to our spec.

Take measurement against our spec, atleast our garment of each size and color during in-line audit.

Particular attention must be given to the critical operations and focal points identified during the preparation stage.

If garment washed, one complete drum load must be reviewed and compared to after wash standard (color, spec, hand feel, appearance, etc.)

If questions of specification, fabric standard, color, hand feet, etc. come up, the merchandiser/production office should be contacted for answer.

2 Complete the in-line inspection report. Review the following with factory management.

Problems found.

The number that was rejected.

The number that was accepted.

The action and solution that will be taken to fix the problems.

Area requiring attention to final inspection must be noted on the form under "Special area needing attention".

The form must be signed by the QC and the factory management and dated. If a defective garment is found and cannot be fixed, a reference sample must be submitted to the regional office for a decision.

3 Indicate the details of the garment to which the final inspection operation must pay particular attention. These points must be clearly written on in-line inspection report under the section "Special area needing attention" inspection. Make it clear to the factory management the problems you are highlighting to the final inspector.

4 Fax all finished in-line inspection report to buying office in timely basis.

Introduction

It is the manufacturer responsibility to only ship first quality garments in any first quality shipment to final inspection. It is important to note and understand the auditing procedures that use to monitor and check garments at the manufacture and distribution center. To maintain consistency high garment quality, requires that each auditor at the supplier use the same procedures, reporting and standards as auditors. To conduct a final inspection the following procedure must be followed.

Preparation

A final inspection is conducted when a purchase order is atleast 80% completed and in final packing.

Before the final inspection begins, the final quality auditor must read the in-line inspection report and check goods against the approved P.P sample with sealing tag.

QCs must have the case file for each order and all standard should be available in the case files. (PO, design worksheet, sundries sheet, PAF *fs & PP comments, fabric/color swatches)

All standard (color, hand feel, shade band, wash standard, trims, etc.) must also be reviewed.

If QC has any query on information, immediately contact BO for clarification.

Separating the rolls of fabric according to shade.

Documentation

Check garment/fabric test report if they were with passed results.

Complete and check all accessories against our sundries sheet (label, ticket, hang tag, etc.) in the check list.

Complete and check all carton labelling (UCC-128, adjusted label, new released label, etc.) to our standard.

Indicate the day and time inspection stated and finished on the final inspection report.

Indicate the total number of pieces for sampling size, accept and reject level.

Indicate the final reject pieces after the final inspection again AQL 4.0 standard.

Procedure

Ensure that cartons are selected randomly across all sizes and colors. The minimum number to be opened are dependent upon the total number of cartons in the shipment as follows:

No. of cartons in shipment	No. of cartons to select
2 - 15	2
15 - 25	3
26 - 90	5
91 - 150	8
151 - 280	13
281 - 500	20
Over 500	32

Measurement audit

During final inspection, measure three finished garments of each size across all color. If any measurement is out of tolerance, then measure a total of six garment per size.

Inspection result

Accept shipment: If measurement are within our industry standard tolerance, total number of major and minor defects are at or below acceptance level, the audit of lot is passed.

Reject shipment

Either measurement are out of our industry standard tolerance or major and minor defects equal or exceed the acceptable level for rejects allowed, the lot falls. The manufacture is then required to 100% re-inspect the entire shipment and all defective garments must or sorted out. The lot must then be re-inspected before shipping. If major/ minor point is consistently found, the shipment will still be rejected even though the total number of defects are within tolerance. In a critical situation, if WC docs not feel comfortable making a decision on specific case, QC will inform factory in advance to request 100% packed for final.

Inspection

If QC is unable to solve a problems found in factory, they should approach their supervisor or BO so that he/she can help to solve the problem.

Separate pack-different color shade: To ensure carton is properly labeled and to mark on packing list for distribution to different stores.

No final inspection will be taken for those shipments without final shipment approved pre-production sample retained in the factory.

QC should audit seconds and damages to ensure that they are not first and the garments meet standards for seconds and damages. Seconds should be shipped by next vessel after the first quality is shinned.

Seconds inspection report should be separated from first quality goods and marked with "Seconds".

Inspection report

Write clearly so the report is legible. The report must be signed by both quality auditor and factory management.

Fax all final inspection report to buying office in timely basis. If there is any rejection. Quality auditor should notify buying office in timely basis.

After shipment, the packing list information should be faxed to BO no later than 72 hours after goods exit factory to below fig shows some defects in final inspection report.

Size rings

Size rings are made up of plastic with different colors and the size is identified on the rings.

The cost of the size rings ranges from 80 paise to 2 Rs.

Method of packing

There are different method of packing. They are

- Stand up pack
- Flat pack
- Hanger pack
- Dead man pack

Stains rectification

Objectives: At the end of this lesson you shall be able to
- **state different stains**
- **explain different stain removal process.**

Stain removal

Beverages: (Wine, Alcohol and Soft Drinks)

Sponge with cool water. Soak for 15 minutes in 1 qt. of lukewarm water, ½ tsp. liquid dish detergent and 1 Tbsp of white vinegar. Launder. If stain remains, soak in an enzyme presoak for 30 minutes.

Blood: Soak in cold water for 30 minutes. Wash with warm water and a detergent. If stain remains, soak in an enzyme presoak and lukewarm water for 15 to 30 minutes or apply a few drops of hydrogen peroxide. For old stains, apply a few drops of ammonia and wash with detergent.

Candle wax: Scrape excess from fabric with a dull knife. Spray or sponge with dry - cleaning solvent, then rub with heavy - duty liquid detergent before washing. Pressing the wax between paper may set the candle dye more permanently by making it harder for the solvent to penetrate the wax. Launder using the hot water and chlorine bleach if safe for fabric.

Chewing gum: Rub with ice cube and remove excess with a dull knife. Sponge with dry - cleaning solvent or pre - wash stain remover and rinse with water. Launder garment as usual.

Chocolate or Cocoa: Sponge with dry - cleaning solvent or treat with pre - wash stain remover Rinse Apply liquid dish detergent to stain. Launder using hot water and chlorine bleach if safe for fabric. If stain remains, soak for 30 minutes in enzyme presoak. Rinse and launder.

OR Bleach chocolate stains with hydrogen peroxide. Rinse with water and wash as usual.

Coffee, Tea: Soak in solution of 1 qt. water, ½ tsp. liquid dish detergent and 1 Tbsp. vinegar for 15 minutes. Rinse with water. If stain remains, sponge with alcohol or soak in enzyme presoak and warm water for 30 minutes.

Cosmetics (Powder, Eyeliner, Shadow, Etc.): Sponge with dry - cleaning solvent or use pre - wash stain remover. Rinse with water and air dry. Apply liquid dish detergent to stain and launder in hottest water possible for fabric.

Crayons, Wax: Remove excess with a dull knife. Place stained area face down on paper towels and spray with WD - 40 R lubricant. After a few minutes, turn over fabric and spray other side. Work liquid dish detergent into stain. Launder using hottest water possible and chlorine bleach if safe for fabric.

Crayon (in Load of clothes): Scrape off excess with a dull knife. Wash in hot, soft water with soap (Ivory R and ½ c of baking soda for 10 minutes. If stain remains, work in soap paste and run again for five minutes.

OR Take load to a dry cleaning coin - operated or to a professional dry cleaner and ask for bulk cleaning.

Milk and Ice cream: Sponge with dry - cleaning solvent, pre - wash stain remover or dry spotter (see recipe). Allow to dry. Rinse with water. Apply liquid dish detergent and launder in hottest water possible for fabric.

OR Soak in warm water and enzyme presoak for 15 to 30 minutes, then launder.

Deodorants, Antiperspirants: Soak in cool water. Apply detergent to stain and launder. If fabric is discolored, treat fresh stains with ammonia and old stains with vinegar.

Egg: Soak in cool water with enzyme presoak for 15 - 30 minutes. Rinse and let dry. Rub in detergent before laundering. If greasy stain remains, apply pre - wash stain remover and launder.

Fruits or Berries: Soak in 1 qt. warm water, 1tsp liquid dish detergent and 1 Tbsp. white vinegar for 15 minutes. Rinse. If stain remains, sponge with alcohol, rinse and launder. If color stain remains, launder using chlorine bleach if safe for fabric or use oxygen bleach.

Gravy: Sponge with dry - cleaning solvent or use pre - wash stain remover. Rinse with water. Air dry, then apply heavy - duty liquid detergent to stain and launder.

OR Soak in warm water and enzyme presoak for 15 to 30 minutes. Launder.

Grease, Oil and Butter: Sponge with dry - cleaning solvent, then air dry. Apply detergent to stain and Launder.

Ink, Ball Point, Felt tip marker: Sponge on any of the following until stain is forced out : dry - cleaning solvent, alcohol, acetone or pre - wash stain remover. Let dry. Repeat if necessary. If any stain remains, apply heavy duty liquid detergent and launder. Certain hair sprays are effective on ball point, but some may leave a gummy residue and perfume.

Lipstick: Apply dry - cleaning solvent of dry spotter. Blot with absorbent material. Continue treatment until color is gone. Rinse and air dry. Rub in liquid dish detergent and launder.

OR Use pre - wash stain remover and launder.

Layonnaise, Salad dressing: Sponge with dry - cleaning solvent or use pre - wash stain remover. Rinse with water. Air dry. Apply detergent to stain and launder.

Mildew: For fresh stains, wash in heavy - duty detergent and dry in the sun. If stain remains, sponge with hydrogen peroxide. Launder using oxygen bleach if safe for fabric.

OR Moisten stain with lemon juice and salt. Set in sun to dry. Launder as usual.

Nail polish: Apply nail polish remover. amyl acetate or acetone to back of stain over absorbent material. Do not use fabric is acetate, triacetate or mod acrylic. Rinse and launder.

Paint, Oil base: Remove the paint before it dries. Sponge with dry - cleaning solvent. Rinse. If a thinner is recommended for the paint, treat stain with it. Work in liquid dish detergent and launder using hot water if safe for fabric.

Paint, Water base: Remove the paint before it dries. Sponge with dry spotter. Soak stain in cool water. Apply detergent and launder.

Pencil marks: Use an art gum eraser to erase marks. Sponge with dry - cleaning solvent or apply pre - wash stain remove. Launder.

Perfume: Sponge or soak in cool water. If stain remains, soak 15 minutes in 1 qt. lukewarm water, ½ tsp liquid dish detergent and 1 Tbsp. white vinegar. Launder.

Perspiration: Pretreat with an enzyme presoak. Apply detergent to stain and launder. Fresh stains : To restore colour apply ammonia. Rinse with water and launder. Old stains : To restore color, apply white vinegar. Rins with water and launder.

Rust: Apply a commercial rust remover. Follow manufacturer's directions. Rinse before putting item in the washer.

Use lemon juice and salt on stain. Spread in the sun to dry. Rinse and launder.

Shoe polish: Sponge with dry - cleaning solvent or pre - wash stain remover. Rinse. Apply heavy - duty liquid detergent to stain and launder using hot water if safe for fabric. If stain remains, sponge with rubbing alcohol Rinse.

Urine, Vomit and Mucus: Sponge or soak stain in cool water. Apply detergent to stain. Launder. If stain remains, soak in an enzyme presoak for 30 minutes. Launder using oxygen bleach.

Stain removal techniques: Sponging - Place the stain face down on absorbent, clean, white paper towels or cloth. Apply the stain remover spraying to the stain with a clean, soft, lintless cloth. Avoid circling and spreading the stain. Use light brushing strokes, working from the outside of the stain toward the center. When the stain is removed, place the sponged area between layers of dry, absorbent layers of dry, absorbent towels to speed the drying process.

Soaking - Put the item in cool water unless the stain removal procedure you are following specific warm and hot water. Soaking aids stain removal. Soaking time may vary depending on the type of stain. Avoid soaking some colored items for a long time to prevent damage to the color.

Place clean absorbent materials under the stain, then add the stain remover in small amounts with machine dropper. Give fabric time to soak in the fluid. Change the absorbent material as you flush out the Rinse out the stain remover from the fabric with water.

Cleaning agents used In stain removal

The following is a list of home laundry products and cleaning agents that can be used in stain removal procedures. Keep a variety of these products in the home.

- Amyl acetate (Banana Oil) or non - oily fingernail polish remover.
- Bar of soap. (Ivory R, Fels - Naptha R)
- Bleach

  Chlorine bleach - Identified by "hypo chlorite" on the label.

  Oxygen bleach - Identified by "per borate" on the label. Available in liquid or powder forms.
- Detergents - Available in liquid or powder forms.

  Heavy - duty liquid for laundry

  Light - duty liquid for hand dishwashing
- Dry - cleaning solvents (Carbona R, Energine R)
- Enzyme presoaks - Break down protein food stains.
- Glycerin - a weak solvent
- Household ammonia - Ammonia is poisonous. Do not breathe the fumes.
- Pre - wash stain removers - Available in aerosol, liquid, pump and solid stick forms. Be sure to read the directions before using.
- Rubbing alcohol - Use rubbing or denatured alcohol.
- Rust remover - Wink R, Rover R

Wet spotter solution: Wet spotter is a combination of stain - removal agents used to remove many kinds of stains. To make your own, mix 1 Tbsp. glycerin, 1 Tbsp. liquid hand dishwashing detergent and ½ c. water. Store in a plastic squeeze bottle with a small cap. Label " wet spotter". Shake well before using.

Dry spotter solution: Prepare dry spotter by mixing 1 tsp. of mineral oil and 8 tsp. dry - cleaning solvent. Use solution to remove many kinds of stains. Label "dry spotter" and store in a tightly capped glass container to prevent evaporation of the solvent. Dry - cleaning solvent is poisonous and may be flammable.

Labels and their uses

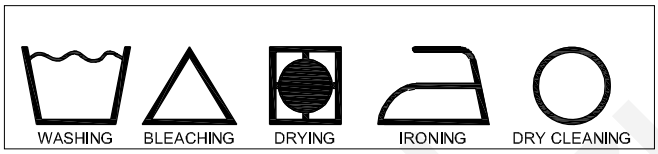
Objectives : At the end of this lesson you shall be able to

- **state international label system**
- **state new development**
- **state fabric performance code.**

Introduction

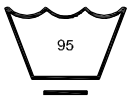
A care label is a tag that is attached to textile or clothing products, which show instructions for proper care of the product. Different countries follow different care labelling systems. While certain care labelling systems are mandatory as required by national regulations, some others are adopted on a voluntary basis. These guidelines are in the form of symbols, which were developed by the international Association for Textile Care Labelling (GINETEX)

The system consists of five basic symbols and their full descriptions are as follows
The International Care Labelling System

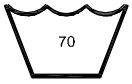


Washing

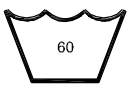
Maximum temperature 95^0 C
Mechanical action normal
Rinsing normal
Spinning normal



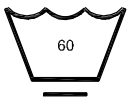
Maximum temperature 95^{0}C
Mechanical action reduced
Rinsing at gradually decreasing temperature (cool down)
Spinning reduced



Maximum temperature 70^{0}C
Mechanical action normal
Rinsing normal
Spinning normal



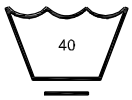
Maximum temperature 60^{0}C
Mechanical action normal
Rinsing normal
Spinning normal



Maximum temperature 60^{0}C
Mechanical action reduced
Rinsing at gradually decreasing temperature (cool down)
Spinning reduced

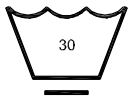
Maximum temperature 40^0 C
Mechanical action normal
Rinsing normal
Spinning normal

Maximum temperature 40^{0}C
Mechanical action reduced
Rinsing at gradually decreasing temperature (cool down)
Spinning reduced



Maximum temperature 40^0 C
Mechanical action much reduced
Rinsing normal
Spinning normal
Do not wring by hand

Maximum temperature 30^{0}C
Mechanical action much reduced
Rinsing normal
Spinning reduced

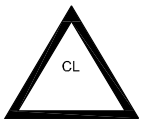


Hand wash only
Do not machine wash
Maximum temperature 40^{0}C
Handle with care

Maximum temperature 50^{0}C
Mechanical action reduced
Rinsing at gradually decreasing temperature (cool down)
Spinning reduced.

Do not wash
Be cautious when treating in wet stage

BLEACHING



Only cold and dilute solution

Do not use chlorine based bleach

IRONING

Iron at a maximum sole - plate temperature

Iron at a maximum sole - plate of 200^{0}C temperature of 110^{0}C

Iron at a maximum sole - place temperature of 150^{0}C

Do not iron Steaming and steam treatments are not allowed

DRY - CLEANING

Dry cleaning in all solvents normally used for dry -cleaning this includes all solvents listed for the symbol P, plus trichloroethylene and 1,1,1- trichloroethane

Dry - cleaning in tri flouro tri chloroethane, white spirit (distillation temperature between 150^{0}C and 210^{0}C, flash point 38^0 C to 60^{0}C). Normal cleansing procedures without restrictions.

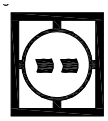
Dry - cleaning in tetrachloroethylene, monoflurotrichloromethane and all solvents listed for the symbol F. Normal cleansing procedures without restrictions

Dry - cleaning in the solvents listed in the previous paragraph. Strict limitations on the addition of water and / or mechanical action and/or temperature during cleaning and/or drying. No self service cleaning allowed.

Dry - cleaning in the solvents listed in the previous paragraph. Strict limitations on the addition of water and / or mechanical action and / or temperature during cleaning and / or drying. No self - service cleaning allowed.

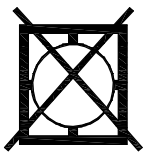
Do not dry - clean
No stain removal with solvents

Drying



Tumble dry possible
Normal drying cycle

Tumble dry possible
Drying at lower temperature setting

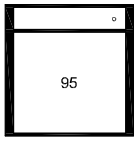


Do not tumble dry

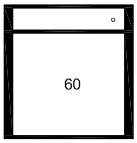
The Japanese care labelling system

The Japanese care labelling system has symbols grouped in six categories : washing, possibilities of chlorine - based bleaching, ironing, dry - cleaning, wringing and drying. Based on JISL 0217 (1995), the following show the full description of the symbols :

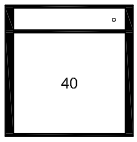
Washing (with water)



Machine - washable in maximum water temperature of 95^{0}C

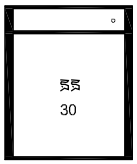


Machine - washable in maximum water temperature of 60^{0}C



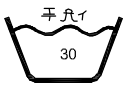
Machine - washable in maximum water temperature of 40^{0}C

Machine - washable at slow water current or gentle hand wash in maximum water temperature of 40^{0}C



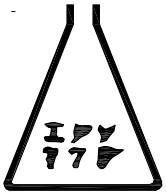
Machine - washable at slow water current or gentle hand wash in maximum water temperature of 30^{0}C

Should be washed gently by hand (not machine washable)



Cannot be washed with water

Bleaching



Chlorine - based bleaching allowed

Do not use chlorine - based bleach

Ironing

Should be ironed at a temperature between 180^0 - 210^{0}C

Cannot be ironed

Should be ironed at a temperature between 140^0 - 160^{0}C

May be ironed at 1800C - 2100 if a cloth is placed between iron and garment

Should be ironed at a temperature between 80^0 - 120^{0}C

Dry - Cleaning

Can be dry - cleaned. Use solvent of perchloroethylene or of petroleum - based solvent

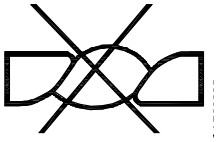
Cannot be dry - cleaned

Can be dry - cleaned. Use only a petroleum - based solvent.

Wringing

Fig 5

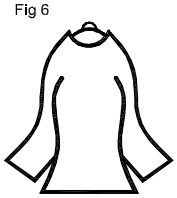
Wring gently by hand or for a short time by centrifugal hydroextractor



Cannot be wrung

Drying

Fig 6



Hang dry

Lay flat to dry

Hand dry in shade

Lay flat to dry in shade

Labelling method

1 Symbols should be arranged from left to right according to the following sequence

2 For coloured products, which are not usually bleached, the symbols for possibility of chlorine bleached may be omitted

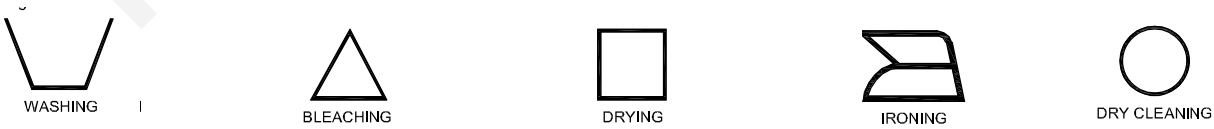
3 For products, which are not usually ironed, the symbols for ironing may be omitted (Except cannot be ironed)

4 For products, which can be washed with water, symbols for dry - cleaning may be omitted (Except cannot be dry - cleaned)

5 The symbols should be either in black or dark blue whereas the prohibition symbols are in red and a on a white ground.

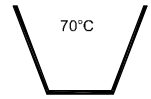
The Canadian care labelling system

This system consists of five basic symbols which are illustrated in three traffic light colours, with green colour indicating no special precautions, a red colour indicates prohibition and orange colour suggests that precautions are necessary. Words in English and French may be used, in addition to the symbols conveying special instructions not converted by one of the basic symbols. The five symbols must appear in the following order on the care labels : washing, bleaching, drying, ironing, and dry - cleaning. The following table shows the symbols described in CAN / CGSB.

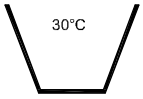


Washing

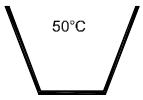
Fig 2



Machine wash in hot water at a normal setting

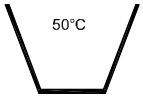


Machine wash in cool water at a gentle setting (reduced agitation)



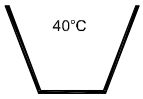
Machine wash in warm water at a normal setting

Hand wash in cool water



Machine wash in warm water at a gentle setting (reduced agitation)

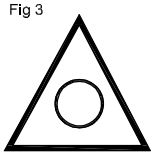
Do not wash



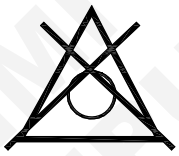
Machine wash in lukewarm water at a gentle setting (reduced agitation)

Chlorine bleaching

Fig 3

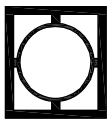


Use chlorine bleach with care



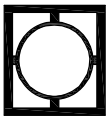
Do not use chlorine bleach

Drying

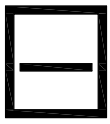


Tumble dry at medium ti high temperature

Drip dry



Tumble dry at low temperature



Dry flat

Hang to dry

Ironing

OR

Iron at high setting

OR

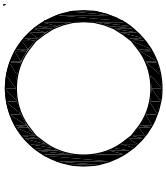
Iron at medium setting

OR

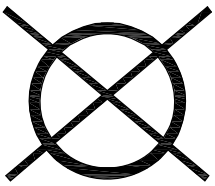
Iron at low setting

Do not iron

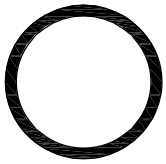
Dry - cleaning



Dry - clean



Do not dry-clean



Dry - clean with caution

The European care labelling system

In order to unite the existing standards, individual committees of European Union are reviewing the standards. In the recent renumbering process of BS Standard, BS EN 23758 : 1994 (care labelling code using symbols), published by the European Committee for Standardization (CEN), is identical with ISO 3758: 191, published by The International Organization for Standardization (ISO), for labelling textile materials.

A correct care label for European countries is now required to consist at least four and sometimes five symbols in the following sequence is given below. The washing process, bleaching process, ironing process, dry cleaning and drying process are similar to the International Care Labelling System.

WASHING

BLEACHING

IRONING

DRY CLEANING

DRYING

The American care labelling system

According to the Federal Trade Commission's Care Labelling Rule that has been in effect since 1972, word - based system id used to the U.S. apparel. The care label is composed of care instruction, appropriate temperature settings and warnings. The care label is generally listed in the sequence as follows :

1 Machine wash/Hand wash/Dry -clean

2 Washing temperature (hot/warm/cold)

3 Washing machine program (delicate/permanent press/ normal cycle)

4 Bleaching instruction (do not bleach/non -chlorine bleach/chlorine bleach)

5 Drying method (tumble dry/line dry/flat dry/drip dry)

6 Ironing (do not iron/cool iron/warm iron/hot iron)

7 Warning wordings (wash separately, not wring etc)

Besides the informative wordings of the care label, manufacturers and importers must provide labels that:

a Are fastened so they can be seen or easily found by consumers at the point of sale.

b If not seen or easily found at the point of sale, it will be supplemented by care information that also appears on the outside of the package or on a hang tag fastened to the product.

c Remain fastened and legible during the useful life of the product

d Say what regular care is needed for the ordinary use of the product.

New development

In December 1996, the Federal Trade Commission approved the use of the label system. The new label system gives companies the option to use symbols on care label instead of written instructions.

Starting from July 1, 1997, manufacturers are using care symbols developed by the American Society for Testing and Materials (ASTM) in place of words on permanent labels.

Below are the new developed care symbols:

Measuring the garment as given quality specification

Objectives : At the end of this lesson you shall be able to
- **state final inspection.**

Inspection quantity

No Inspection

- Nothing known about the product until it reaches the customer

100% Inspection

- Advantage is, it gives better idea of product quality than any other inspection alternative.
- But, 100% inspection need not be 100% effective
- Direct cost of inspection will be higher than any other inspection alternative.

Arbitrary Sampling

- 10% of the total shipment is inspected
- for some shipments it may be too small for some it may be too large.
- But there are risks of making wrong decision.

1 study of Quality checking and measuring Garment based on given specification

2 checking fit and style as per buyer's original sample

3 study of different designs, its placement with notches workmanship, shade variations shade.

Statistical Sampling

- Has advantage of flexibility with regard to amount of inspection

Terms used

Sample: One or more units of a product drawn from a lot or batch, selected at random. Number of units is sample size.

Lot or Batch: Collection of units of a product from which a sample is to be drawn. Number of units in a lot is Lot size.

Percentage of defective:

Process Average: Average percent defective of a product submitted by the supplier for original inspection.

AQL: (Acceptance Quality Level) Maximum percent defective that, for the purpose of sampling inspection can be considered satisfactory as a process average.

Sampling Plans

Single Sampling Plans

Double Sampling Plans

Multiple Sampling Plans

Selection of Sampling Plan Requires: Lot size

Average percent defective to accept

AOQL: Average Outgoing Quality Level

Fabric testing & quality evaluation

Quality control is concerned with the evaluation of test data and its application to the control of textile process, raw materials, intermediate products and final products, It is concerned not only with quality level and the cost of maintaining this level, but also with the presentation of tangible values to measure quality and changes in quality. Testing provides the back ground and data and quality control applies the results.

A programme of quality control should include of routine

Fashion merchandising

Objectives : At the end of this lesson you shall be able to

- **explain the introduction to merchandising**
- **explain techpack**
- **explain the objectives of techpack**
- **explain the technical terms**
- **explain the tech pack process**
- **define spec sheet**
- **state the importance of spec sheet**
- **explain the types of packing.**

Introduction to fashion merchandising

A manufacturing always costs a garment before establishing the whole sale price. A garment must compete in an established market place. If a garment doesn't look as if it is worth its price. For example if two basic pants made in a similar fabric and style are placed, but differ in price. The less expensive pant is more likely to sell.

In some basic items must be carefully priced to be competitive. Innovative styling is often the major factor that allows a manufacturer to get more money for that item.

Another reason for merchandising in lowering or raising the whole sale price to affect the sale. The manufacturer sees a garment that is stylish and fairly easy to produce he may use a lower mark on when figuring the cost or may manipulate the fixed costs as described earlier.

Define tech pack

A tech pack is a information sheet and all the specification of the requirement before preparing on the garment manufacturing process.

This document is prepared for instruction of the garments. It is first prepared by designer and next going to finalized in consolation with the merchandisers.

Finally forwarded to bulk sampling department or to the production department for the reference and guide for bulk manufacturing.

The objective

Tech pack is once prepared for any style; the production department must follow with the manufacturing process without having to refer back to the designer for any aspect of production.

The merchandisers are followed and ensure that the required material as per the tech pack.

Teck pack is made available to the production depart in the right quantity. The marketing department can use this document for presentation.

Every manufacturing department should prepared a tech pack. The cutting instruction or job card issued to production acts as the tech pack. The details given in the tech pack are likely to vary with the sizes of the company.

Large manufacturing companies have a detailed tech pack for each style under production. The exporters preparation of a tech pack is almost mandatory, as the buyers prefer to sign on the tech pack before placing the order or would send in a tech pack themselves.

Definition of spec sheet

1 A spec sheet is a document that contains all the technical characteristics, instructions, machineries and components for the execution of construction of a garment from 2 d drawing 1 to 3 D garment.

Importance of spec sheet

Specification sheets provide important details to ensure the correct execution of your patterns into finished garments. Spec sheets help to produce accurate samples, which improves turnaround time and simplifies communication during all stages of manufacturing and quality control.

Spec sheets include detailed technical diagrams, construction notes, finished garment measurements, fabric yields and material and trim details. We can tailor the format and information provided to suit your company's individual needs. All specs are in Excel spreadsheet format and can be easily transferred through e-mail.

Introduction of packing

Packing is an important part of the product which requires lot of attention to catch the attraction of the people.

Packaging is concerned with designing and producing of appropriate packages for a product. Packaging also refers to the process of design, evaluation, and production of packages. Packing can be described as a co- ordinate system preparing goods for transport, warehousing, logistics, sales and end.

Importance of packing

Packing is one of the most important parts of apparel manufacturing process. After completing the entire manufacturing task, apparel is required to pack. In finishing section packing is the last steps before storing. Various types of packing are done and it depends on the types of apparel. After packing. it placed in carton as per instruction and cartooning, carton is stored in store section. The carton is delivered from the store for export.

Types of packing in finishing section

1 Stand up pack: Shirt (90 % angle)

2 Flat Pack: Sportswear/Shirt/trouser

3 Hanger Pack: Blazer, Coats, Pants etc

4 Semi Stand up Pack: Shirt

5 Half fold Pack: Pant

Types of carton packing: After Packing, cartooning is done according to apparel size and color.

1 **Solid color solid size pack:** In this type of packing single color and single size garment are packed all together.

2 **Solid color assorted size pack :** In this type of packing single colors garments are packed altogether with different sizes packed together

3 **Assorted color solid size pack:** In this type of packing a carton box have assorted color garments in one single colors.

4 **Assorted color assorted size pack:** In this type of packing a carton box have assorted colors and assorted sizes of garments packed together in a single carton.

Cost sheet (auxiliary service)

Objectives : At the end of this lesson you shall be able to

- **explain meaning of cost sheet**
- **explain importance of cost sheet**
- **explain components of total cost.**

Meaning of cost sheet and its importance

Various components of total cost of a product statement is called cost sheet. It is useful for compare the cost sheet with previous data. This statement given details for per unit cost in addition to total cost. Cost is help of selling price. The details about the form of statement is called cost sheet. It is based on.

1 Historical cost

2 Estimate cost.

Historical cost

Historical cost means actual cost. It is prepared on the actual cost. Historical cost is a statement of cost prepare after pricing.

Estimated cost

Estimate cost is the statement of prepare before the pricing.

Importance of cost sheet

1 Cost a containment: Cost sheet is to a certain the cost of a product. It helps to a certain the actual cost or estimated cost.

2 Fixation of selling price: It helps to fix the selling price of a product or service. Product or service are giving detailed information of the cost.

3 Cost control: It is very helpful to control of material cost, Labour cost and overhead cost. That's why every manufacturing unit to prepare a cost sheet.

4 Facilitates managerial decisions: It is very helpful to taking important decisions. Like, produce or buy a new component, retain or replace an existing machine etc.

Components of total cost

Prime cost

Prime cost means cost of material consumed, productive wages and direct expense are included

Prime cost = Direct material + Direct wages + Direct expenses.

Direct material:

Direct material means cost of new material used or consumed in production.

Material consumed = Material purchased + Opening stock of material - closing stock of material.

Factory cost

Factory cost included direct wages and indirect expenses it is called work cost.

Cost sheet

Cost sheet included of prime cost, work cost, cost of production of goods, cost of goods sold, total and sales

Career in fashion

Objectives: At the end of this lesson you shall be able to
- **explain career in fashion world**
- **list and explain the fashion design technicians**
- **explain fashion designing terminology**
- **explain fashion education and industry.**

Career in fashion world

Career in fashion designing is one of the glamorous professions. Fashion designing as a career involves creative design and drawings, pattern making, sewing and embroidery, garment, manufacturing technology apparel construction, printing, Dying and computer aided design. Fashion designing is a very challenging and demanding in India.

A career in fashion designing involves meeting with rich and familiar people. Fashion designing industry grows at the rate of 25 percent per annum and promises many employment openings in India. According to a recent study conducted by the fashion design council of India (FDCI).

Fashion design technician

Fashion design technician are

1 Fashion Designer

2 Fashion co-ordinator

3 Illustrator

4 Cutting Assistant

5 Fashion consultant

6 Fashion stylist

Fashion designer

Fashion designers innovate new style for clothing by sketching original designs. They are responsible for selecting fabrics, trimmings, current on the latest upcoming fabrics, and fitting the finished clothing to its proper size. The designer starts the designing work only after market research.

Fashion co-ordinator

A fashion co-ordinator work not only co-ordinate includes checking fabric for correct shade, quality and design sorting daily problems, giving advice on latest fashion trends, meeting with buyers and taking right decisions regarding fabric design colour. Fashion co-ordinator may be supposed to travel to get an idea of the fashion trends.

Illustrator

Illustrator work is draws free hand sketches as per designers ideas and at times interacts with customers about new collection.

Cutting assistant

Cutting assistant work is cut and modifies sample as per specifications of the designer.

Fashion consultant

Fashion consultant has to be aware of the latest trends in the fashion Industry. They offer suggestions on how to further develop a product.

Fashion stylist

Fashion stylist are involves co-ordinating the dress, make up, accessories, and hair style as per the theme of the show.

Employment opportunity

The students after completing the fashion designing course can find excellent placements in garments and leather industry as fashion designer. Illustrator, fashion co-ordinator, fashion stylist, cutting assistant etc. Fashion designer can work with professional designers, export houses, garment store chains manufacturing units, textile mills, leather companies and boutiques at the same time running their own boutique. Fashion designing is a very creative career but are needs to do a hard work to keep up with the demand and competitive people.

Fashion designing terminology

Advertising: Convey a message to a large group of people through a mass medium to increase sale.

Apparel Industry: Jobbers, contractors and the manufactures engaged in the manufacture of clothing.

Accessories: Articles worn or carried to complete a fashion look, such as jewellery, scarves, hats hand bags or shoes.

Brand: Symbol, name, associated with certain product characteristics, like price, styling, fit and quality, prestige.

Boutique: French word for a small shop with unusual clothing and atmosphere.

Collection: a group of garments designed for a specific season.

Croqui: Original paintings of textile design.

Channel style: Anything that is simple and easy to wear. Little black dress and suits. Different chains jewellery.

Contemporary styling: Updated style, original designed for the age group that grew out of juniens

Auxillary services of fashion

Introduction:

The auxiliary services in fashion which helps or supplements the fashion are as follows

1 Advertising

The activity or profession of producing information for promoting the sale of commercial products or services

Advertising is a non-personal form of promotion that is delivered through selected media outlets that, under most circumstances, require the marketer to pay for message placement. Advertising has long been viewed as a method of mass promotion in that a single message can reach a large number of people. The paid use of space or time in any medium; this includes newspapers, magazines, direct mail pieces, shopping news bulletins, theater programs, catalogs, bus cards, billboards, radio, TV, ad the internet

2 Buying, merchandising, and product Associated or co-operative office

Buying house basically is a office with some testing machine and equipments, as it is not directly execute the order. So every Buying house needs some energetic skilled merchandiser to maintain the placement of order and execution, some quality controller (QC) to maintain the products quality some other officials to do official works. Garment buying house means, the buying house procures garments from the manufacturers and exports to other countries is called garment buying house

3 Planogram

A computer generated floor plan that shows the selling floor with merchandise in the best position

4 Public relations

Firms have to communicate with their various publics (customers, employees, stockholders, potential investors, channel members, and government, and the general public). It is important for a firm to have a solid reputation and a positive image if it desires to attract employees, investors, and customers. A company that is thought of as unethical (e.g., one that pollutes and/or sells defective products) will not only have trouble finding employees, but might also attract unwelcome government interest.

5 Publicity

A type of public relations in the form of a news item or story which conveys information about a product, service, or idea in the media. Publicity is a tool used in public relations) is non personal communication, that is typically in the form of a news story, that is transmitted through the mass media. The purpose of publicity is to draw favorable attention to a company and/or its products without having to pay the media for it.

6 Trade publication

Various comprehensive list of books, magazines, journals and trade publications pertaining to the fashion and beauty industry from all across the globe we can get through the relevant information on various publications published worldwide, along with their frequency, site URL and other necessary details. newspapers or magazines published specifically for professionals in a special field, such as fashion comes under trade publications.

7 Visual merchandising

Visual merchandising is the activity and profession of developing the floor plans and three-dimensional displays in order to maximise sales. Both goods or services can be displayed to highlight their features and benefits, everything visual that is done to, with, or for a product and its surroundings to encourage its sale; this includes display, store layout, and store décor . Visual merchandise is the presentation of a store and its merchandise in such a manner that will attract the attention of potential customers. Visual merchandise is the presentation of a store and its merchandise in such a manner that will attract the attention of potential customers. It involves decorating the store keeping the interior presentation the same as what is promised on the outside.

The end purpose of visual merchandise is to aid in making a sale. Visual merchandise presents an image of whom or what the shopper can be when using the merchandise displayed. Visual merchandise requires a combination of skills including creativity, artistic knowledge and understanding of store design. Color is a big attraction point in converting potential shoppers into customers.

8 Fashion magazines

A magazine devoted to fashion, especially the latest styles of clothes and accessories. Names of few fashion magazines are as follows:

1 Cosmopolitan
2 Vogue
3 Fashion central
4 Femina
5 Women's era
6 Fashion Forward
7 Look etc.

9 Editorial credit: it is a unique form of publicity that names the manufacturer and lists retail stores where the clothes may be purchased. some popular brand names for the merchandise is as follows:

Brand	Corporate Web Site	Retail Shopping	Wholesale Search Engine (Searches Internet)
Adidas	Adidas	Adidas	Adidas
Calvin Klein	Calvin Klein (Division of Phillips Van Heusen Corp)	Calvin Klein	Calvin Klein
Chanel	Chanel	Chanel	Chanel
Christian Dior	Christian Dior	Christian Dior	Christian Dior
Giorgio Armani	Giorgio Armani	Giorgio Armani	Giorgio Armani
Gucci	Gucci	Gucci	Gucci
Guess	Guess	Guess	Guess
Lacoste	Lacoste	Lacoste	Lacoste
Lee	LEE	LEE	Lee
Nike	Nike	Nike	Nike
Oxygen	Oxygen	Oxygen	Oxygen
Pepe Jeans	Pepe Jeans London	Pepe Jeans	Pepe Jeans
Pierre Cardin	Pierre Cardin	Pierre Cardin	Pierre Cardin
Puma	Puma	Puma	Puma
Ralph Lauren	Ralph Lauren	Ralph Lauren	Ralph Lauren
Tommy Hilfiger	Tommy Hilfiger , Tommy	Tommy Hilfiger	Tommy Hilfiger
Van Heusen	Van Heusen	Van Heusen	Van Heusen
Vans	Vans Shoes	Vans	Vans
Versace	Versace	Versace	Versace
Wrangler	Wrangler	Wrangler	Wrangler
Yves Saint Laurent	Yves Saint Laurent	Yves Saint Laurent	Yves Saint Laurent
Zero	Zero Germany	Zero Fashion	

Fashion Industry

Objectives : At the end of this lesson you shall be able to
- **explain about the knowledge of fashion trend.**

Fashion trend

Styling ideas is called fashion trend. It is indicate the direction of fashion is moving. Fashion forecasters capture the mood of the times and signal a new fashion trend. The trend is fabrication, silhouette, and another design element also helps to establish the collections and highlights the trend.

Designers not invited to the shows. But designer must evaluate to shopping or may or fashion capital or using design services, magazines, newspaper etc.

Retail buyer will facing a huge challenge to figure out the fashion trend like capris, fads, pony prints etc. That's why buyers getting very flexible to buy a patterns and cautious about inventory management. The marked flooded with a new trend consumer may react negatively.

The new trends move on internet, television and global trends. The new trend will change every 5 months of a year.

CHIC mean smart or stylish. It is a French word. Chic has been applied to social events, situations, individuals, modes or styles of dress.

Costume made

All clothes are made by hand or machine made. But each garment was made to fit the customers exact measurement. Dresses and suit can individually sewn by dress maker or tailors. Some wealthy persons are having personal dress makers.

Every dress maker not to share the talent of clever dress makers for fear of losing.

Collection

Merchandising department are more responsible for creating a new line based on the season. The seasonal collection will help to manufacturer will sell to retail store buyers.

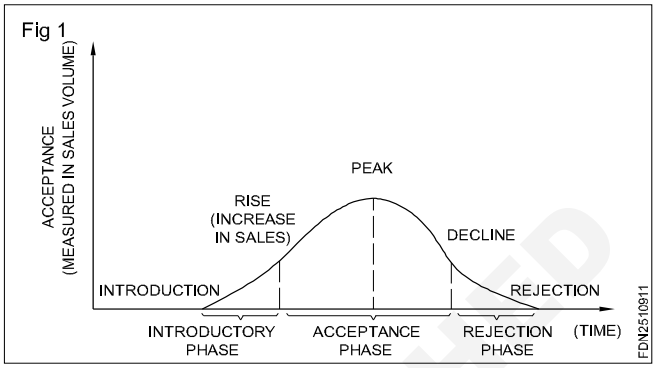
Mannequins

Mannequins are made in the image of the current ideal beauty and change the fashion trends. Mannequins are preferred for elegant fashion, perfect, traditional life etc.

Fashion cycles

New styles created by designers based on consumers expectation. Some new style rejected by the press or by the buyer on the retail level at the time others are accepted as demonstrated by consumer purchasing and wearing. (Fig 1)

Fig 1



This way in fashion changes is described as a fashion cycle. It is very difficult to categories about fashions. Fashion style is a bell shape curve with five stage.

Introduction of a style

Designers create a new design on changing element like line, shape, colour, fabric, and details and their relationship. New creations referred to as the latest fashion.

Most new styles are introduced at a high price level fashion style is allowed to design with very few limitations on creativity, quality of raw materials or amount of fine workmanship. But production costs are Right, small quantities gives a designer more freedom flexibility, room for creativity.

Increase in popularity

If many people's are purchased new style. We can attract the attention of buyers, press and the public.

Second things is sell at lower prices they can sell their designs in greater quantities.

Peak of popularity

Volume production requires for mass acceptance. Volume manufactures followed carefully sales trends. Because a customers want clothes are in the main stream of fashion.

Decline in popularity

Consumers still wear garment in the style but they are not longer willing to buy at regular prices. Retail stores are declining style on the sales racks.

Rejection of a style

The rejection of a style is out of fashion is called consumer obsolescence.

Trade fair

Objectives: At the end of this lesson you shall be able to
- **explain trade fair**
- **explain different types of exhibitions**
- **explain motivations of participation in a track fair exhibitors**
- **list out the categories of participants.**

Trade fair

Trade fair is one of the pillars of economies. Economic are based and time alongside the existence of human societies. Market places and trade fairs have a facilitate to exchange.

The trade fairs have a more response to change in market patterns, economic recessions and political interferences to trade. In 1960 many trade associations were formed or expanded their pole. The introduction of marketing concepts in business trade fairs were extensively and increasingly used as a prominent part of marketing strategies.

The media and technology is very helpful to increase their efficiency and outreach. Organizers are challenged to make an increasingly attractive and appealing, to compete in terms of marketing strategies and distinctive features.

Different types of exhibitions

1. Trade fair

2. Trade exhibition

3. Trade show.

Many types of events fall under the generic definition of trade exhibitions. Purpose, contents, audience, size, periodicity, market breadth etc, but all have in common the objective of promoting and facilitating trade.

Trade fair

A trade fair is a service, whose customers are exhibitors and visitors. The two are fundamental. Determining the right targets within these categories and the matching point of their interests is a key marketing factor.

The success of trade fair is driven by market forces and by the ability of the organizers to seize like opportunities and to deliver top quality services. Continuous attractiveness and sustainability are the results of the capacity of the organizers to understand the changes of the demand and to offer innovative solutions.

A specialized trade fair is normally at regular intervals in the same place. Some event moves from our place to another place, organized under the same sponsorship. It is called industry fairs to distinguish it from the consumer fair.

Trade exhibition

1 Commercial Exhibition

2 Private Exhibition

3 Buyers fair

Commercial exhibition

Commercial exhibition generally indicates the event organize by and for a representative number of companies and addressed to a specific target group of clients. Generally commercial exhibition does not take place recurrently but is organized to cope with specific marketing or industrial and objectives of the companies.

Private exhibition

Private exhibition is a launching of a new product or for the positioning of the supplier in a new market are.

Buyers fair

Buyers fair is a similar to the commercial exhibition an event organized to promote business and facilitate contacts between suppliers to a homogeneous range of products.

Trade mart

Trade mark is a sizable and fixed commercial made of many showrooms to promote and sell products and services of one or many industries on a continuous basis.

Categories of participants

1 Manufactures

2 Agents

3 Traders

4 Suppliers of Industrial inputs

5 Suppliers of components and accessories.

6 Suppliers of services.

7 Research and training institutes

8 Professional associations

9 Trade promotion organizations

10 Technical co-operation agencies

11 Press

12 Institutions

13 Other media

Motivations of participants in a trade fair for an exhibitor

1 Showcase its products or services and reach a targets audience.

2 Create or reinforce the visibility and raise the awareness and interest about its supply capacity.

3 Attend to inquiries and disseminate information

4 Identify new potential customers or strengthen relations with the existing areas.

5 Establish backward and forward business linkages.

6 Identify agents

7 Negotiate offers which may result in actual orders.

8 Develop the relationship network.

9 Meet potential partners lead to business alliances.

Apparel & Fashion Trade Fairs/ Shows

Every year around 368 Apparel & Fashion Trade Shows are hosted by 53 countries and gives you ample opportunities to establish a strong market reputation and sell your products to the global buyers. Most of the Apparel Trade Shows are organized in Germany, China, and USA.

Through this section, participants can get detailed information about the organizers, sponsors, stall sizes, area covered, product category and other facts and figures on all the upcoming Apparel and Garment Trade Shows

Names of few trade shows takes place in India and some other countries is as follows:

1 International Children, Baby Maternity Industry Expo - CBME India

CBME India - Children, Baby and Maternity Industry Expo, a brand new event for the Indian child, baby and maternity products and service industry. takes place mainly in April in India

2 Technotex India

Technical's textiles are textile materials and products used for their technical performance and functional properties. Takes place in India in month of April

3 Fashionista - Raipur

Fashionista - Raipur 2022 will be held at Sayaji hotel, Raipur in month of July in India

4 Vintage Fashion Fair

Vintage Fashion Fair held .at United Kingdom This unique event takes place approximately every five to six weeks.

5 PERU MODA

PERU MODA is the main event of the Peruvian fashion industry. It showcases the best of the Peruvian export supply in apparel, footwear, accessories.

6 Indigo

In DIGO is the ONE and ONLY denim trade event in South Asia, conceived to cover the entire denim value chain, from fiber to finished products, takes place in India.

7 India Sourcing Fair - Garments & Accessories

India Sourcing Fair - Garments & Accessories will be held at Hong Kongs Asia World-Expo in Hong Kong.

Fashion show

Objectives: At the end of this lesson you shall be able to
- **state the importance of fashion shows**
- **list out the different types of fashion shows**
- **explain the fashion shows and its uses.**

Importance of fashion shows

Fashion shows are main role of the fashion world. Fashion shows are communicate a fashion story. Many departments are working with connected the fashion shows. The selection and organization of the fashion shows and model booking done by fashion officer. Invitations and other arrangements handled by the special events departments. There are four possible way to organizing the shows.

List of the different shows.

1 Formal shows.

2 Department shows.

3 Designer trunk shows.

4 Informal modelling

1 Formal fashion shows

Formal fashion shows are doing a great deal of advance planning like models booking, fittings, arranging for a runway, scenery, lighting, microphones, music, seating and assistants.

Styling colour, visual criteria are based on clothes. Models and music are selected to complement the clothes and set a mood.

2 Designer trunk shows

Designer trunk shows are done in co-operation with a single venter. They are decide a way of sell expensive collections. Sales associates is keeping the best customer record. It is very useful to inviting the best customer. The representative or designer travels from store to store with the collection because of usually shown on models in the designer collections department. Customers can see the entire collection unedited and order the samples in size by a buyer. Must of the designer and tailors do the business through trunk shows.

It can give time consuming, exhausting work.

3 Department fashion shows

Depart fashion shows is a small scale. It is a immediate sales. A platform is set up directly in the department carries the clothes.

4 Informal fashion shows

Informal fashion shows are the easiest produce. A few models walk through the store showing the fashion. A models are wearing to customers who are shopping or having lunch in the store's restaurant. Customer can enjoy asking them questions Informal fashion shows are done in conjunction with a trunk show or special promotion.

Classification of fashion

Fashion is classified into many types

1 Style

2 Basic or classic

3 Fad

4 Fashion for casting

5 Trends

Style

Style is always constant but fashion changes not constant. Style is the modification of fashion. It is the basic outline of any garment. Like different neckline and different sleeves with trimers. The basic garment is modified into a different look or different outfit, this modification ferment will become fashion.

The term style is a popular world in fashion. The fashion could be pleated skirt, the style is her plenty. It is a common fallacy to believe that the famous designers create fashion. The consumer support the style becomes fashion.

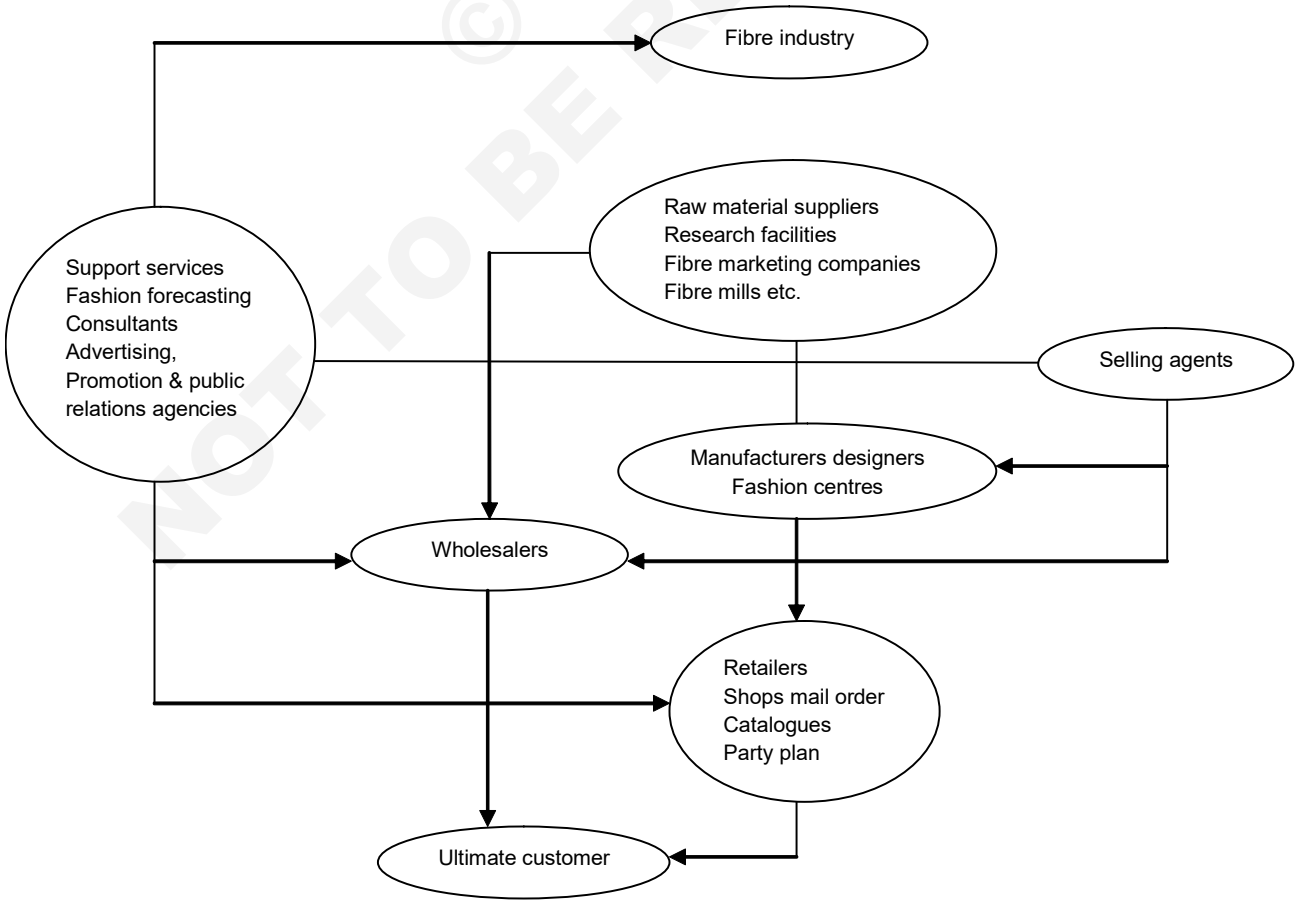
Basic or classics: The fashion is constant or long lasting like salwar kameez and saree is called basic or classic.

The salwar kameez and saree are part of fashion scene. The customer to suit different occasions. The basic becomes the most important fashion. There are many outfits that full into classification like chudidhar, shirt, kurta, dupattas, trousers, plain or pleated skirts and denims etc.

Fad: Fad is a very short period fashion. A fad can make a designers life more interesting or tenser. A fashion expert selecting what is more likely to be accepted by consumer. Fad can be costly.

Fashion forecasting: Fashion forecasting is the important part of fashion scenario. Fore casting needs the media for spread fashion and gets the fame and name to the designers in fashion forecasting. Fashion forecasting is done through cinema, fashion shows, press, magazines, newspapers, window display, market research consumer research, shopping, sales records, evaluating the collections, fashion trends, Trend for Target markets.

Fashion shows: The Indian Fashion Industry has become a growing industry with international events such as the Indian Fashion Week and annual shows by fashion designers being held across major cites of the country On this event, many famous Indian and International designers introduce their latest collection every year. Buyers from all over the country, and world gather at this event, to reserve their outfits. Also, it's a great platform via which new, and fresh coming designers showcase their talent. It's a great career ladder to success. Some of the few famous designers are listed in the table below:



A fashion show is an event put on by a fashion designer to showcase his or her upcoming line of clothing during Fashion Week. Fashion shows debut every season, particularly the Spring/Summer and Fall/Winter seasons. This is where the latest fashion trends are made. The two most influential fashion weeks are Paris Fashion Week and New York Fashion Week, which are both semiannual events. Also the Milan and London are of global importance.

Fashion week: A fashion week is a fashion industry event, lasting approximately one week, which allows fashion designers, brands or "houses" to display their latest collections in runway shows and buyers and the media to take a look at the latest trends. Most importantly, these events let the industry know what's "in" and what's "out" for the season.

The most prominent fashion weeks are held in the four fashion capitals of the world: Milan, Paris, New York and London. Other notable week-long fashion events are held in cities around the world.

New York, London, Milan and Paris is a women's wear fashion week takes place twice a year There are two major seasons per year - Autumn/Winter and Spring/Summer. For womens wear, the Autumn/Winter shows always start in New York in February and end in Paris in March. Spring/ Summer shows start in New York in September and end in Paris in October. Menswear Autumn/Winter shows start in January in London and Milan for typically less than a week followed by another short week in Paris. Menswear Spring/ Summer shows occur in June. Womenswear haute couture shows happen in Paris following the Menswear Paris shows. More and more designers have shown inter-seasonal collections between the traditional Autumn/Winter and Spring/Summer seasons. These collections are usually more commercial than the main season collections and help shorten the customer's wait for new season clothes. The inter-seasonal collections are Resort/Cruise (before Spring/Summer) and Pre-Fall (before Autumn/Winter). There is no fixed schedule for these shows in any of the major fashion capitals but they typically happen three months after the main season shows. Some designers show their inter-seasonal collections outside their home city.

Lakme Fashion week

Lakme Fashion Week is the first-ever fashion show taking place in India. LFW is a bi-annual fashion event organised in Mumbai. Lakme Fashion Week Summer Resort, the first show, takes place in February, and the second fashion event, LFW Winter Festive show is held in August. Lakm e Fashion Week is plausibly India's most outstanding fashion event, controlled by the Fashion Design Council of India (FDCI) and sponsored by Lakme. Many international models along with the Indian film celebrities l ike Sushmita Sen, Deepika Paclukone, Malaika Arora, Vicky Kaushal, Shahid Kapoor participate in Lakme Fashion week.

Delhi and the landmark event saw as many as 33 leading designers including Ritu Seri, Tarun Tahiliani, Rina Dhaka, Rohit Bal and Manish Arora first present their design at the national level. Ranna Gill was the first designer who opened the show with her Fall 2000 collections followed by winter collection for men by Rohit Bal and many more.

Wills Lifestyle India Fashion week

The Wills Lifestyle India Fashion Week (WIFW) is also one of the well-liked bi-annual Indian fashion events, famous for presenting summer and winter clothing collections. WIFE is organised by the Fashion Design Council of India (FDCI) and sponsored by Wills Lifestyle, it can witness more than a hundred designers, both young and renowned, participate in each edition. The Autumn-Win ter event is held in March, while the Spring- Summer show celebrates in October. Prominent designers like Tarun Tahiliani, Rohit Bal, Janavi, Alpana & Neeraj, etc. regularly exhibit their creative work here. WIFW is known for offering a sizable platform for buddi ng designers to showcase their work.

India Bridal Fashion week

Known for presenting the best trends and designs in bridal couture contributed by top designers, the Indian Bridal Fashion Week is one of the famous fashion events which is held twice in a year. Heritage brands, Bollywood superstars and fashion trendsetters are all regular participants at the India Bridal Fashion Week. This five-day fashion show is the most popular destination for lovers of Indian fashion and wedding trousseau, and sees both established and budding fashion designers network with potential clients and leave their impressions on the wedding fashion scene. India Bridal Fashion Week is sponsored by Aamby Val ley and has become the treasured events for Bollywood celebrities and other socialists.

For Bollywood superstars, heritage brands, trendsetters and other eminent people in the country, the Indian Bridal Fashion Week has become a best-loved event. Wedding has become an inherent part of the Indian fashion industry.

Rajasthan Fashion Week

Rajasthan Fashion Week, a grand and royal event which began in 20 12, has become prominent for showcasing a perfect blend of glamour and new age elements. With events since the launching of RFW, it has become a greater and mega event. The Rajasthan Fashion Week is an extended venture of Starlite Entertainment, Mumbai, and displays the work of both native designers and fashion giants.

Aimed at preserving the aesthetic values of Indian tradition and coordinating with the new ages fashion requirement, the event plays host to eminent fashion designers including Neeta Lulla, Ritu Kumar, Vikram Phadnis, Lina Tipnis, Kirti Rathore and Shaahid Amir among others.

Van Heusen India Men's Week

India's first show exclusively devoted to displaying men's fashion, the Van Heusen India Men's Week was started in 2009 following a tie-up between leading lifestyle brand, Van Heusen, and the FDCI. Fashion is not all about the ravishing ladies but also for the hunky' gentlemen as well. The four-year-old men fashion event showcases the

bewitching men wear by the well-known Indian designer. With such men oriented fashion events, the sales of a branded merchandise has reached its peak in the nation.

Involving the participation of leading fashion designers such as Ashish Soni, Raghavendra Rathore, Rajesh Pratap Singh, Manoviraj Khosla, Rohit Bal, Rahul Khanna and Rohit Gandhi , this male-oriented fashion show has resulted in Indian menswear growing and flourishing at a rapid rate.

Synergy 1 Delhi couture week

FDCI organises this fashion week, which brands itself as a tribute to Indian couture. The couture culture introduced in India by fashion expects like Tarun Tahiliani and Ritu Kumar has become very popular, with the former being considered as India's undisputed couture king at the moment. Top-notch fashion designers like Ritu Beri, Yarun Bahl, JJ Yalaya,Tarun Tahiliani and Feroze Gujral are also known to participate in this much-awaited event.

Bangalore Fashion week

Established in 2009 and organised in the IT capital of India, the BFW is a bi-annual fashion event. With participation in the event is 'by invitation only', the prestigious fashion week provides maximum exposure to designers from South India to showcase their collection s. Not only does the show provide aspiring designers with a noticeable debut, but also gives them a great opportunity to strengthen their footing in the domain. Bangalore Fashion Week is also known for organising world tours for the purpose of showcasing India's craftsmanship with past events being held in Bangkok and Dubai.

North India Fashion Week

This fashion event is famous for exhibiting talent and rich craftsmanship from various parts of Northern India including Delhi, Mumbai, Kolkata and Uttar Pradesh. NIFW focuses on the verticals of retail, experience and consultancy for aspiring fashion designers as well as trendsetters.

Indore Fashion Week

Powered by Blenders Pride, the event takes place every year in Indore. It is controlled by Storm Fashion Company and presents shows by top designers like Rocky S, Jatinn Kochhar, Riyaz Ganji, Poonam Vora and Sanjana Jon. Madhya Pradesh's trad itional handwork like Begham and Anarkali Collection are often showcased in the Indore Fashion Week. The event. is also known for exhibiting western and brid al trousseau.

Hyderabad Fashion week

Hyderabad Fashion Week is run in partnership with Marvel Fashion week and is the brain child of SAS Media Pvt.Ltd. Top designer like Neeta Lulla, Sanjeet Anand , Pria Kataria Puri, Abdu l Halder, Swapnil Shinde, J atin Varma, Kiran and Meghna, Koushik Ghosh & Sajda Rehma ni, Arshad and Sonia participate in HFW and showcase their alluring design.

Boutique

Objective: At the end of this lesson you shall be able to
- **explain the term project.**

Boutiques The word boutique has become more popular these days but it started as concept stores. These places provide recent fashion garments, best suited for all occasions . Today many of the celebrities go to boutiques to select their dresses.

What are Boutiques

Boutique is a small shop selling fashionable clothes or accessories. It is also known as a business serving a sophisticated or specialized clientele. The term "boutique" and also "designer" refer (with some differences) to both goods and services which are containing some element that is claimed to justify an extremely high price, is known as boutique pricing. Boutique has various types of fabrics which one can select, match to his/her look and design in a garment. It also has semi stitched or full stitched ready to wear a fashionable garments. An individual could select them and alter it, if needed to provide good fit.

Merits of Boutique

- Specialization in apparel selection and design
- Own prices advantages and expand clothing display scope.
- Improve clothing enterprises by quick response ability.
- Provide more promotion activities thereby meeting consumers personalized demands.

Demerits of boutique

- Lack of large variety in design
- Logistics and distribution problems
- Quality and label problem.
- Cannot cater to needs of lower income.

How to arrange a clothing store

1 Separate clothing into categories. For example, if you run a children clothing store you would separate clothing into a boy's section, girl's section and baby section. How you divide up the clothing is dependent on what types of clothing you carry.

2 Divide each category into further sections. Separate pants from shirts and pyjamas from dresses. You want to get the clothing into specific groupings to make finding specific clothing easy.

3 Hang or fold each item in your categories and display them fir st by color and then by size. Displaying by color and then size provides a nice visual. The other benefit of displaying by color is the ease by which customers can find coordinating pieces.

4 Place accessories near the cashiers to catch customer's eyes as they get ready to leave. Belts, handbags, ties and hair accessories can all e placed on display tables to help increase the total of customer's tickets.

5 Move items that are in season toward the walkways through your store. Clearance items should be placed at the farthest point from the walkways.

Layout of boutique

The layout of a retail clothing store helps customers to see products easily and makes browsing the store more comfortable. It can also help you protect your inventory'. A good retail layout can attract foot traffic and make it easy for first-time customers to find what they are looking for. Consider the customer and your profitability when you are designing the layout of your clothing shop.

Security

Your store layout can help you keep an eye on potential thieves. Make sure your shelves are short enough to be able to see the *average* customer at the shoulders, if possible. Install mirrors at the end of each aisle so that associates can see what customers are doing. Make your layout simple without too many areas where customers can hide from your staff and from store security cameras.

Foot Traffic

The foot traffic outside your store will respond to elements like a price special, your stock of a famous designer or a particular outfit or piece that you have in stock. For example, there may be a leather jacket that is popular that many customers are locking for. Place some of these items near the front of your store to get the attention of foot traffic. Put other items of interest in areas where they can be seen through the display windows , but are further inside the store. This helps to ensure that people on foot will enter the store and see your other inventory.

Lighting

Use spotlights on clothing displays and mannequins to make the items for sale stand out. Try to use softer lighting for the rest of your store to make browsing easier for clients. If you have a shiny, light colored floor, then intense overhead lights will create a glare. Indirect lighting is a system that provides ambient light without shining the beams directly at the subject.

Dressing Rooms

Create a comfortable dressing room area that has its own central seating area for customers. A large dressing room area not only makes it easier for clients to get their friends' opinions on the clothes they are considering, it makes it easier to monitor customer activity and reduce theft.

Garment production unit

Objective: At the end of this lesson you shall be able to
- **explain the main role of garment production department.**

Garment production

The production department have more responsible for converting inputs into outputs through the stages of production process. The production manager role is very important for that raw materials are provided and made into finished goods effectively. The manager should make sure the work is carried out smoothly and must supervise procedures for making work more efficient and enjoyable. Preparation of total seasonal production plan.

Garment manufacturing is the mass production of clothing. Manufacturing garments have a lot of planning and schedule. The co-ordination of contractor play a large role in deadlines for production. The production of garment is very time sensitive in order to ship goods to stores and boutiques for the upcoming season. A late order can reflect bad impression of business. To create a production schedule, start from end date, work backwards in order to make a schedule.

Pattern and markers

Pattern making, grading and marker are part in planning for production. Once markers of each style are based, can easily calculate of fabric needed for production.

Ordering fabric

Order fabric based on needed in order to production. When planning the production schedule. Conform with fabric supplier about the turnaround for fabric and any additional time for dying or washing of fabric.

Others materials

Buttons, grommets and zippers are very important for production. These elements are often overlooked but crucial in the production of a garment.

Scheduling contractors

Sewing contractor should complete to the beginning of the time period. Create a contract with sewing contractor stating sewing prices, turnaround time and list what your contractor is responsible for providing. Mark sure to have deadlines for all these.

Over seeing production

The first item off the line should be given for approval. Check the production thoroughly for any mistakes.

Finishing

Many sewing contractors offer finishing services like pressing, folding, tagging, and bagging items.

Considerations

The garment industry is late with orders while stores and boutiques expect orders to be on time. Make sure to have a contract with sewing contractors defining the finish dates and any penalties apply for a late production.

Nature of the industry

The textile mills and products industry produce yarn, thread, and fabric, wide variety of other textile products for use by individual and business not including apparel.

The apparel traditionally has consisted of production workers performed the cutting and sewing functions in an assembly line. This industry remains labour intensive, despite advance in Technology, and workplace practices.

Apparel manufacturers are performing the entre preneurial functions involved in apparel manufacturing like buying raw materials, designing clothes and accessories and preparing samples, arranging for the production and distribution of the apparel, and marketing the finished product.

Daily production report

Sewing machine operators are earning on a piece work basis the quality of goods they produce. Many companies are changing to incentive systems based on group performance in quantity and the quality of the goods produced. A few companies pay production workers a salary.

Study of fashion fraternity

Objectives: At the end of this lesson you shall be able to
- **explain retail channel**
- **explain types of retail channel.**

Retail channel

Retailers are the facilitators of the final stage in the supply chain, the sale of goods to potential consumers. They are a form of indirect product distribution, meaning that goods are not sold to consumers directly through the producer. The retail business definition relates to the process of a retailer buying large quantities of items from a manufacturer or producer and selling smaller amounts of the same items to consumers for a profit. Consumers purchase goods through one of many retail channels, which are the means to obtain an item for sale from a retailer.

Types of Retail Channels

Different types of retailers may sell unique brands or a different inventory of items to their clientele, but most retailers employ a number of similar retail channels so that customers may shop at their own convenience. While some retail channels require in-person sales, others are designed to allow the consumer to shop from the comfort of their own home or make a sale without the need for social interaction at all. Some of the most popular types of retail channels used by retailers across vastly different supply chain industries include:

- Retail stores
- Online retailing
- Catalog retailing
- Direct selling
- Television home shopping
- Automated retailing

The following sections will describe each of these unique and valuable retail channels in more detail and provide information regarding their importance to different retailers.

Retail Stores: A **retail store** is a physical location where consumers go shopping for a product in- person. While retail stores may sometimes be owned by producers and provide a means for direct product distribution, most retail stores are owned by retailers such as Target or Walmart, who offer a variety of different brands for the same or similar products. The concept of a retail store as a well-defined retail channel benefits consumers by giving them immediate satisfaction for their needs. Additionally, they may be presented the opportunity to receive fast and personalized assistance if needed.

Online Retailing: One of the newest and increasingly most popular retail channels is **online retailing,** which refers to the sale of finished goods or services to consumers through the internet. Many retailers who once capitalized off retail stores as a main source of revenue have begun to offer, or in some cases fully transition towards, online retailing for a few reasons. Online retail is generally cheaper for a retailer to maintain, but the consumer also greatly benefits because they can compare the prices of multiple retailers in one place. If an item is out of stock at the local retail store, a consumer can still order the product online and have it shipped to their home or to the retail store location closest to them. Buyers often perceive online retail as a large source of convenience, though it can also offer benefits including lower costs, around-the-clock shopping, free shipping, and a larger variety of brands or products to choose from. Amazon is a popular example of an online retailer.

Catalog Retailing: Catalog retailing is an older yet nonetheless popular retail channel whereby consumers receive product information, discounts, and other special offers through a mailed catalog and a specialized website. While offers are often presented on paper, consumers can also shop online before ordering via telephone or- the provided website. Goods ordered through a catalog retailing channel are delivered to the consumer's home, as a specific cataloger does not usually own any physical retail stores. Catalog retailers such as Lands' End and Oriental Trading Company are beneficial retail channels because consumers can see a product without the need to go to a store, while catalogers can reach thousands of potential customers through just one mailing.

Direct Selling: The use of direct selling as a retail channel means that a product goes directly from a manufacturer to a direct sales company before being purchased by consumers.

Rather than a retailer purchasing a product from the direct sales company, the latter sells the product to the end consumer or business instead. This is a concept known as network marketing or multi-level marketing, a business model commonly used by direct selling companies and manufacturers to eliminate the middlemen involved in distribution, such as retailers or wholesalers. For example, a paper supply company often sends representatives directly to businesses that use their products rather than purchasing their paper from an office supply retailer such as Staples or Office Depot. Direct selling usually accounts for products not found in a traditional retail outlet setting.

Television Home Shopping: Television home shopping is a unique retail channel that has been used for decades. Under this form of retail marketing, television commercials are used for advertising sales and offering various products for consumer purchase, from personal care items to kitchenware and automotive products. It is recognizable for its creative methods of product placement, charismatic presenters, and often exclusive deals. Television home shopping is beneficial to consumers because they can shop and place orders from the convenience of their home. Retailers also benefit by being able to reach large audiences at once with the goal of appealing to more than one member within a

Automated Retailing: Automated retail is the category of self service standalone kiosks that operate as fully automatic retail stores through the use of software integrations to replace the traditional retail service inside a traditional retail store.

Leading fashion and textile designers

Objectives : At the end of this lesson you shall be able to
- **fashion designer name**
- **explain types of fashion**
- **list out famous treading fashion designer.**

Textile designing is a creative field that includes fashion design carpet manufacturing and any other cloth-related field. Textile design fulfills a variety of purpose in our lies. For example, our clothing carpets, drapes, towels, and rugs are all a result of textile design.

Fashion design is the art of applying design aesthetics and natural beauty to clothing and its accessories it is influenced by culture and social attitude and has varied over time and place fashion designer work in a number of ways in designing clothing and accessories such as bracelets and necklaces. Because of the time required to bring a garment onto the market, designers must at times anticipate changes to consumer tastes.

Designers conduct research on fashion trends and interpret them for their audience. Their specific designs are used by manufactures.

Fashion designers attempt to design clothes which are functions as well as aesthetically pleasing. They consider who is likely to wear a garment and the situations in which it will be worn, and they work within a wide range of materials, colors, patterns and styles. Though most clothing worn for everyday wear falls within a narrow range of conventional styles, unusual garments are usually sought for special occasions such as evening wear or party dresses.

Some clothes are made specifically for an individual as in the case of haute couture or bespoke tailoring today most clothing is designed for the mass market especially casual and every-day wear are called ready to wear.

Types of fashion: The garments produced by clothing manufacturers fall into three main categories, although may be split up into additional more specific categories.

Haute couture

Until the 1950s fashion clothing was predominately designed and manufactured on a made to measure or haute couture basis (French for high-sewing) with each garment being created for a specific client. A couture garment is made to order for an individual customer and is usually made from high-quality expensive fabric, sewn with extreme attention to detail and finish often materials and the time it takes to make. Due to the high cost of each garment, haute couture makes little direct profit for the fashion houses but is important for prestige and publicity.

Ready-to-wear or pret-a-porter, clothes are a cross between haute couture and mass market. They are not made for individual customers, but great care is taken in the choice and cut of the fabric. Clothes are made in small quantities to guarantee exclusivity so they are rather expensive. Ready-to-wear collections are usually presented by fashion houses each season during a period known as Fashion Week. This takes place on a citywide basis and occurs twice a year. The main seasons of Fashions of Fashion Week include spring/summer, fall/winter resort swim and bridal.

Half-way garments are an alternative to ready-to-wear, "off-the peg" or pert-a-porter fashion. Half-way garments are internationally unfinished pieces of clothing that encourages co-design between the "primary designer" of the garment and what would usually be considered the passive "consumer". This differs from ready-to-wear fashion as the consumer is able to participate in the process of making and co-designing their clothing.

Mass market

Currently the fashion industry relies more mass market sales. The mass market caters for a wide range of customers, producing ready-to-wear garments using trends set by the famous names in fashion. They often wait around a season to make sure a style is going to catch on cheaper fabrics and simpler production techniques which can easily be done by machine. The end product can therefore be sold much more cheaply.

There is a type of design called "kutch" design originated from the German word kitschig, meaning "ugly" or "not aesthetically pleasing" kitsch can also refer to " wearing or displaying something that is therefore no longer in fashion.

Designs make for colorful fashion

Many people love to wear colorful clothing. But who designs the textures and patterns on the clothes we wear?

That job often is the work of fashion textile designers. Textile designers are artists who dream up and design the look and feel of textiles, including patterns printed on or woven into their surfaces. Textile design can be used for many types of textiles, including those used on home furnishings like carpets and curtains, liners like bedspreads and sheets, and clothing.

Famous fashion textile designers

Raoul Dufy

Raoul dufy (1877-1953) was a french painter and one of the first 20th century artists to create many patterns for textiles. Around 1911, French fashion designer Paul Poiret asked Dufy to create a pattern for stationary but the request soon resulted in Duty designing fabrics for Poiret's clothing designs. Beginning around 1912. Dufy also began designing silk patterns for Bianchini Ferier, a leading French silk firm. He created hundreds of patterns, including printed cotton textiles and Art Deco- influenced silks. Art Deco was a design style in the 1920s that used streamlined geometric forms to create a modern style.

Dufy's patterns feature bold cutlines and areas of high color contrast. In vibrant colors, he echoed the natural world, including forms like leaves and animals like horses.

Sonia Delaunay

Sonia Delaunay (1885-1979) was also a painter who shifted her focus to textile design and fashion design Delaunay designed her own clothing and created textile patterns for commercial use in the fashion industry of the lime, working with costume designers poets and celebrity clients she became very popular for works that echoed art deco style.

Delaunay designed what she called simultaneous textiles patterns, with surfaces that seem to vibrate with color. To her the term "simultaneous" conveyed the effect of a color in its own right and when mixed with other colors, freed from its use in rendering recognizable objects. Eventually Delaunay focused on textile design. After 1929 she closed her own fashion house and concentrated on designing textiles for the luxury company Metz and Co. in Amsterdam Delaunay's patterns are boldly geometric and filled with abstract patterns Abstract means they resemble nothing in the real world. Covered with vivid contrasts, her clothing and textile designs flow with the shape of the body.

Zika Ascher

Czech-born Zika Ascher (1910-1992) and his wife Lida Ascher (1910-1983) came to London in 1939. There they established a luxury textile design company that became influential in post war England. Ascher and his wife created their own designs. Lida did most of the drawings, often of bold and colorful floral patterns. Zika did the printing.

The Ascher company also because noted for its work with other artists, cajoing them to design patterns that were than printed on fabric Famous artists who created patterns for Ascher includes Pabio Picasso, Henri Matisse and Hendry Moore.

Fashion designers who are keeping Indian textiles alive and kicking

Smriti Iranis

Smriti Irani's selfie with Handloom may have been an instant hit on Twitter with people posting pictures of themselves in colourful ethnic outfits, but India was already on its way to loving handloom, thanks to fashion designers who have using these textiles for over a decade now.

The fact is today, you may not be keen to wear your mom's old denim bell-bottoms straight cut of the 70s with their tweeds and pinstripes, but you would never say no to your grandmother's beautiful handcrafted

Ritu Kumar

One of India's foremost designers and a revivalist. Ritu Kumar draws upon musicology and art history background to create clothing using ancient designs and traditional crafts. Preferring to work with fabrics like silk, cotton and leather. Ritu Kumar's outfits are stunning in their richness.elegance and intricasy of embroidery. Her campaign. Beautiful Hands, encourages the purchase of garments and accessories that showcase ethnic Indian styles of embroidery. To go with the campaign, she has started a line of clothing known as 'The Revivalist'. The premise of this clothing line is to resurrect traditional Indian crafts and integrate them into mainstream fashion.

David Abraham and Rakesh Thakore

Sustainability is a big part of the creative story of these Indian origin designers with presence across the world. An important focus for them is the use of handloom textiles as they have a smaller carbon footprint. Additionally they also recycle and textiles. Although they work a lot with sarees and kurtis, their lines and drapes are contemporary and edgy, making them the perfect examples of fusion. Who knew recycled clothing could be so stylish?

Neetu Lulla

The famous Indian designer has worked with several types of handwoven textiles including Banarasi and Kanjeevarams. But Neeta Lulla goes beyond teaming Indian handwoven textiles with modern designs. She marries indian textiles with western fabrics like chiffon, gauze and georgetic to create exquisite creations. Her outfits are worn by Bollywood's leading ladies on red carpet and she has won several national awards for her costume work in movies, including period film Jodhaa Akbar more recently, she has turned towards experimenting with Paithani, the ancient Maratha technique of tapestry that combines multiple threads of different colors and incorporates gold and silver threads woven together to create a dynamic piece of silk. One of her most notable Paithani collections was shown in February 2016 at the make in India initiative.

Sabyasachi Mukherjee

Known for his exquisite bridal wear. Sabyasachi pioneered the use of Indian textiles in a modern context. His unique contribution was the use of indigenous methods like bandhani, gota work, block printing hand dyeing and more in construction of modern silhouettes. The designer uses rich ethnic fabrics in his collection including an extensive use of banarasi fabric. He also started a project called 'Save the Saree' where he retails handwoven Indian sarees in a non-profit basis priced at Rs.3500. The entire proceeds go to the weaves of Murshidahad. Over the past two years he also been involved in reviving cotton Banarasi sarees in pure khadi and vegetable hand block prints from Bagru. What's more, he handcrafted the entire trousseau collection of around 18 sarees for Bollywood actress Vidya Balan's wedding for which he specially sourced the silk from Chennai primarily Kanjeevaram silk.

Anita Dongre

Having established her name in the couture and pert-a-porter circles. Anita Dongre first went organic and then eco-friendly. She has recently launched a haute couture line called 'Grassroots' which features clothing made of eco-friendly fibres, textiles and natural dyes with unique creations like bamboo jackets. She also launched a pret line called 'Interpret' with simple off-the-rack clothes using traditional dyeing techniques like Bandhani. Leheriya and block prints from Rajasthan and Chikankari embroidery from Lucknow.

Rohit Bal

Rohit Bal has designed outfits using almost all fabrics. He especially used Khadi to create exclusivity for the raw product and a demand in the market. Rohit Bal was also chosen by the Khadi Gram Udyog the largest handloom textiles operation in India to with them. This ace designer's clientele has gone international with the likes of Uma Thurman, Cindy Crawford, Pamela Anderson. Naomi Campbell and Anna Kournikova.

Wendell Rodricks

Wendell Rodricks is one of the few designers credited with taling Indian textiles to an international platform. This is an almost traditionally woven saree worn by women of the Kumbi tribe in Goa before the advent of the Portuguese in the 16th century. His next project is to convert his 450-year-old house in Goa into a heritage textiles museum and Wendell has already chalked up considerable experience abroad with conservation departments of international museums in restoring fragile heritage textiles.

Gaurang Shah

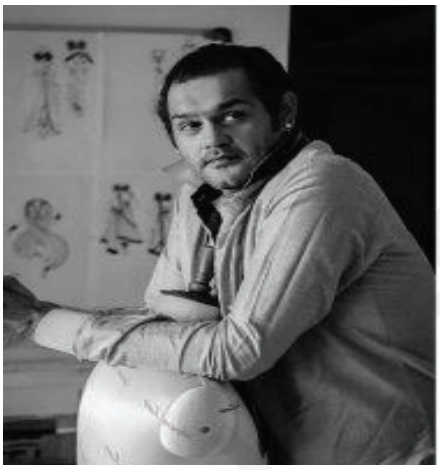
This self-taught designer is credited with reinventing the Jamadani weaver community. As a boy, Gaurang shah watched the women who shopped at his father's saree emporium and realised that the younger generation was attracted to geogerttc and chiffon due to lack of modern designs in handwoven sarees. After college, Gaurang visited J amadani weavers across the country and convinced them to work according to his designs to help revive that

sector. And just like that he was in business! Today hid label, 'Gaurang' has stores in all the metro cities and he has an A-list clientele including Vidya Balan Sonam Kapoor, Shruti Hassan, Chitrangadha Singh, Malaika Arora Gaurang has also worked a lot with other handwoven textiles like Kanjeevaram, Khadi, Uppada, Paithani, Patan Parola, Benarasi, Kota Maheshwari and Bengal weaves.

Shruti Sancheti

Her collections have been featured at Lakme Fashion Week on Textiles Day for over two years now. Nagpur-based Shruti Sancheti has been resolutely working on reviving traditional Indian weaves. Her USP is bringing about sustainability without compromising on fashion. She goes ethnic with her weaves, but her lines and designs are modern and edgy. In 2009, Shruti launched her own pret-a-porter label 'Pinnacle' which combined all these elements with wearability and competitive pricing. Her creations usually come in vibrant colours, with a generous use of natural silk, brocade and techniques like tie and dye. She has an A list clientele, which includes Vidya Balan, Shaina NC, Juhi Chawla and Nitin Gadkari.

Shravan Kumar Ramaswamy



Based in Hyderabad Shravan Kumar calls himself a 'textile revivalist and artist and specialises exclusively in handlooms. He has made it his life goal to bring sustainability to the weaver community and his collections includes the use of handlooms like Kalamkari, Mangalagiri, Madhavaram, Narayanpet, Chirala, Venkatagiri and Chunnur Khadi yet, while the fabrics he uses are traditional weaves his designs are contemporary and give an appearance that's desi yet bohemian.

Introduction to trims and accessories for fashion industry

Objectives : At the end of this lesson you shall be able to
- **explain fashion accessories**
- **explain types of trimming.**

Headgear: Define fashion Accessories: A fashion accessory is an item which is used to contribute, in a secondary manner, to the wearer's outfit, often used to complete an outfit and chosen to specifically complement the wearer's look.

Accessories designing: The designer of a particular concept is completed only by designing accessories. The life giving look is accessories, it highlights the wear's personality. The creative accessories are hats jewellery, shoes, belts, watches, hand bags, hand gloves, scarf, tie and bow, are designed with caution keeping in mind the customer desire.

Types of Accessories: Fashion accessories can be loosely categorized into two general areas: those that are carried and those that are worn. Traditional carried accessories include purses and handbags, hand fans, parasols and umbrellas, canes, and ceremonial swords. Accessories that are worn may include jackets, boots and shoes, cravats, ties, hats, bonnets, belts and suspenders, gloves, muffs, jewelry, watches, sashes, shawls, scarves, socks, and stockings. Trimming materials are used things are ribbon, stones, sequins, beads etc.

Types of Trimming

Ribbon

Ribbons are made of satin, taffeta or nylon of different colours and different width. Ribbon bows are often used as decoration. Ribbons of different width can be made into rose or other floral shape. This is also one of the trimming materials.

Beads and its types

Bead work is the art or craft of attaching beads to one another or to cloth, usually by the use of needle and threads or soft flexible wire or fabric glove. Most beads work takes the form of jewellery or other personal adornment.

Types of Beads are: Bugle beads, Rainbow Bugle beads, Round beads, Shaped Beads, Faceted beads, Seed beads, Metal beads, Cut beads, Pony beads, Sugar beads, Pearl beads, Cloisonné beads, Crystal beads.

Zardozi: There are spring kind of threads they are cut into small size and used as per the requirement.

Sequins: Sequins are tiny spangles used as decorations, usually on clothes or other fabric. They are often round shape and available in wide variety of colours and geometrical shapes. Sequins are commonly used on clothing, jewellery, bags, shoes and lot of other accessories. Different types of sequins are flat, cup, flower, tusk, star or square.

Stones: There are available in different shapes, sizes, and colours. Different type of stones are round shape stone, oval shape stone, Drop or Boat shape stones, Resin stones, etc.,

Mirror: Mirror is also one type of decorative trims. There are available in verities of shapes like round and diamond shapes and square.

Head gears

Definition: Headgear, headwear or headdress is the name given to any element of clothing which is worn on one's head. Common forms of headgear include hats, caps, bonnets, hoods, headscarves and helmets. Headgear can have great symbolic significance in a monarchy, for example, royalty often have special crowns. Hair accessories and replacements, such as wigs, may also be included in the category of headgear.

Caps: Caps are generally soft, and often have no brim, or just a peak (like on a baseball cap). For many centuries women wore a variety of head-coverings which were called caps. Head covering made of a flimsy fabric such as muslin they were worn indoors or under bonnets by married women, or older unmarried women who were "on the shelf" eg: mob-cap

Bonnets: Bonnets, as worn by women, were generally brimless hats worn outdoors which were secured by tying under the chin, and which covered no part of the forehead. Some styles of bonnets had a large peak which effectively prevented women from looking right or left without turning their heads. Bonnets worn by men and boys are generally distinguished from hats by being soft and having no brim - this usage is now rare. They would normally be called caps.

Helmets: Helmets are designed to protect the head, and sometimes the neck, from injury. They are usually rigid, and offer protection from blows. Helmets are commonly worn in battle, on construction sites and in many contact sports.

Turbans: Turbans are primarily worn for two reasons. Firstly due to religious or cultural beliefs and secondly for protection from the elements, especially sun

Hood: Hoods are generally soft head coverings which form part of a larger garment like an overcoat, shirt or cloak. Historically, hoods were either similar to modern hoods, often forming part of a cloak or cape, or a separate form of headgear. Soft hoods were worn by men under hats. Women's hoods varied from close-fitting, soft headgear to stiffened, structured hoods (e.g. gable hood)

or very large coverings made of material over a frame which fashionable women wore over towering wigs or hairstyles to protect them from the elements (e.g. calash).

Masks: A mask is worn over part or all of the face, frequently to disguise the wearer, but sometimes to protect them. Masks are often worn as disguises at fancy dress parties, a masque balls or at Halloween, or they may be worn by criminals to prevent people recognising them as they commit a crime. Masks which physically protect the wearer vary from bars across the face in the case of ice hockey goalkeepers, to devices which purify or control the wearer's air supply, as in gas masks.

Wigs: Wigs are synthetic hair which may be worn to disguise baldness or as part of a costume. In most Commonwealth nations, special wigs are also worn by barristers, judges, and certain parliamentary officials as a symbol of the office.

Veils: Veil is normally a piece of fabric which covers all or part of the face. women wore veils which covered the hair, and sometimes the neck and chin, but not the face.

Scarf, Fashion Jewellery, Ties & Bows

Objectives: At the end of this lesson you shall be able to
- **explain scarf and its uses**
- **explain fashion jewellery and its uses**
- **explain tie and bow.**

Scarf

Scarf is a one of the fashion accessories. We can wear two types. There are head scarf and neck scarf. Scarf is a special finishing touch across the globe. Scarf is designed two of the three classic shapes. Like square rectangle, triangle in cotton, silk, wool etc.

Scores of smart elegant and stylish women have worn scarves. It can be easily to wrap it around your neck once or twice.

Scarf are wearing for all season, sunny day, cold and blustery weather. We are using light weight scarf for summer season and thick scarf for cold and blustery weather.

Different types of knots used in scarf

There are:

1 The basic loop

2 Loop 'E' knot

3 The faux knot

4 Rectangle knot

The basic loop is a wrap it type knot. Rectangle knot is a easily and quick not.

Fashion jewellery

The fashion jewellery are designed and manufactured by designer costumes.

Like rings, bracelet pins, necklaces, earrings, watches, etc. Men also wear rings, chains, bracelets etc.

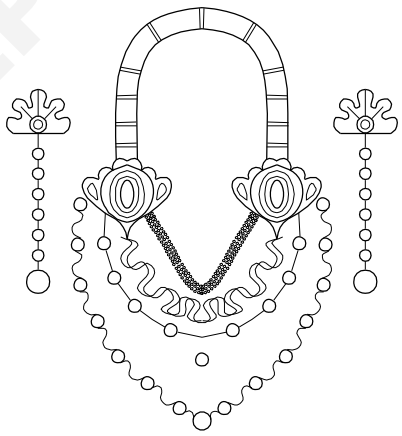
Accessories can be made of a variety of materials, stones, pearls, glasses, feathers, wires, beads etc. Accessories help in highlighting the wearer's personality.

As accessories play a vital role in the female life compare with male. They are wear on hands, wrists, arms, neck, ears, fore head, hair, waist, ankles and toe fingers.

We can find out the certain regional jewellery by which are can recognize the people of certain area of territory. In olden days, kings and queen were dressed up in lots of precious jewels. Jewellery items are exposed the social and economic status in the society.

Fashion jewellery trends are day by day changed. So illustration of jewellery should be done keeping in mind the material used for jewellery. Fig 1

Fig 1



Ties : a piece of string, ribbon, cord, etc., that is used for fastening, joining, or closing something.

Tie and bow

Tie and bow are decorative accessories, but which have less utility. It gives a formal and fashionable look to the dress. Mostly business man and officers are used these. It gives neat look to the dress.

Bow and ties have a limited usage because of usually goes with people who have long neck. Tie and bow mostly used in uniform of an institute.

Bow and ties give a illusion effect on the face of the wearer. Bow and ties always drape the accessories around the neck. All drapes and fold lines should be illustrated well. Any medium color could be used for this presentation.

Types of ties

1 **Cravat:** the officers of Royal Cravattes regiment were wearing brightly colored handkerchiefs fashioned of silk around their necks. These neck cloths struck the fancy of the king, and soon made it a sign of royalty. The word "cravat" is derived from the croate.

2 **Four-in-Hand:** Four-in-hand ties are generally made from silk or polyester.

3 **Six-and Seven-Fold Ties:** A seven-fold tie is an unlined construction variant of the four-in-hand necktie which pre-existed the use of interlining. A six-fold tie is a modern alteration of the seven-fold tie. This construction method is more symmetrical than the true seven-fold. It has an interlining which gives it a little more weight and is self tipped.

4 **Skinny Tie:** A skinny tie is a necktie that is narrower than the standard tie, and often all-black. Skinny ties have widths of around 2 1?2 inches at their widest, compared to usually 3-4 inches for regular ties.

5 **Pre-Tied:** The "pre-tied", or more commonly, the clip-on necktie is a permanently knotted four-in-hand or bow tie affixed by clip or hook, most often metal and sometimes hinged, to the shirt front without the aid of a band around a shirt collar.

Bows: The bow tie is a type of necktie. It consists of a ribbon of fabric tied around the collar in a symmetrical manner such that the two opposite ends form loops.

Types of bows

1 **Muffler: Bows:** The bow tie is a type of necktie. It consists of a ribbon of fabric tied around the collar in a symmetrical manner such that the two opposite ends form loops.

2 **Feather bows:** A long, thin piece of clothing made of feathers, and worn around the neck, especially by women

3 **Croatian bows:** It originated among Croatian mercenaries The Croats used a scarf around the neck to hold together the opening of their shirts.

4 **Ascot bows:** An ascot tie, or ascot, is a narrow neckband with wide pointed wings, traditionally made of pale grey patterned silk.

Bags, Belts, Gloves and purses

Objectives: At the end of this lesson you shall be able to
- **explain bag and purses and their uses**
- **explain belts and their uses**
- **explain hand gloves and its uses.**

Bags and purses

Bags and purses are widely used for carry the things. Bags are useful as well as fashionable accessories. This accessories is use in all stages of life style with different sizes, colour, texture and for different occasions.

Bags and purses are made up of materials like leather, satin, cane, plastic, silk etc. Surface ornamentation of bags is usually done with leather texture, embroidery printing, beads, mirror, etc. Bags are equipped with pockets pleates, hard base, soft based for keeping the shape and weight.

Certain shapes of the purse and bags are working womens daily used. (Figs 1 & 2)

Fig 1

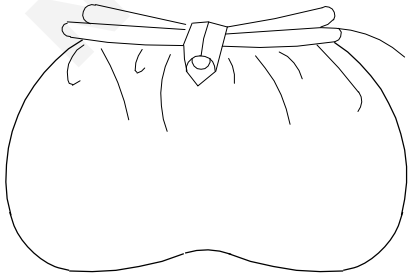


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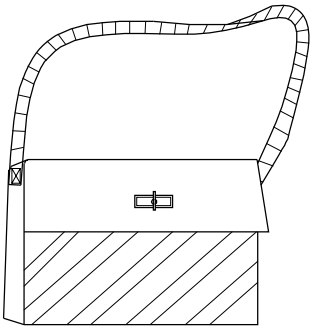
Fig 2



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Shoulder bag

A shoulder bag is a semi rigid container made up of cloth or leather or similar other flexible materials. It is stitched with one or two straps/handles to carry it on the shoulder. Two rectangular or square pieces of fabric are joined together directly or with another fabric strip in between them to add more room to it. It is prepared other with or without fasteners. Usually the handle of the shoulder bag hangs from the shoulder to the waist level. It is stitched with decorative embroidery works, or patch work or quiting or applique work etc.

To close the bags and purse are zippers, clasps, buckles, clipes, etc. Bags are used to carry money, notes, laptops, files, books cosmetics, food, CD's , luggage, weddings, stationary, sports equipment and a variety of other things.

To illustrate bags, we must show fullness and surface texture on it.

We can leather texture also can be shown.

Types of Bags and purses

1 **Backpack:** This is a bag that the shoulders support; it has double handles and lies on the back. It's ideal for sportswear (or school). (Fig 1)

Fig 1

2 **Baguette:** When looking for a casual look for daily use, the baguette purse is best. It's recognized by its small top to bottom, long side to side look. (Fig 2)

Fig 2

3 **Barrel:** This type of bag, which is great to enhance a casual look, is similar to a barrel in looks with its cylindrical shape. (Fig 3)

Fig 3

4 **Bucket:** This bag is roomy, with a shoulder strap and open top. It can be used for both a casual look and sportswear. (Fig 4)

Fig 4

5 **Clutch (Envelope):** The clutch is suited for an evening out, as it's small and rectangular and looks more like a letter. (Fig 5)

Fig 5

6 **Doctor:** This type of bag has round side with a flat bottom. It's got a bit of length to it and has two handles that got a collapsible metal frame. This bag is best for heading to the office. (FIg 6)

Fig 6

7 **Duffel (Sea):** This kind of bag is rather large and often used for sports or travel. In times' past, sailors would use this kind of bag. (Fig 7)

Fig 7

8 **Flap:** This bag has a folding flap closure, and is ideal for a fluid summer dress. (Fig 8)

Fig 8

9 **Frame:** This purse is rectangular and stiff, and resembles a money purse. (Fig 9)

Fig 9

10 **Hobo:** This kind of bag, which is best for daily wearing, is any big bag that hangs off the shoulder and has a key slot closure. (Fig 10)

Fig 10

11 **Messenger:** This kind of bag has a long strap, worn across the body so that the bag rests comfortably on the back. If it's got a short strap, it turns into a sling bag. (Fig 11)

Fig 11

12 **Minaudiere:** This small evening bag has a hard case, is covered in either leather or fabric and is decorated with beads or semi-precious stones. (Fig 12)

13 **Quilted:** This kind of bag resembles a quilt in that it has a top-stitched pattern to it. (Fig 13)

Fig 12

Fig 13

14 **Saddle:** This bag was originally used on saddles, but can be used casually every day. (Fig 14)

Fig 14

15 **Satchel:** This small or large handbag has double top handles, a top closure, a wide, flat bottom and locking hardware. It's got a similar look to vintage school bags. (Fig 15)

Fig 15

16 **Shopper:** The shopper bag has one handle and is rectangular. (Fig 16)

17 **Tote:** This medium to large bag has double handles, an open top and open key compartment. It's generally marketed as a reusable shopping bag and can carry anything too big for common handbags. (Fig 17)

18 **Wristlet:** This is a clutch-shaped bag that has either a bracelet or leather-looking strap, which enables the wearer to hold the bag freely. (Fig 18)

Fig 16

Fig 17

Fig 18

Belts: Belts are one of the most important features. In the fashion accessories. Different types of belts are available in the market. Belts are made up of wires, leathers, etc. We can design belts with embroidery, zardosi etc. It gives innovative look. We can use material like paper, fabric, wires, and bells to illustrate belts.

The materials used for a large range of leathers of different colour and texture of fabric rubber, metal or a combination of different materials. Belts have attractive top stitching with thicker threads.

Belts are made with jewels, having a decorative jingling effect. Illusion of belts can used varied color medium and materials like paper, fabric, wires belts to illustrate belts.

Gloves

Definition: it is a covering for the hand worn for protection against cold or dirt and typically having separate parts for each finger and the thumb.

Types of glove

Commercial and industrial Gloves:

A disposable nitrile rubber glove

1 Aircrew gloves: fire resistant
2 Barbed wire handler's gloves
3 Chainmail gloves are used by butchers, scuba divers, woodcutters
4 Chainsaw gloves
5 Cut-resistant gloves
6 Disposable gloves can be used by anyone from doctors making examination to caregivers changing diapers.
7 Fireman's gauntlets
8 Food service gloves
9 Gardening gloves
10 Impact protection gloves
11 Medical gloves
12 Military gloves
13 Rubber gloves
14 Sandblasting gloves
15 Welder's gloves

Sport

1 Racing drivers gloves
2 American football various position gloves
3 Archer's glove
4 Baseball glove
5 Billiards glove
6 Boxing gloves: a specialized padded mitten
7 Cricket gloves
8 Cycling gloves
9 Driving gloves i
10 Falconry glove
11 Fencing glove
12 Football - Goalkeeper glove
13 Gardening glove