

# SURFACE ORNAMENTATION TECHNIQUES - EMBROIDERY

**1<sup>st</sup> Semester**

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## TRADE THEORY

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**SECTOR:** Textile & Apparel



Directorate General of Training

**DIRECTORATE GENERAL OF TRAINING  
MINISTRY OF SKILL DEVELOPMENT & ENTREPRENEURSHIP  
GOVERNMENT OF INDIA**



**NATIONAL INSTRUCTIONAL  
MEDIA INSTITUTE, CHENNAI**

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

**Sector : Textile & Apparel**

**Duration : 1 - Year**

**Trades : Surface Ornamentation Techniques - Embroidery 1st Semester - Trade Theory**

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First Edition	: February 2015,	Copies : 1,000
First Reprint	: July 2016,	Copies : 1,000
Second Reprint	: July 2018,	Copies : 1,000

**Rs.170/-**

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*Published by:*

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## FOREWORD

The National Instructional Media Institute (NIMI) is an autonomous body under the Directorate General of Employment and Training (DGE&T) Ministry of Labour and Employment has been developing, producing and disseminating Instructional Media Packages (IMPs) are extensively used in the Industrial Training Institutes/Training centres in Industries to impart practical training and develop work-skills for the trainees and the trainers

The Ministry of Labour & Employment constituted Mentor Councils (MCs) to revamp courses run / to be run under National Council of Vocational Training (NCVT) in 25 sectors. The MCs have representatives from thought leaders among various stakeholders viz. one of the top ten industries in the sector innovative entrepreneurs who have proved to be game-changers, academic/professional institutions (IITs etc.), experts from field institutes of DGE & T, champion ITIs for each of the sectors and experts in delivering education and training through modern methods like through use of IT, distance education etc. The technical support to the MCs is provided by Central Staff Training and Research Institute (CSTARI), Kolkata and National Instructional Media Institute (NIMI), Chennai. Some of the MCs are also supported by sector-wise Core Groups which were created internally in the Ministry (in 11 sectors).

A Steering Committee to provide overall coordination and guidance to Mentor Councils has also been constituted and has representation from the MCs, Chair positions to be endowed by the Ministry, trade unions, and experts on distance education and training. The MCs are mandated to work towards revamping/ suggesting new courses, improving assessment systems, overall learning etc. for subjects under the purview of the NCVT.

Accordingly NIMI with the support and assistance of MC has developed **Surface Ornamentation Techniques - Embroidery Trade Theory 1st Semester** in **Textile and Apparel** sector to enhance the employability of ITI trainees across the country and also to meet the industry requirement.

I have no doubt that the trainees and trainers of ITIs & Training centres in industries will derive maximum benefit from these books and that NIMI's effort will go a long way in improvement of Vocational Training.

I complement Director, Mentor Council members, Media Development Committee (MDC) members and staff of NIMI for their dedicated and invaluable contribution in bringing out this publication.



**ALOK KUMAR, I.A.S.,**  
Director General of Employment &  
Training/ Joint Secretary  
Ministry of Labour and Employment  
Government of India

## PREFACE

This National Instructional Media Institute (NIMI) was set up at Chennai by the Directorate General of Employment and Training (DGE&T) Ministry of Labour and Employment, Government of India with technical assistance from the Govt. of the Federal Republic of Germany. The prime objective of this institute is to develop and disseminate instructional materials for various trades as per the prescribed syllabi under the Craftsmen and Apprenticeship Training Schemes.

The instructional materials are developed and produced in the form of Instructional Media Packages (IMPs). An IMP consists of Trade Theory book, Trade Practical book, Test and Assignment book, Instructor guide, Wall Charts and Transparencies.

Hon'ble Union Minister of Finance during the budget speech 2014-2015 mentioned about developing **Skill India** and made the following announcement

*"A national multi-skill programme called Skill India is proposed to be launched. It would skill the youth with an emphasis on employability and entrepreneur skills. It will also provide training and support for traditional professions like welders, carpenters, cobblers, masons, blacksmiths, weavers etc. Convergence of various schemes to attain this objective is also proposed."*

The Ministry of Labour & Employment constituted Mentor Councils (MCs) to revamp courses run / to be run under National Council of Vocational Training (NCVT) in 25 sectors which will give a sustained skill based employability to the ITI trainees as the main objective of Vocational training. The ultimate approach of NIMI is to prepare the validated IMPs based on the exercises to be done during the course of study. As the skill development is progressive the theoretical content on a particular topic is limited to the requirement in every stage. Hence the reader will find a topic spread over a number of units. The test and assignment will enable the instructor to give assignments and evaluate the performance of a trainee. If a trainee possesses the same it helps the trainee to do assignment on his own and also to evaluate himself. The wall charts and transparencies are unique, as they not only help the instructor to effectively present a topic but also helps the trainees to grasp the technical topic quickly. The instructor guide enables the instructor to plan his schedule of instruction, plan the raw material requirement ,

Thus the availability of a complete Instructional Media Package in an institute helps the trainer and management to impart an effective training. Hence it is strongly recommended that the Training Institutes/Establishments should provide at least **one IMP** per unit. This will be small, one time investment but the benefits will be long lasting.

The **Surface Ornamentation Techniques - Embroidery Trade Theory 1st semester in Textile and Apparel** sector is one of the book developed by the core group members of the Mentor Councils (MCs). The 1st semester book includes **Module 1- Basic sewing operations , Module 2 - Elements of design and development , Module 3 - Zig Zag embroidery machine, Module 4 - Aari embroidery.**

The **Surface Ornamentation Techniques - Embroidery Trade Theory 1st semester** is the outcome of the collective efforts of Members of Mentor Council which includes academic/professional institutions (IITs etc.) , experts from field institutes of DGE&T, champion ITIs for each of the sectors, and also Media Development Committee (MDC) members and staff of NIMI.

NIMI wishes that the above material (Trade Practical & Trade Theory) will fulfil to satisfy the long needs of the Trainees and Instructor and helps the trainees for their employability in vocational training.

NIMI would like to take this opportunity to convey sincere thanks to all the Mentor Council members and Media Development Committee (MDC) members.

**A. MAHENDIRAN**  
Director , NIMI

Chennai - 600 032

## 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 **(Trade Theory)** for the trade of **Surface Ornamentation Techniques - Embroidery** under **Textile and Apparel** Sector for Craftsmen Training Scheme. This Book is prepared as per Revised Syllabus.

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

## INTRODUCTION

This manual of Trade Theory consists of related theoretical information for the first semester course of the **Surface Oranmentation Techniques - Embroidery** trade. This manual is divided into 4 modules as given below

Module 1	Basic sewing operations
Module 2	Elements of design and development
Module 3	Zig Zag embroidery machine
Module 4	Aari embroidery

The Trade Theory has to be taught and learnt along with the corresponding exercises contained in the manual - Trade practical. The correlation between practical exercises and theory lesson information is indicated by the semester/module number and exercise/theory information number. For example, theory lesson No.1.1.05 indicates that it relates to Exercise 5 of first module of first semester

It is preferable to teach/learn the trade theory connected to each exercise in advance before performing the related practicals in the shop floor. The trade theory is to be treated as an integral part of each exercise. The material is not a selflearning text and should be considered as supplementary to the classroom instructions.

While developing this theoretical manual, a sincere effort was made to prepare each lessons, which will be easy to understand and carryout 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 this manual.



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**Safety Precautions to be followed in the lab**

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

- state the importance of safety precautions
- explain the safety precaution to be followed
- explain the scope of trade.

**Safety Precautions**

Safety is important is every one. It is trainees responsibility to maintain a safe working place. Trainees should keep their machine, work stations and tools clean and on right place. They should know the location of the main power switch in case of on emergency. Keeping attention on your work and hand is very necessary while working on machine. It helps to prevent injuries and accidents. All the trainees should learn the following safety rules and practice them all the time.

- 1 Always keep your workshop floor clean, wipe up any oil specified on the floor immediately to prevent any one from slipping.
- 2 Always practice proper posture to reduce fatigue and it help prevent accident and increase efficiency.
- 3 Turn the motor off before cleaning, oiling and adjusting the machine.
- 4 Before operating the machine, be sure it is clean, threaded correctly and needle is properly set.
- 5 When operating the machine, always keep your hand at a safe distance from the needle.
- 6 Turn off the iron when it is not in use, do not be careless.
- 7 Do not use your hands to stop and start the hand wheel.
- 8 Keep your feet off the treadle when you are setting or threading the needle.
- 9 Turn off the motor off when you are not stitching.
- 10 Avoid loose fitting clothing when operating the machine and if your hair is long, tie it back.

**Introduction**

As we know that so clothes are the basic necessity of nudity and protect against injuries identification of dresses characterises people as part of a special group or society.

Clothes have also decorative function. People wear different dresses in different occasion. There are more than a few different ways to occasion embellish our dress material for by different using trimonings, printing tie of die and embroidery is a surface also known as surface or embroidery has been a part of our social wear for hundreds of years. It has been a medium for historical commentary and for expressive of creativity.

**Scope and inspect of trade:**

Embroidery a creative embellishment skills using both hand & machine embroidery. It is a rich and versatile art that covers the every of ornamented work done with a needle. Different effects like flat to raised can be produced by using different material like silk thread. Zari, stones and beads etc.

**Job scope:**

The future scope of embroidery is up to individual.

The student after completing the embroidery course can fixed placement in garment industries.

- 1 One can work with textile units.
- 2 Trainees can start up their own unit.
- 3 Can supplying embroidered work to export houses.

**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.

— — — — —

## Method of shrinking

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

- explain the method of shrinking and it's use.

Fabrics have a tendency to shrink when they are first dipped in water. Therefore, the fabric is made to shrink before stitching. Pre-shrunk material does not need shrinking treatment.

Shrinkage is not necessary in case of sanforized fabrics. Non-sanforized fabrics like cotton, silk, wool etc. have to be shrunk by different methods.

After shrinking the fabric should be pressed well to remove wrinkles.

There are several methods of shrinking. The fabric may be soaked in water for a few hours or the fabric may be steamed.

**Shrinking treatment for different fabrics:** White fabrics (Cotton, Linen) should be soaked in hot water for minimum of four hours. The position of the fabric should be changed once or twice to get uniformity in the shrinkage. Same treatment is applicable to coloured fabrics as well, except

that these are to be soaked in luke warm water.

The shrinkage treatment for woollen fabric is given by steam, adopting any one of the two methods:

A wet turkish towel is placed in between two layers of the woollen fabric so that the right sides touch the wet towel. Spread press cloth on the top layer and press it with hot iron. The steam generated from the wet towel ensures shrinkage.

The other method is to spread a wet muslin cloth over the fabric and rolling the fabric together. Then the wet muslin is removed and the fabric is pressed with hot iron.

### Precautions

- The container used for soaking and the wire ment for drying should be free from rust and dust
- Two different coloured fabrics should not be soaked together
- Drying should be done under the shade.

## Embroidery accessories

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

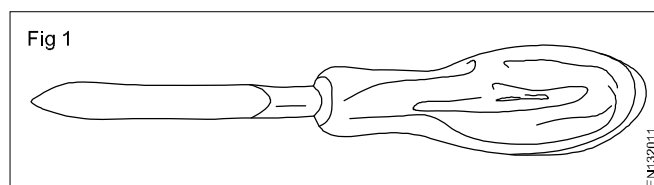
- explain the embroidery accessories and their uses.

### Needle case

It is necessary to pressure the needle in a proper place. Needle case is used to arrange the various sizes of needles in a good manner.

### Stiletto

This is a sharp pointed instrument for punching holes in a material/fabric. It is used for forming eyelets in embroidery work. It is made of steel. (Fig 1)

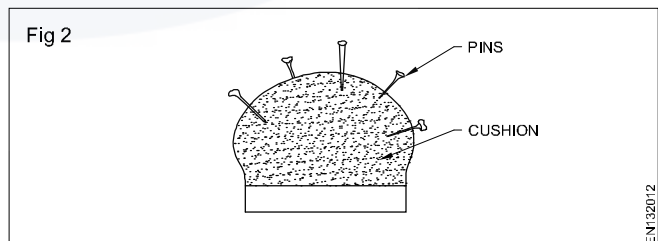


### Dress maker's carbon

This is a tracing paper with one side waxed and is available in different colours. It is used to transfer pattern marking from paper patterns to the fabric.

### Pin cushion

Magnetic pin cushions are extremely helpful to the work surface. The magnet helps in keeping pins located or controlled and can pick up in seconds. A good pin cushion is filled with saw dust and wool roving. The wool roving contains lanolin and prevents the pin from rusting. (Fig 2)



### Cutting table

This tailors cutting table differs from ordinary table. It posses a convenient height, length and width to aid the tailor in marking, cutting and constructing garments. The approximate size of the table is

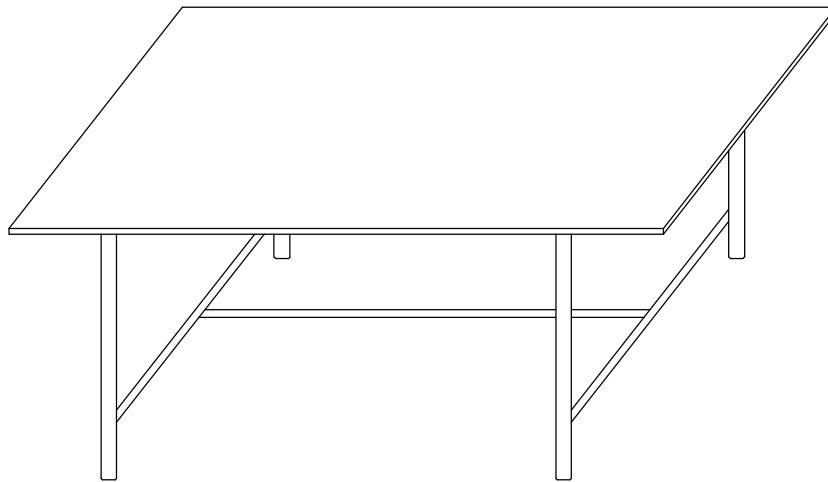
**Length:** about 150 cm.

**Width:** about 90 cm.

**Height:** about 45 cm.

The top of the table is nicely furnished with summica sheet. (Fig 3)

Fig 3

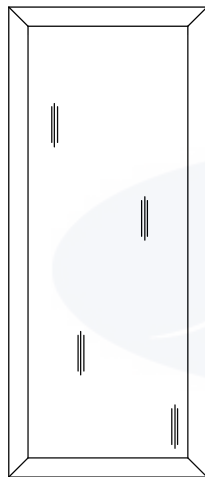


EN132013

### Mirror

A full size (length and width) mirror is useful for checking whether the garment is well fitting in size and design of embroidery. (Fig 4)

Fig 4

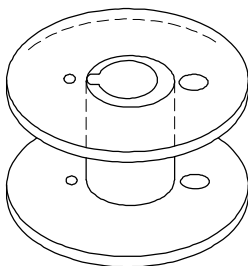


EN132014

### Bobbin

A bobbin is a spindle or cylinder in shape on which thread, yarn is wound. The bobbin provides temporary storage for yarn and thread. It is made of plastic or metal. Select the bobbin according to the instructions of type of machine to be used. (Fig 5)

Fig 5



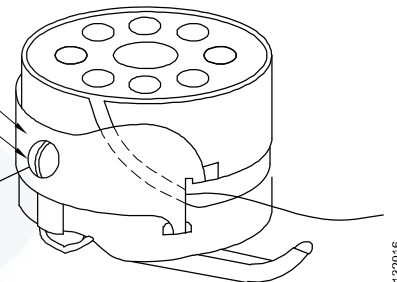
EN132015

### Bobbin case

The bobbin case is made of steel. It moves into position to catch the top thread and forms the stitch as the needle is lowered into the bobbin chamber. A small screw is located on the bobbin case. This screw is used to adjust the tension of lower thread tension. (Fig 6)

Fig 6

TENSION SPRING  
ADJUSTMENT SCREW

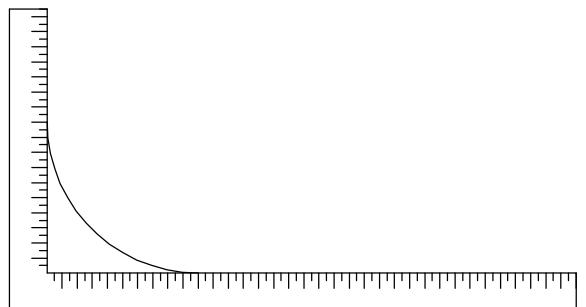


EN132016

### Tailor's square

This tailors square is called as "L" square mostly made of wood and it is in 'L' shaped. This has a perfect right angle corner and is used to draw lines at right angles at the time of drafting. It has two arms or sides. The long arm generally 61 cm and the small arm is 30.5 cm long. It has a scale on both the sides. The marked scale may be in inches or in cm's. It is helpful during the process of "Straight eming fabric" to check whether the corners of the fabric have got the right angled structure. It is used for drafting the garments. (Fig 7)

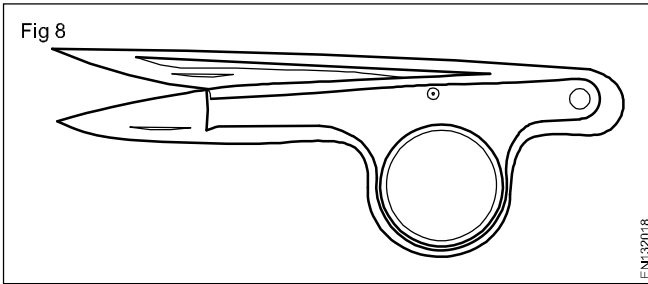
Fig 7



EN132017

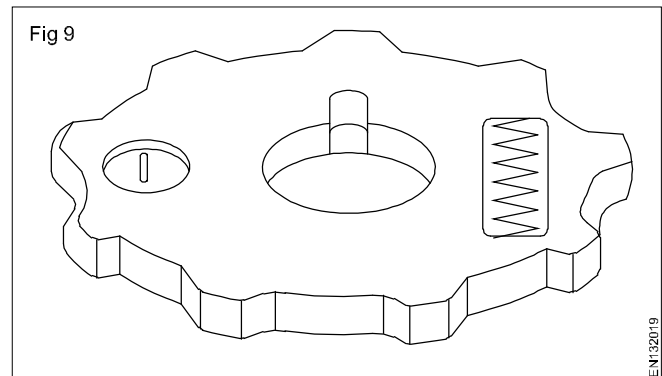
### Thread trimmer/snipper

This thread trimmer/snipper is also called as palm scissor and it is used for cutting the thread during embroidery stitching. Trimmers have a ring which sits over the little finger. It is operated by sequencing with the palm of the hand. (Fig 8)



### Fashion disc

Fashion disc is a special attachment provided with the embroidery machine. It is a small round shaped disc with different shapes of outer circumference in each disc, to stitch different styles of embroidery stitches. It is made up of plastic. It can be used with both the single and twin needles. (Fig 9)



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## Basic stitches by hand

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

- describe the temporary and permanent stitches.

### Basic hand stitches

Basic stitches are divided into constructive and decorative stitches.

Constructive stitches are further divided into temporary and permanent stitches.

#### Temporary Stitches

Basting or Tacking is a temporary stitches used for holding two or more layers of materials together before the permanent stitches are given.

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 a basting stitches.

**They are**

- Even basting
- Uneven basting
- Diagonal basting
- Slip basting
- Tailor tacks

- 1 **Even basting** is used on smooth fabrics and in areas that require close control such as curved seams. All stitches are of equal length and of equal distances.
- 2 **Uneven basting** is used for general tacking for edges that require less control during permanent stitch.
- 3 **Diagonal basting** is used to hold or control fabric layers within an area during construction and pressing.
- 4 **Slip basting** is used mostly in machines seams in checked and striped fabrics. Tack intricately curved sections or to make fitting adjustments.
- 5 Tailor's tacks are used to transfer individual pattern symbols such as darts to double layers of fabric.

### Permanent stitches

This is the simplest 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 fold 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 make 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 hand made 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 fraying.

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

— — — — —

## Design transferring method & study of fabric

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

- explain design transferring methods
- explain about embroidery threads.

### Design transferring techniques

Transferring the design to the fabric is the primary task in embroidery. Other than in free machine embroidery, i.e., stitched without designs, it is necessary to transfer the design selected for your stitch onto the fabric. There is a wide range of technique for this; each technique differs with its application.

Select a design suitable for your work with respect to the fabric used, design selected, materials available, etc. The basic design transferring technique are traced method, Dress maker's carbon paper method, pricking and pouncing method and tacking/basting method.

**Tracing method** is most suitable when a light coloured, light weight fabric such as cotton lawn or a fine calico is used. When the design is drawn or printed in dark thick colors, it easily helps to see through it with light colored fabrics. The main advantages of this method are it is less time consuming and requires no other materials except a sharp pencil or a disappearing ink pen and a light box. The light box is used for transferring the design onto the dark fabric. But care must be taken as we may ignore any detail of the design, resulting in an incomplete imperfect design. (Fig.1)

Fig 1



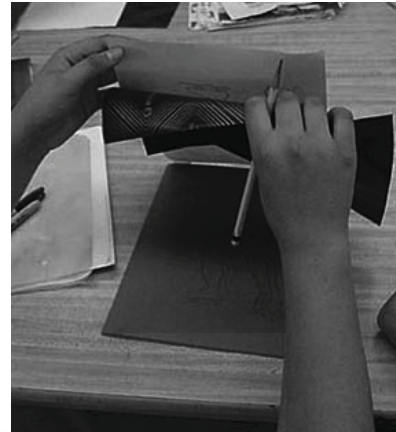
TRACING METHOD

GAR59BT0301

**Dress maker's carbon paper method** is an important method widely used for transferring the designs. It works in the same way as the stationary carbon, but it tends to be on heavier paper, less likely to tear when pinned. It is available in different colors like blue, white, yellow, etc., hence it is used with both dark and light fabrics.

An important precaution to be followed is not to lean or rub the paper while drawing the design, as it may cause smudges of the carbon marking on the fabric. (Fig.2)

Fig 2



EMBROIDERY SKEIN THREAD

GAR59BT0302

**Pricking and pouncing method** is an ancient method of transferring the design onto the fabric. It is one of the methods followed widely throughout the medieval period and before. While now mostly suspended by other more convenient methods, it still works and is very useful for transferring large designs, where the previous methods not suitable. Use fine pouncing powder or similar, though for pale fabrics where this doesn't show up sufficiently, blue powder is available. Special pricking wheels are used for transferring complex designs. Though, it is time consuming it gives, good output and also it is less expensive. It is suitable for all kind of fabrics other than the slippery synthetic fabrics. (Fig.3)

Fig 3

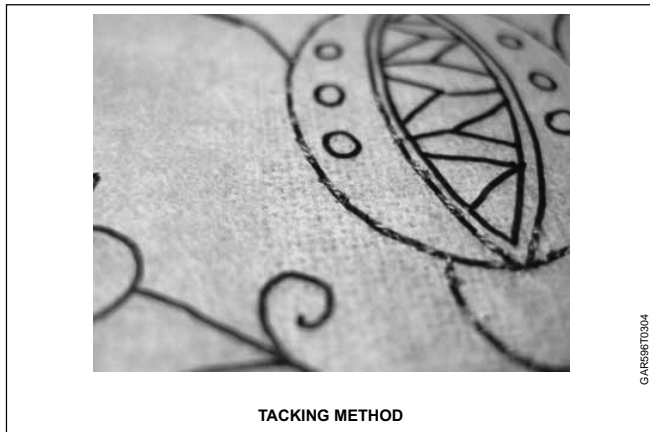


PRICK AND POUNCE METHOD

GAR59BT0303



**Tracking (basting) method** is another important transferring technique. Most of the transferring methods require the fabric to be, worked to be marked up directly, whether with a pencil, or disappearing ink pen, carbon paper or pounce powder etc. in all these methods, there are chances to get marks, which we didn't intend on the fabric, whether smudges or lines. But, in basting method, the design is tacked and can be unpicked carefully, if it is still visible, when the embroidery is completed. The main drawback in this method is that it results in a mirror-image on the fabric. (Fig.4)



TACKING METHOD

GAR696T0304

### Study of embroidery thread

Embroidery thread is yarn that is manufactured or hand-spun specifically for embroidery and other forms of needle-work.

### Threads for hand embroidery include

- 1 Embroidery floss or stranded cotton is a loosely twisted, slightly glossy 6-strand thread, usually of cotton but also manufactured in silk and rayon. cotton floss is the standard thread for cross-stitch (Fig.5)



EMBROIDERY SKEIN THREAD

GAR696T0305

- 2 Pearl cotton is S-twisted, 2-ply thread with high sheen, sold in five sizes or weights (No. 3, 5, 8, 12 and 16 (Finaca), with 3 being the heaviest and 16 the finest).
- 3 Matte embroidery cotton is a matte-finish (not glossy) twisted 5-ply thread.
- 4 Medici or broder medici is a matte-finish (not glossy) twisted 5-ply thread.
- 5 Crewel yarn is a fine 2-ply yarn of wool or, less often, a wool-like acrylic.
- 6 Persian yarn is a loosely twisted 3-strand yarn of wool or acrylic. Often used for needlepoint.
- 7 Tapestry yarn or tapestry wool is a tightly twisted 4-ply yarn.

Threads for machine embroidery are usually of polyster or rayon (less often cotton or silk).

Threads, like textiles, can contain compounds that may be harmful to humans. Many dyes have been shown to be allergenic. Testing for the presence of these dyes, and other additives can be done at many commercial laboratories.

Certification to the Oeko-tex standard may also be applied for. This tests the component for over 100 different chemicals and certifies the component according to human ecological safety.

## Running Stitch

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

- state the features of running stitch
  - state the variation of running stitch.
- 

### Running stitch

Running stitch is the basic hand embroidery stitch. It is the simplest variety of stitch, often used for outlining the design. This simple straight stitches are worked with even space in between each. This stitch type is suitable for any kind of design. (i.e) for designs with lines curves etc. It is worked with 2 strands of embroidery skein thread. This stitch can also be used as decorative stitch by introducing it in collar ends, sleeve hems and neck lines.

All the 6 strands of the skein thread is used to give rich look to the design. Beginners can practise this stitch in poplin and is worked easily in any type of fabric. 2 different colours of thread in a single needle is used to showcase the stitch in a better way.

### Pikenese running stitch:

This is a variation of running stitch. Which come under the decorative stitches. This is formed by interlacing using contrast colour thread in simple running stitch.

The main advantage of this embroidery is any kind of fabrics can be used. Beginners can practise this particular stitch or poplin, but one can easily work this stitch in any type of fabric. According to the type of design and application of design no. of strands can be increased working through. This stitch can also be used as filling stitch. While working with crewel embroidery. This stitch is more suitable for geometrical designs.

This stitch is suitable in childrens wear as well as ladies wear.

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## Basic stitches for embroidery

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

- know about the basic hand embroidery stitches
- application of stitches
- select suitable design for basic stitches.

**Running stitch:** It is essential that you learn to work the basic stitches, for successful embroidery work. While beginning the embroidery, the design must be outlined first. Running stitch used for outlining purpose oftenly, as well as decorate stitch. This used for base stitch for interlacing work. The various stitches are done by using this basic stitch. Whipped running, laced running, double back laced running, double whipped running, double laced running are running stitch variations.

Use outlining stitch of a design and foundation stitch for whipped and woven decorative stitches. This stitch must be even in length and spaces between stitches even while working. Keep stitch about three times as long as space between.

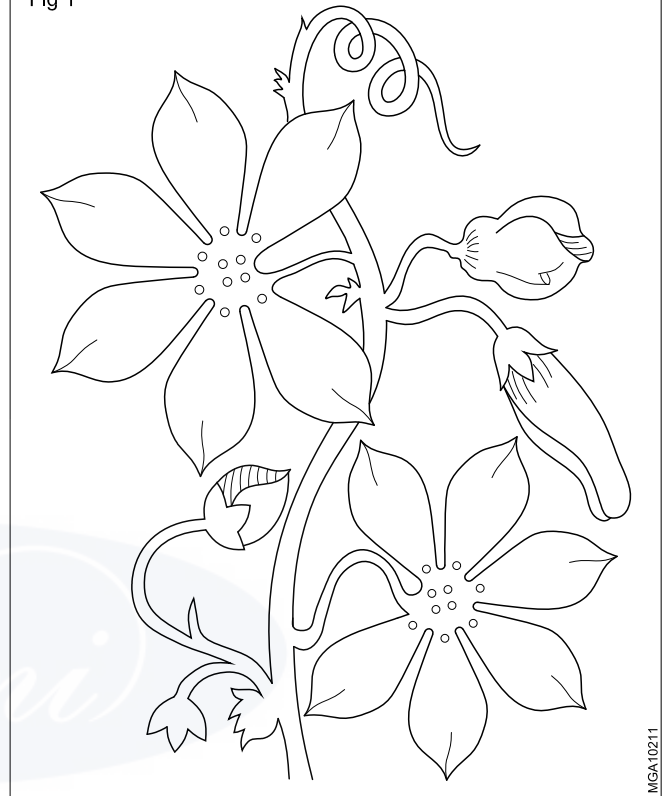
Nice for curved line design. Running stitch variations suitable for decorative border. Filling work of design done by running stitch, which is easy and quick to work.

**Back stitch:** Back stitch also one of the basic stitch. Strongest and most versatile of the hand stitches. Back stitch may be combined with many other stitches to produce special effects. For example work chain stitch first and then, with contrasting colour, work back stitch into the center of each loop, you have chained back stitch or work large back stitches and then whip with contrasting colour for whipped back stitch. This is the back of the outline stitch. It follows a tight curve very well if the stitches are kept tiny. It is the base stitch for many other stitches like Pekinese, interlaced band etc.

This stitch is suitable for all type of design. In small and simple designs it give simple outlining effect. Very tiny back stitch used for sharp curved line in a design. Small, evenly space and regular of this stitch gives, the machine stitch effect to the design.

**Stem stitch:** The stem stitch is most frequently used for narrow, curving lines. This stitch is used as outlining stitch for another stitch which used as filling to design edges, accent etc. For example, work a design in Tambour embroidery and then outline. Outside edge with lighter or

Fig 1



darker shades for contrast.

Very suitable for outlining any area, stems etc. The stitches should be tiny, especially on a sharp curve. When curve is in the opposite direction, thread may be held always above the line. It gives the twisted cord effect.

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**Chain stitches**

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

- know about chain stitch and its variations
- use of chain stitch and cable stitch.

**Chain stitch:** This is one of the beautiful stitch used embroidery work. Crewel from India is usually worked entirely in chain stitch. For shading in Jacobean patterns, just work row upon row of chain, following contours. Chain stitch may be whipped or laced to decorate it further.

It is used in line covering, outlining of a design like branches, stem etc. This is the basic stitch for its variations. Its variation stitches used for decorative borders, filling etc. Zigzag chain, cable chain stitch, sloping chain, Russia chain stitch, lazy daisy, open chain stitch are some of its variations.

Floral design is suitable for this stitch. This is more beautiful for stems, branches, leaves like designs. This is one of the outlining stitch. Two strands of yarn is enough for beautiful work.

**Cable chain:** This is one of the variations of chain stitch. It looks like a heavy chain. Spacing of stitches is important. Make little longer chain than the tack for good look. Work very evenly for best effect.

This is suitable in medium width borders. Used as decorative stitch. In smocking also it will be used. Work in single lines for beautiful appearance.

Simple and small designs are suitable for cable chain stitch. This stitch give neatness to the single curved line designs. It is simply decorative to look. It can be finished quickly. Use thick yarn to this stitch for attractive effect.



## Lazy daizy

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

- know about lazy daizy stitch and double lazy daizy
  - gain knowledge about application and accessories.
- 

**Lazy daizy:** Lazy daizy stitch is one of the decorative stitches. It is also called "Loop stitch" as it is worked by making a loop. Due to a gap between two stitches, it is known as "detached chain" also. Its other names are knotted knot stitch, picot stitch, tied loop stitch, tail chain stitch.

Suitable for small handkerchiefs, baby frocks, bags, pillow covers, table covers, sari sprays.

**Double lazy daizy:** One of the variations of lazy daizy. When a petal is broad, two chains are made, one inside and the other outside. This gives a filling effect and it is called a "Double lazy daizy".

Just as we use two contrasting colour threads in the chequered chain stitch, we can use two colours in the same way in a broad petal also.

Two colour scheme makes it more attractive.

Fig 1



**Button Hole stitch**

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

- state the types of button hole stitch
  - describe the features of button hole stitch.
- 

**Button hole stitch**

Button hole stitch is a traditional embroidery stitch. It is used as a decorative finish for edges of blankets and in making of hand worked button holes.

Stitches may be of same size or grouped at regular intervals. This stitch is more suitable for free hand design. This stitch is worked between pair of lines.

It is also worked in cut work, eye let hole and applique work. Button hole stitch is also used for filling the designs.

**Closed Button hole stitch**

Closed button is one of the variation of button hole stitch. This stitch are placed very close together to form a firm edge. closed button hole stitch is more suitable for neck line, sleeve and its easy to form a design.

**Cluster Button Hole**

Cluster button hole stitch is a grouped button hole stitch. The length of the stitch may vary according to design. This stitch can be used in cushion covers, take covers for decorative purpose and for edge finish.

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## Feather stitches

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

- state the application of feather stitch and double stitches
  - select a suitable design and accessories.
- 

**Feather stitch:** This is also used as decorative stitch. It is great filling stitch when worked row after row. This stitch is most suitable for fat flower stems, wide borders etc. feather stitch work with two parallel guide line. Working from top to bottom, pick up several threads of the fabric to the left, holding the needle obliquely and stitching towards the centre with the thread under the needle.

**Double feather stitch:** This stitch is similar to feather stitch. It is also used for filling effect for branches, stems etc. Mainly useful for wide decorative borders. Three light

guidelines drawn to work double feather stitch. This is used for edges of blanket and baby kimonos. Select contrast colour thread to work this stitch. Thick layer thread is suitable for attractive effect. The branches may be kept all even with each stitch the same length or they may be varied in length.

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## Herring bone stitch

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

- to know about the herringbone stitch and its variation
- gain knowledge about usage of herringbone stitch.

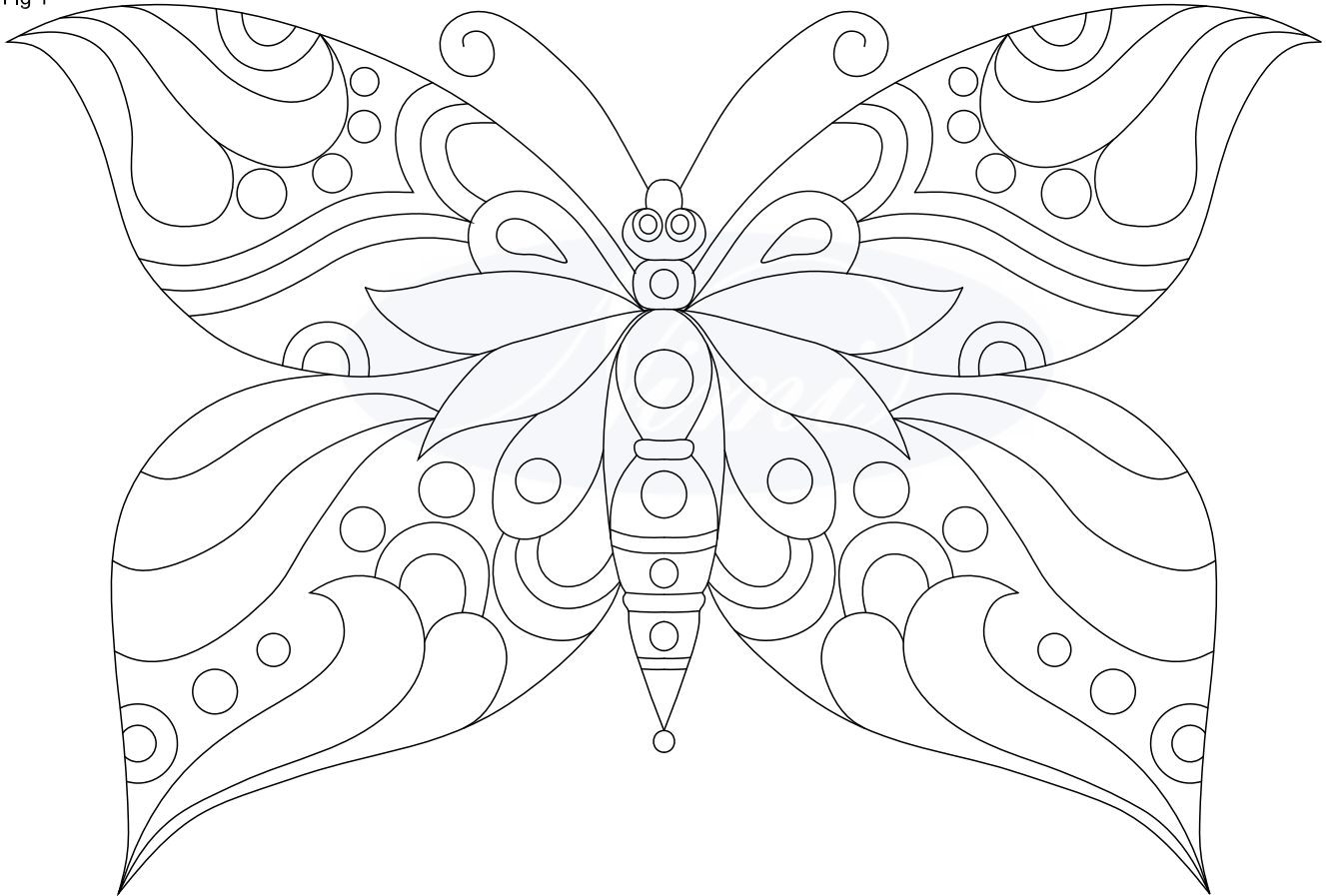
**Herringbone stitch:** It is use for hemming all my clothes. It gathers the lower fold gently and "floats" the hem over the fabric. This stitch is also used as decorative stitch in wide borders. Sleeve hemming edges decorative with this stitch for beautiful look.

This is foundation stitch for its variations. If this stitch work closely, it is known as closed herringbone. In basic stitch, interlace work done for laced herringbone, whipped herringbone and woven herringbone stitch.

**Double herringbone stitch:** This stitch is one variation of herringbone stitch. Foundation stitch is done by basic herringbone stitch. In second journey, herringbone stitch work with another contrast colour thread. This second journey work between foundation herringbone stitch.

This stitch is simple and beautiful to look. It is also easy to work You can finish it quickly. Contrast colour thread combination work gives the attractive effect. It used in wide borders.

Fig 1



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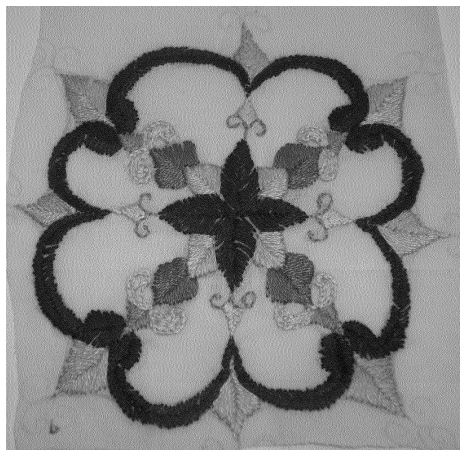
## Fish Bone stitch

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

- state the types of fishbone stitch
- state the features of fishbone stitch
- describe the applications of fishbone stitch.

### Fish bone stitch

Fig 1



FISH BONE STITCH

EN110911

This stitch work is similar to the herringbone stitch, it suited for oval and narrow shape designs like leaf shapes. The vein of a leaf is used as the centre core and stitches are taken alternately to its leaf and to its right.

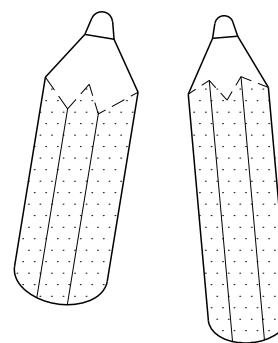
The shape of the design in the vein is clearly seen after completion of the embroidery. It can be used two shades of the same colour are used in the design, to make it more attractive.

The contrasting colour yarns are taken in the needle and then each colour is used one after the other. The two shades of a colour in the design gives the impression as if done on wood. Embroidery of this stitch continue more time. Thus it is used for more designs , were less embroidery is needed.

The fishbone stitch is used to embroider bibs, baby frocks, frock yoks, baby suits etc.

### Open Roumanian stitch

Fig 2



OPEN ROUMANIAN

EN110912

This is one of the variations of the fish bone stitch. The fabric is placed or fixed tightly in the embroidery frame to avoid puckering, because of broad shapes of the designs. In broad leaf plait will be formed in the centre of the design. While in a narrow leaf the vein type of appearance will be seen after completing the design. Different shades cannot be taken in this embroidery. It is used for table covers, sarees, bed sheets, pillow covers, petticoats, punjatri dresses etc.

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## Satin Stitch

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

- state the features of satin stitch
- explain the raised satin stitch.

Satin stitch

Fig 1



SATIN STITCH

Satin is a flat filling stitch that looks simple to work. It gives neat finishing and good appearance only with good practice of learning. Blocks of stitches can be worked in different directions to create areas of different shades and effects.

This stitch is most suitable for embroidering floral designs as well as the other design patterns like geometrical, animal designs, natural scenerio etc. This stitch is worked on all kinds of fabrics like satin, silk, linen corduroy, georgette etc. It can be worked even in any type of canvas.

**Padded satin**

Unlike satin stitch has a slightly raised shape. It is used to emphasize shapes by making them stand out from flat areas of stitching. This stitch is worked with an embroidery loop to prevent puckering.

The design is padded with closed worked.

Fig 2



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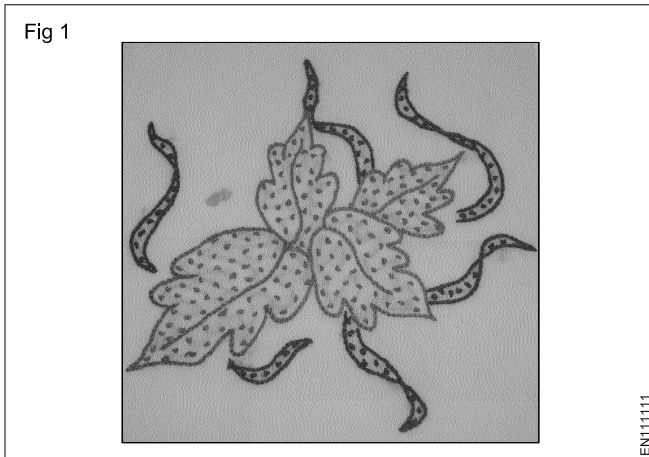


## French knot

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

- state the features of french knot
- describe the uses of bullion knot.

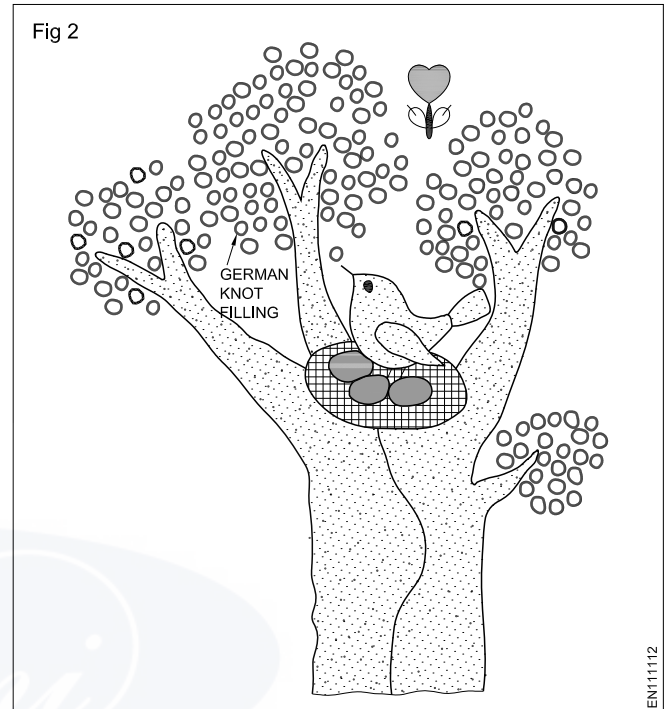
French knot:



French knot is a slightly textured and raised stitch. knots can be worked close together to fill an area completely. Producing a lumpy effects . Lumpy knots as desired within design area.

French knots can be made larger by increasing number of twists of thread around needle. These are mostly used for floral patterns. All types of fabrics are suitable to work thin stitch. Poplin is often used by the beginners, to achieve good results. Apart from skein threads. Pearl threads and woolen threads are also used. This stitches are widely used to embroider the ladies wear and kids wear.

Bullion knot



Button knot is the variation of the french knot. The stitch varies from the french knot with the number of thread twists. It is used for decorative purpose. This finished stitch, resembles the shape of a coil. while working, do not wrap the thread tightly around the needle. So that to avoid becoming it hard to pull through, to fix them in place. Two contrast colours of thread is in the needle to give an enhanced effect to the stitch.

It is often used to work the floral designs especially the "rose" flowers

This decorative knot stitch is widely used to embroider the flowers or buds. It should be worked patiently and one attains perfection with good practice.

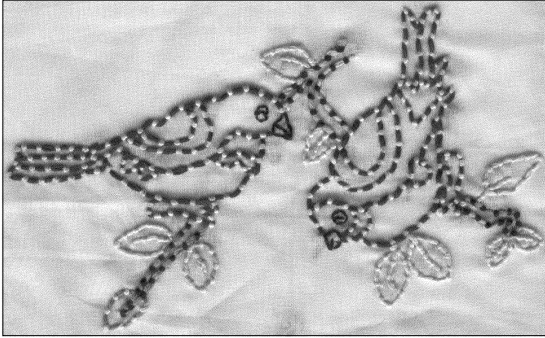
This stitch often used to embroider the sarees, baby frocks and other articles.

## Couching

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

- state the types of couching work
- state the uses of couching work.

Fig 1



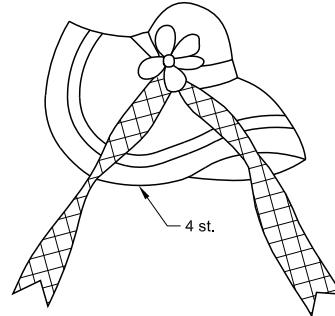
COUCHING WORK

EN1112/11

Couching work is also known as laid work. It is worked either by laying a single cord or more number of threads of matching or contrasting colours. It is different from other embroidery stitches, as it is similar to a machine embroidery work cording. This stitch gives a embossed effect to the design.

It is often used to outline the design. skein thread is most preferably used for laying , where as woolen threads are also used. Care must be taken to select the fabric for couching work, as the embroidery work is heavier than other stites. It should not form any wrinkle to the fabric. Thick fabric like linen, poplin, silk and knitted fabrics are suitable for couching work. Other than skein threads , zari and pearl threads are also suitable.

Fig 2



DETACHED COUCHING

EN1112/12

### Detached couching

Detached couching is one of the variety of couching work. Unlike couching work, detached couching is worked with two rows skein threads at the same time. As the work makes the fabric heavier than the couching heavier fabrics like corduroy, brocade etc are used. Hand embroidery needles are selected with great care to suit the heavy fabric. Apart from skein threads, woolen threads are also used for detached couching work. Detached couching work is suitable for cushion covers, bed spreads, carpets, table cloths etc. Zari threads are also used to enhance the beauty of the stitch.

## Mirror work

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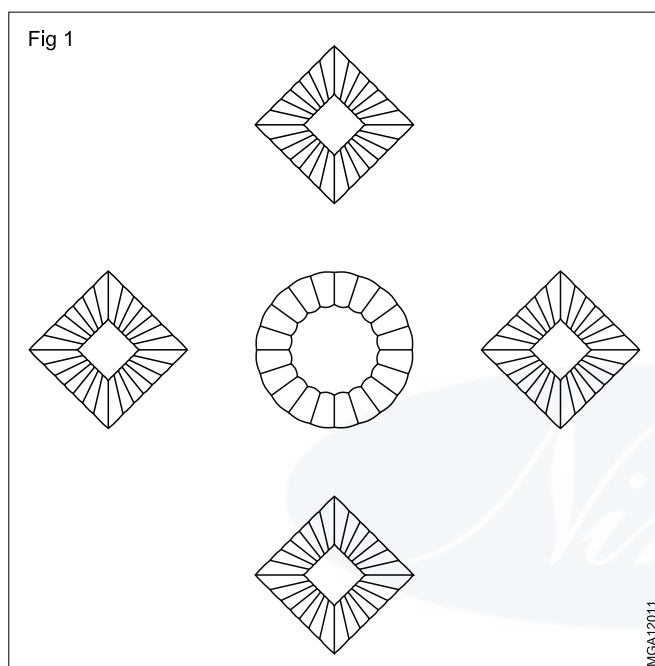
**Objectives:** At the end of this lesson you shall be able to

- gain knowledge of mirror work
  - known about application and accessories.
- 

**Mirror work:** This is otherwise known as Abhu Bharat mirror work from Punjab, Kathiawar in which round pieces of mirror is attached, one button hole stitch pattern are created with the fixing of round shaped mirrors. The design to be embroidered are first sketched out by hand. The portion where the mirror has to be stitched is shown by a small circle, the rest of the embroidery is prepared with 2

silken thread either with stem stitch or herringbone stitch closely embroidered. The colours used for this embroidery is rich rust, red, light green, pine, indigo surrounds the mirror. This is done on cholies, ghararas.

Motiefs are of flowers and creepers with rows of mirror. This is done on table cloths also. Same colour thread or contrast colours also used.





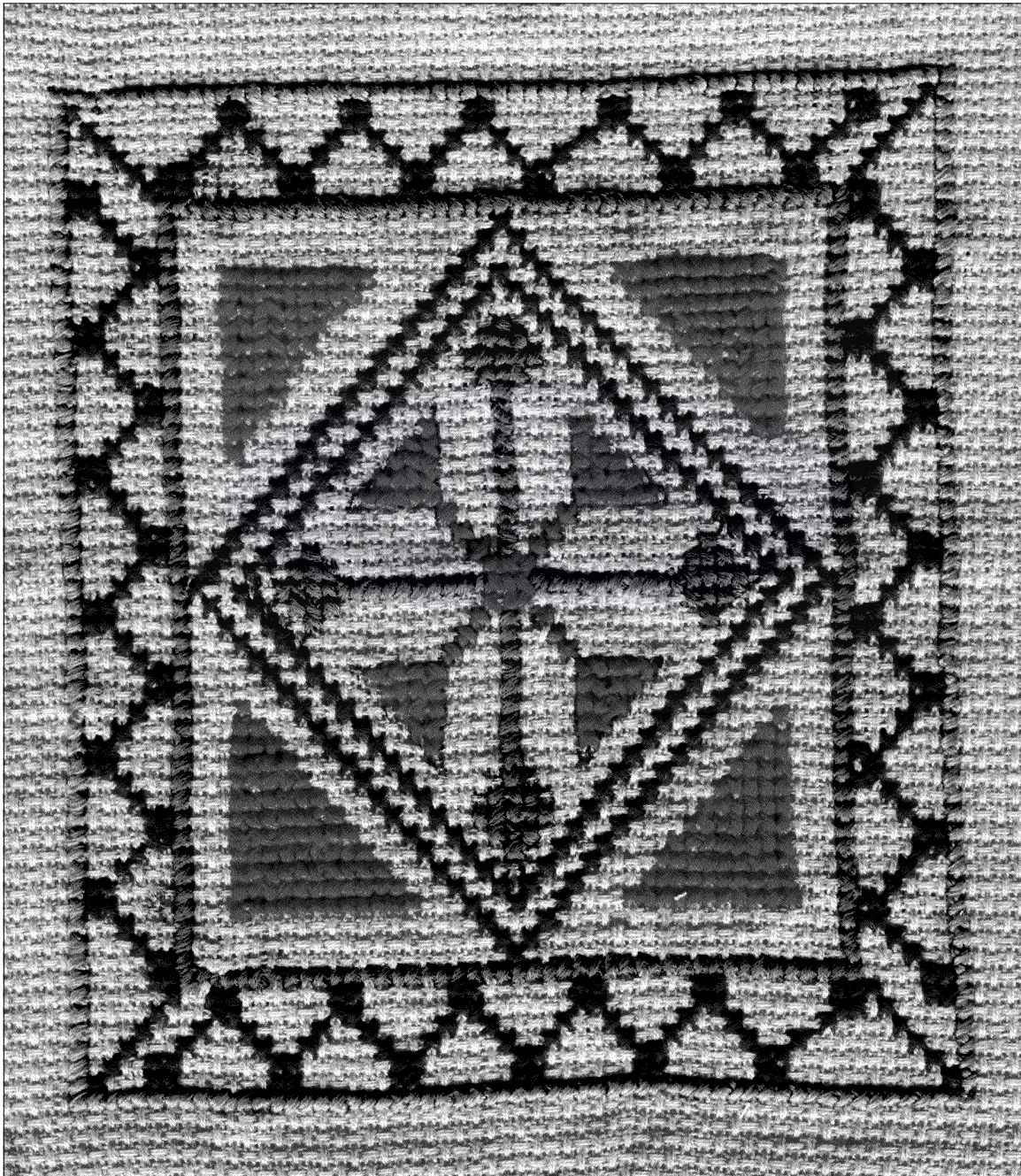
## Cross stitch

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

- state the features of cross stitch
- state the variation of cross stitch
- state the importance of cross stitch.

Cross stitch

Fig 1



CROSS STITCH

EN111311

## Composite stitches

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

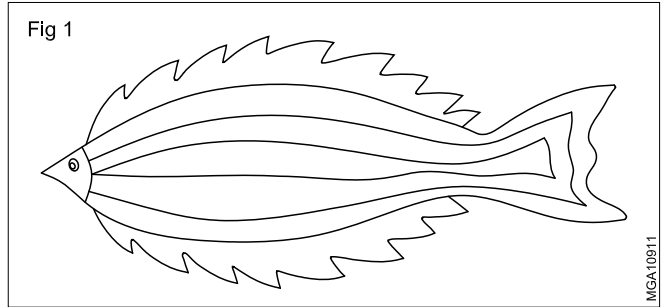
- state the application of wheat ear and fly stitching
  - know about the uses of those stitches
  - select a suitable design.
- 

**Wheat ear stitch:** It is decorative and very simple method of working. Stitch for ears of corn, grasses and other growths. This is a combination of lazy daisy and fly stitch worked together to form a wheat ear formation. They may be worked singly as a spot motif or to form a continuous line. It may be worked detached and also attached. This is also for isolated stitches and used for filling. Arranged in pattern for flowers or attached for borders.

**Fly stitch:** It is similar to lazy daisy stitch, but the ends of the loop stitch are widely separated. Make a small back stitch to anchor the centre in place, bringing needle up in position for next stitch. Can be used as a scattered space filler where a simple, textured background is desired. Fly stitch, with a shortened tack, is used in conjunction with

many other stitches. It is used as a very light powdery filling, as buds or as seed pods. Stacked fly can be used around a daisy when working double or triple daisy and the center becomes too crowded.

Fig 1





**Surface Ornamentation Techniques - Basic hand stitches****Eyelet hole**

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

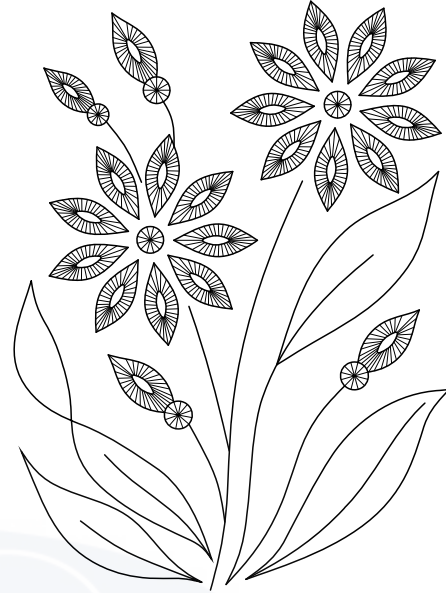
- know about the eyelet hole application
- gain knowledge about usage of cutwork.

**Eyelet hole:** It is mainly used for Brodrie anglaise work. Buttonhole stitch is used for eyelet hole. Badkin is used to pierce the fabric for eyelet hole. Round shape and oval shape is used for eyelet hole. For floral design, at centre round shape eyelet hole and for petals oval shape eyelet hole is used. This work is suitable for Baby's dresses, frock, curtain, sofa covers, chairs back.

**Cutwork:** The background is cut away leaving the design in the original fabric is known as cutwork. In planning, the first point to remember is that the design must not disintegrate when the background is cut away, and therefore it must be closely knit leaving only small space. Pointed shapes must not be allowed to project or they will flop when trained. Everything is outlined with closely worked buttonhole edging stitch, with the heading towards the background space.

A limited amount of other stitchery may be added as explanatory details to the design. The shapes should be cutout very sharp pointed scissors, first from the front and finally from the back. The "prick pounce" method is best for transferring the design from paper to fabric standard cotton or filoseble give the most even results because the threads blend together.

Fig 1



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## Importance of stain removal

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

- explain importance of stain removal.

### Importance of stain removal

Stains are the important demerit that spoils the quality of any fabric. Stain removal is an unavoidable process to make a fabric or garment usable. The stain caused on a fabric reduces its quality as well as use ability. The fabric stains may cause due to various reasons. As well as the stain types and its severity also differs with every fabric. Fabric stains may be caused by ice cream, milk, pencil, mud, rust, grease, ink, fruits, adhesives, glue or stickers and many others. Every stain removal method will give a best result. Dry and wet stains are the two main categories available in every stain type. It can be easily removed when the stain is wet, where as the removal procedure becomes tedious when it gets dry.

**The following are the important points to be remember for stain removal**

- 1 Treat the stain as quicker as possible for better result.

- 2 Avoid the usage of hot water for treatment of stain, as it will set the stain.
- 3 Approach the stain gently as harder treatment will spread the stain further.
- 4 Work inwards towards the centre of the stain to remove it easily.
- 5 Place a clean white towel under the embroidery before sorting to prevent the fabric from picking up further stains from anything underneath it.
- 6 Test the fabric for colour fastness before embroidery by rubbing a wet cotton bud over a small test sample of the fabric.



**Technical terms related to design and embroidery.**

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**Objectives:** At the end of this lesson you shall be able to  
• explain technical terms.

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**Tracing paper:** The paper useful for tracing designs from a book or other sources. It comes in several weights.

**Embroidery scissors:** Small and have sharp points and ideal for fine work like cut work.

**Thimbles :** Protect middle finger while embroidery comes in sizes 6 to 12

**Embroidery floss:** Loosely twisted 6 strands thread. Available in silk, cotton, rayon and in many colours. Works well in every type of embroidery, strands can be separated for finer work.

**Tracing wheel:** That mantle tool is used to transfer of design to fabric.

**Pounce:** This is a fine powder used in transferring the design by pricking method.

**Hoop/frame:** Consists of two rings, fabric is stretched over the inner ring and held in place by the outer ring. Comes in wood, metal and plastic, available in many sizes.

**Value:** Refers to how to light or dark a colour is (light having a high value)

**Needle threader:** Facilitates threadly yarn through eye of needle.

**Seem ripper:** It has sharp-edge for cutting seams.

Stiletto also known as 'Awl' is a small and sharp tool used to make the round holes for eyelets.

**Bobbin:** The spool or device that holds the lower. Thread that interlocks with the needle thread to form a stitch.

**Hue:** A true colour, without tint or shade.

**Tint:** Adding white to a pure colour.

**Tone:** Adding gray to a pure colour.

**Shade:** Adding black to a pure colour.

**Trimming:** The action to cutting loose threads, removing backing etc,,. From the final embroidered product.

**Embroidery:** Embroidery is a 'Thread Art' used to embellish a garment with the help of needle, threads and materials. Also known as surface ornamentation technique.

**Design:** Stitches that compose an embroidery pattern called embroidery design.

**Colour wheel:** A circular diagram showing the relationship between primary, tertiary, secondary colours. It has three primary, three secondary and six tertiary colours. Colours schemes are defined from the colours wheel.

**Water soluble pen and pencils :** are used to transfer a design on to fabric temporarily. The marked lines wash out when the article is laundered.

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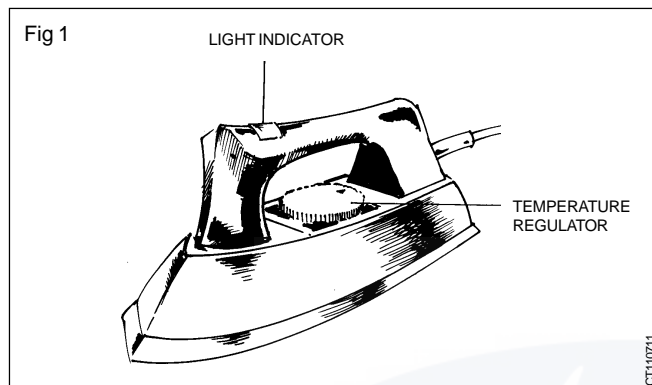
## Pressing equipment

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

- name the pressing equipment and its application
- explain the importance of pressing.

### Pressing equipment

**Electric iron:** It is specially shaped with pointed nose and parallel sides. The bottom plate of the iron is heavy, hard and smoothly polished, so as to allow easy movement on the fabric to be pressed. It is provided with a non-conducting handle and a temperature regulator or a thermostat. (Fig 1)



**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 2)



**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 3)

**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 4)

Fig 3

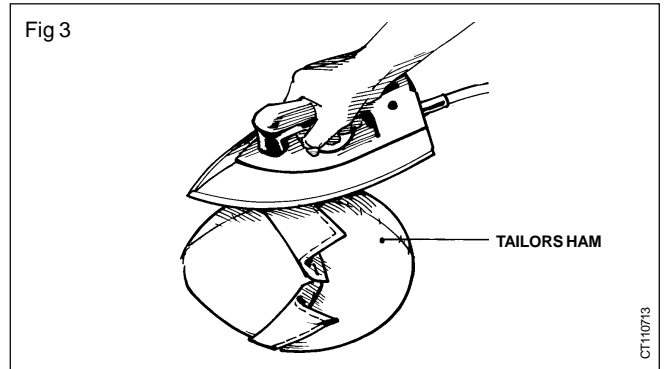
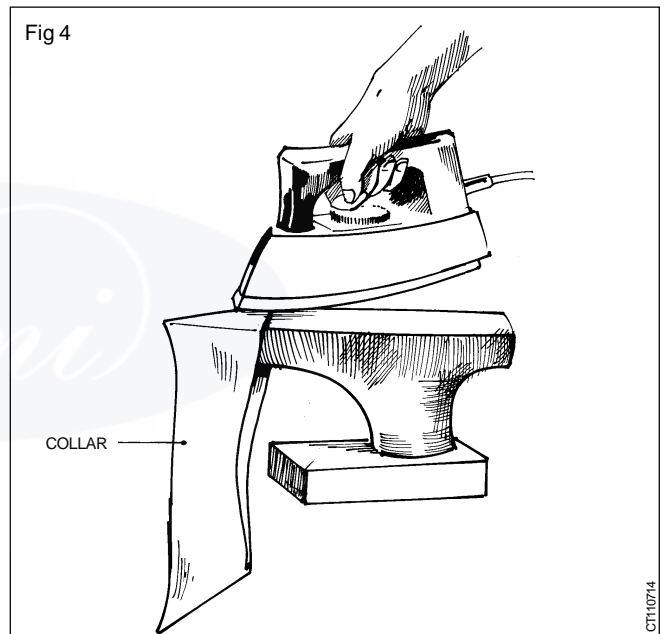
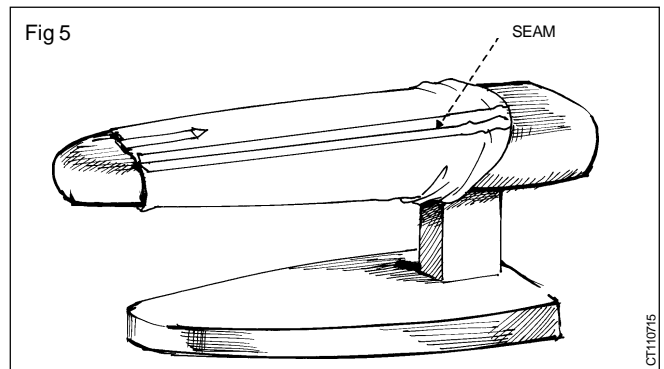


Fig 4

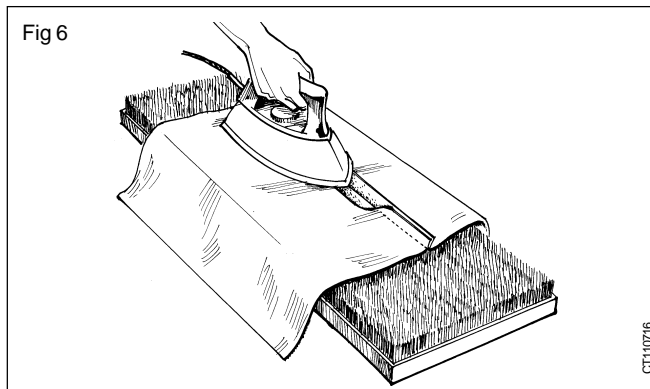


**Sleeve board:** It is a board with a narrow, long, flat surface on which the seams and details of the narrow sections of the garment, such as the sleeves and the legs of the trouser can be easily pressed. (Fig 5)

Fig 5



**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 6)



**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

- 1 during the construction of a garment (press flat seams, darts, press components in shape etc.)
- 2 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

- 1 Do not let iron cord drag over your work.
- 2 Either use the iron stand or tilt the iron when not in use depending on the type of iron you have.
- 3 Do not scorch the ironing board cover.
- 4 If starch is stuck to the iron, let it cool and then scour with soap or non-scratching scouring powder or baking soda.
- 5 Use distilled water for steam irons; empty the same when you have finished your work.
- 6 Make sure that there is no leakage of electricity in any part of the iron, the wire and plug pins.
- 7 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

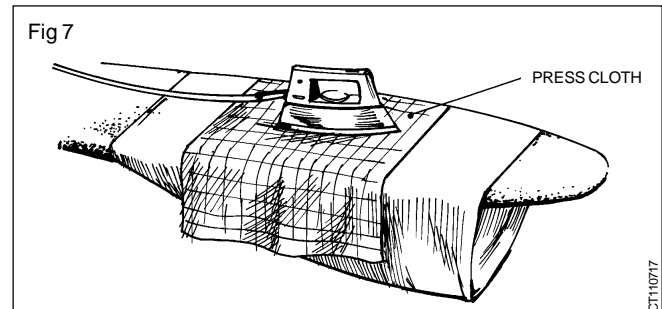
not always clearly marked on the iron dial but should be graded from hot to cool in this order: linen - cotton - rayon - wool - silk - nylon (and other artificial fibres).

**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 7)

#### Techniques for pressing during construction

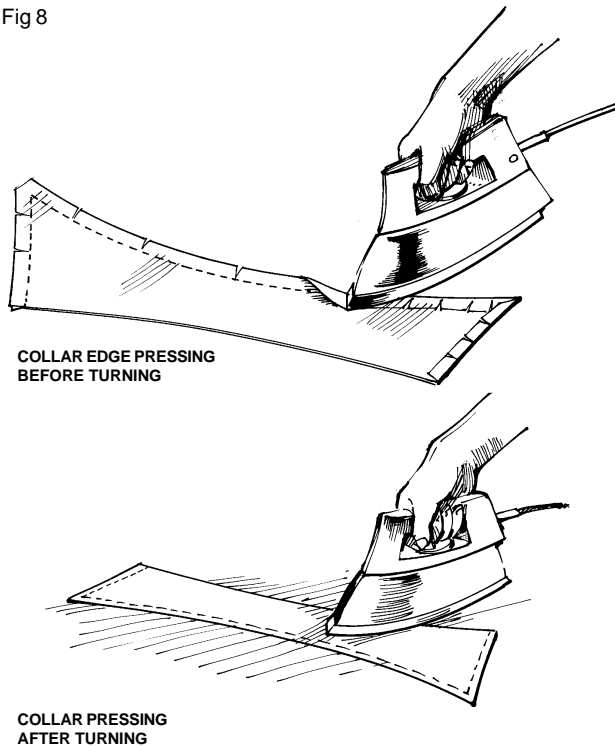
- 1 Pressing over basting is frequently necessary along



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.

- 2 Press with the grains, also on bias components press along the grains.
- 3 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.
- 4 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.
- 5 Gathers are pressed by folding firmly at the stitching line in your left hand. For slow work reduce the heat.
- 6 Hold the side of the iron closely parallel to the stitching line when fullness is to be shrunk out.
- 7 Press-buttons, embroidery, lace, beading, braiding are to be pressed from the wrong side over a soft pad such as layers of turkish towel.
- 8 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. (Fig 8)
- 9 Do not press lengthwise creases in sleeve if you want a professional appearance, instead use sleeve board.

Fig 8



### Order of pressing work

- 1 First press interior parts such as pockets, facings, seams, linings and shoulder pads.
- 2 Then press sleeves.
- 3 Press ruffles and gathers before the parts they trim.
- 4 Press yokes and shoulder seams before the lower blouse.
- 5 Press top parts of long garments before the lower parts (blouse before skirt); skirt top before lower part of skirt.
- 6 The collar is usually pressed last, because its position next to the face is so important.
- 7 Finally remove any creases accidentally produced. Do not put creases in sleeve or below dart or unpressed pleats.



## Elements and principles of design

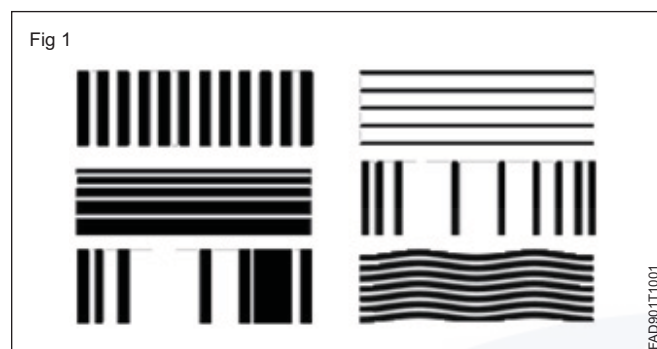
**Objectives:** At the end of this lesson you shall be able to

- 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)



#### 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

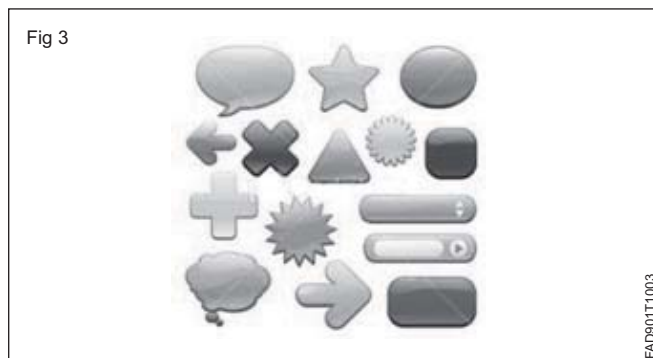
Natural shapes are found in nature or they can be manmade shapes. Leaves are an example of a natural shape. An ink blob is a natural shape. Natural shapes are often irregular and fluid. Natural shapes can add interest and reinforce a theme. Rather than a plain box, frame text with a coiling rope or a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

#### Stylized Design (Fig 2)



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.

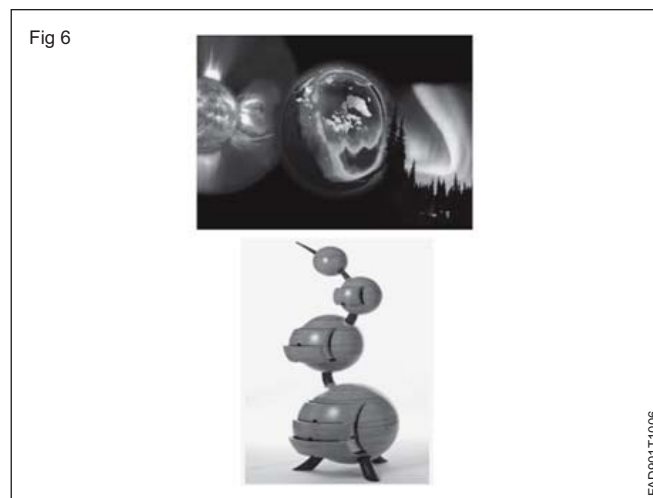
### Illusion (Fig 5)



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.

### 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.

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)





## 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.

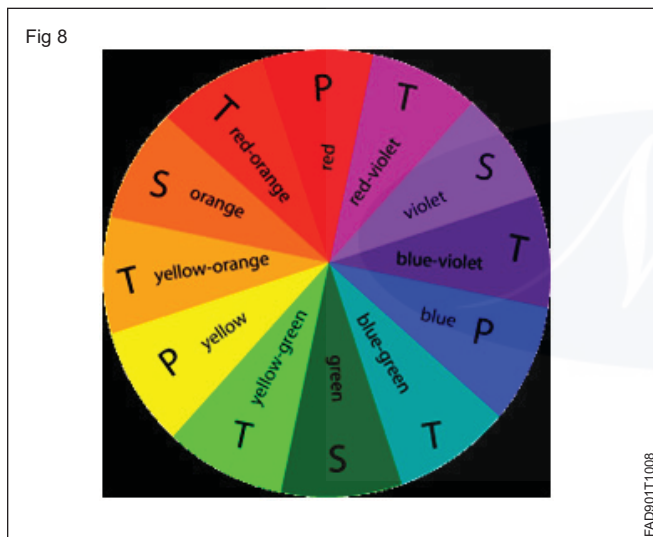
Bristly, rough, and hard – this is what we usually think of as texture, but texture can also be smooth, cold and hard, too.

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)



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.

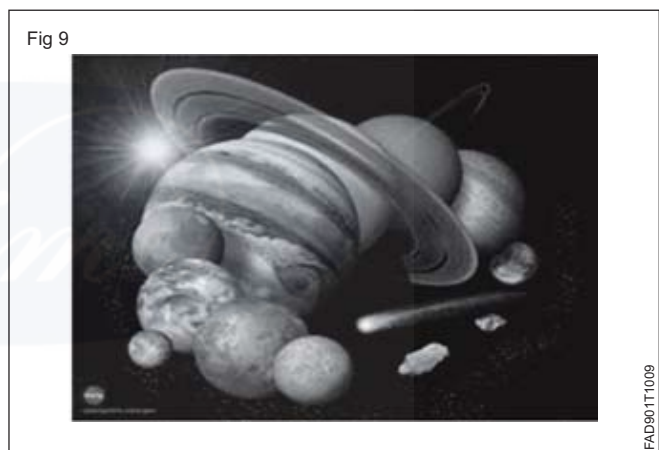
Tints are made by adding white to a colour. Shades are made by adding black to a colour.

## Principles of design

### Harmony

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

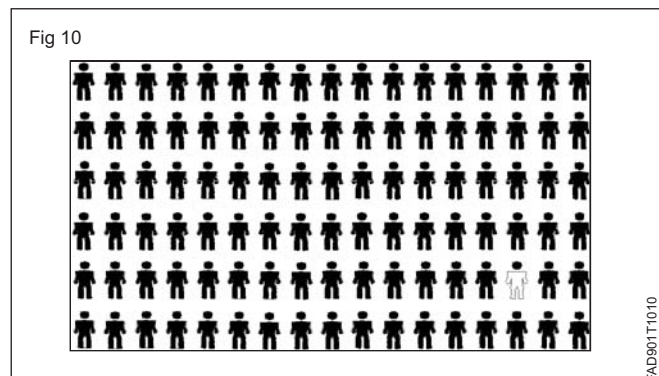
Harmony can be made where the eye is used to seeing objects together, so they form a group eg. Flower pot and



plants. (Fig 9)

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.

## 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.

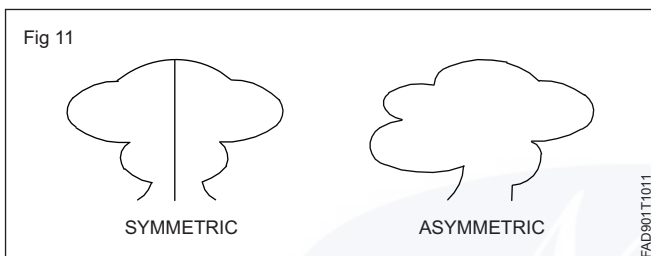
Balance can be symmetrical or asymmetrical

Balance can create movement, tension or calmness.

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

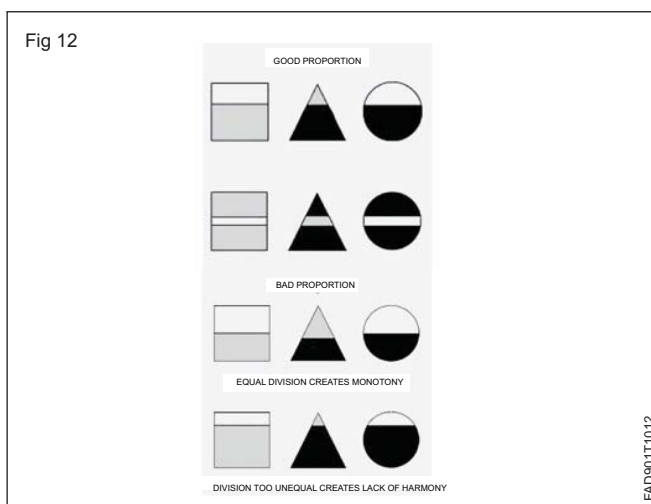
The elements can be balanced around a vertical, horizontal or diagonal

## Imbalance/Asymmetrical balance/informal balance (Fig 11)



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)



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.

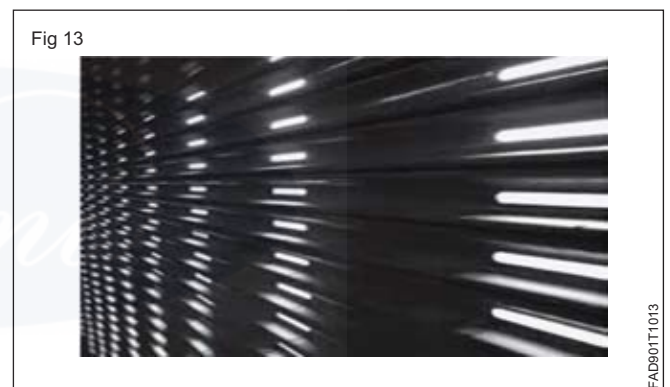
PROPORTION is about realistic relationship or ratio. As an illustration, the ideal human proportion is eight heads high and the shoulders are two heads wide so artists can change these relationships or proportions for dramatic or comic effect or to emphasize a feature or quality. In cartoons the head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



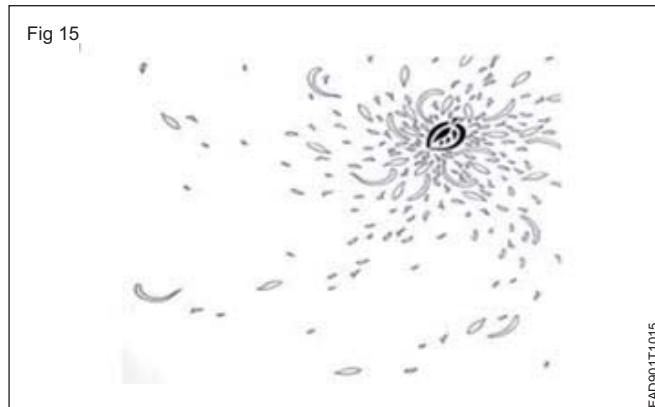
RHYTHM is about the rate the eye moves throughout the work of art. This is usually because the eye moves, jumps or slides from one similar element to another in a way similar to music.

## Rhythm through Gradation (Fig 14)



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

### 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.

### 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.

### 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.



## Lines

**Objectives:** At the end of this exercise 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

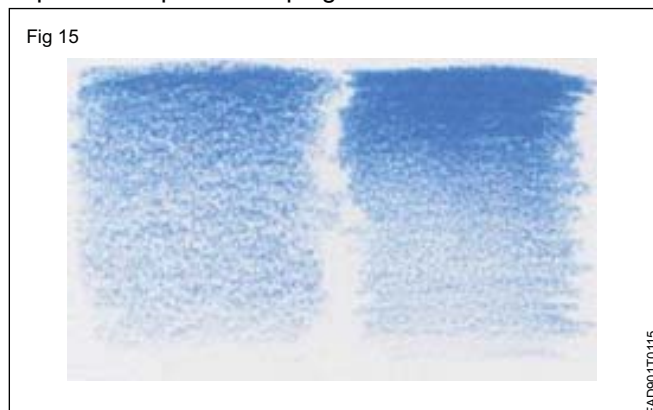


**Pencil Drawing and Mark-Making (Fig 14)**

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 15)

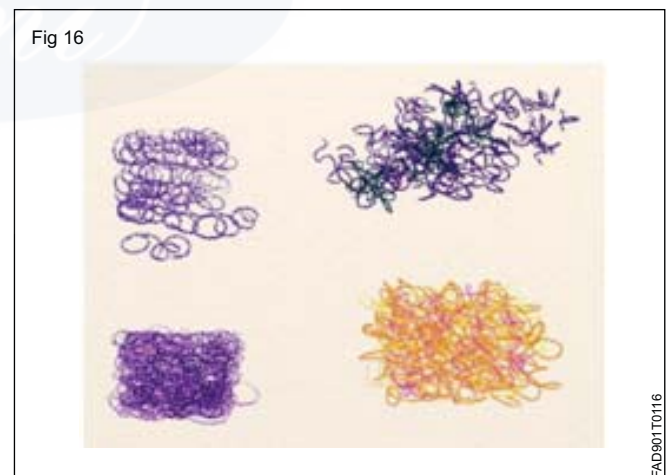
This introduces some basic color pencil strokes which will be useful in your drawing. It is a good idea to spend some time exploring the color pencil medium with small pieces before attempting a major drawing.

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 16)

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

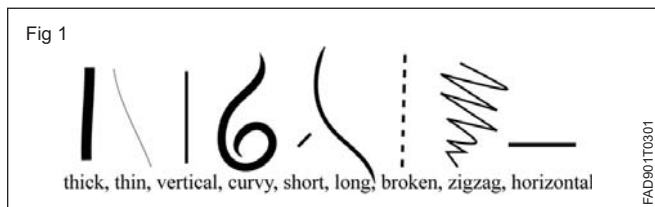
Drawing is a form of visual art that makes use of any number of drawing instruments to mark a two-dimensional medium.

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 1)



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.

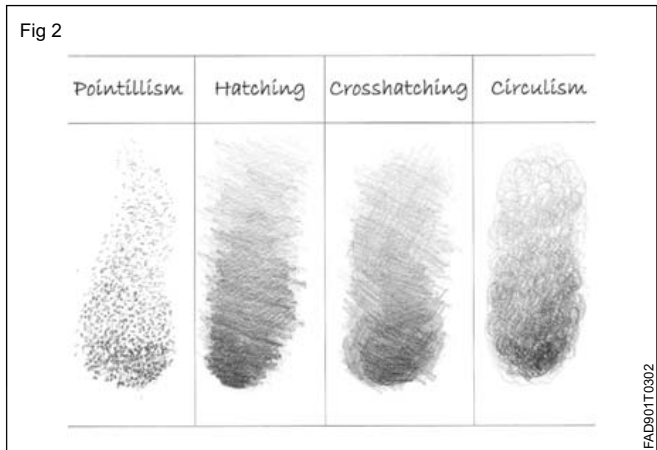
### Shading & Lighting

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 2)

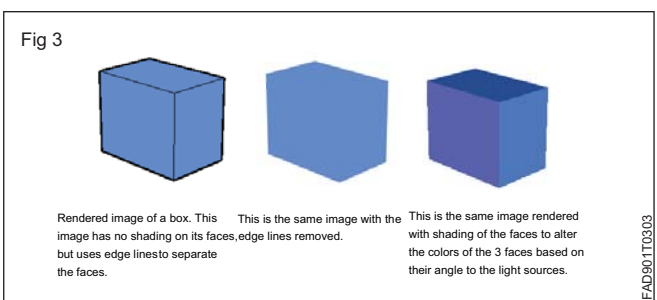


Shading alters the colors of faces in a 3D model based on the angle of the surface to a light source or light sources.

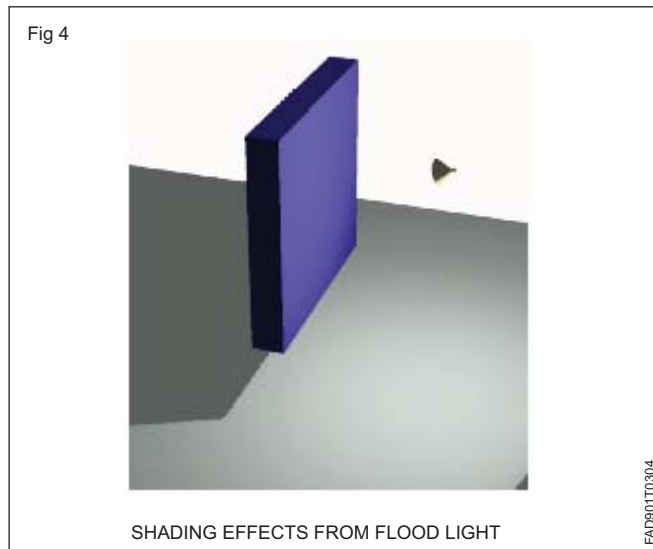
The first image below has the faces of the box rendered, but all in the same color. Edge lines have been rendered here as well which makes the image easier to see.

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 3)



## Lighting (Fig 4)

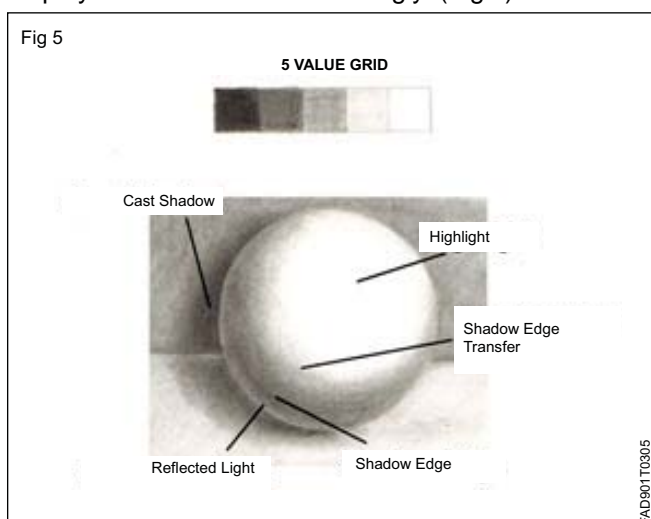


Shading is also dependant on the lighting used. Usually, upon rendering a scene a number of different lighting techniques will be used to make the rendering look more realistic. Different types of light sources are used to give different effects.

### 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 5)



## 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 strokes 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:

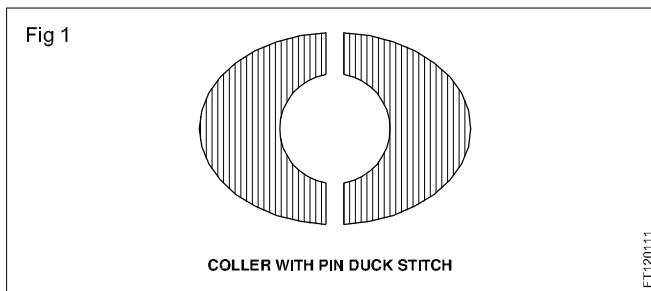
This line reflects the shape of a natural body. Curve lines shows both slim and bulkiness of a design or body. These curved lines also shown in circular motion or way appear slightly straight. These lines give gracefulness to the eye when seen. Most of the curves lines can be seen on diagonal direction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



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.

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.



## Forms and geometrical drawings

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

- state the features of form
- list out the types and application of forms in designing
- state the different types of form used in geometrical drawing.

Forms and shapes are areas or masses which define objects in shapes. Forms stands for shape and size. It imply space; they can also be described as either organic or geometric. Organic forms are most often thought of as naturally occurring. Geometric forms are those which correspond to named regular shapes such as squares, rectangles, circles, cubes, spheres, cones and other regular forms.

### Type of Forms

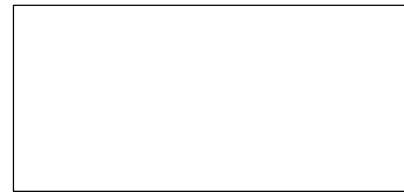
Forms are of various types. In the art of drawing, only the following five forms are used in designing basically With these basic forms as axis, many other forms like polygon, oval, cubical, cylindrical etc are prepared/ designed. (Fig 1)

These five basic forms also act as the base for non-geometric designs when they are used as per requirement. Various designs can be drawing with the help of these forms and shapes.

### Application of Forms

Application of forms in designing is an important feature of the design. Placing the perfect form at suitable position in a design gives it the perfect finishing. When a design/ form is misplaced or imperfect, the effect of the entire design gets spoiled. The design selected to be drawn, should be analysed and arrived at and identified the forms in the design. It should be presented/ drawn with all its requisite mixed at proportionate ratios.

Fig 1



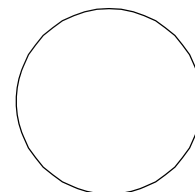
RECTANGLE



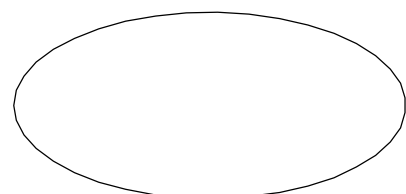
SQUARE



TRIANGLE



CIRCULAR



ELLIPTICAL

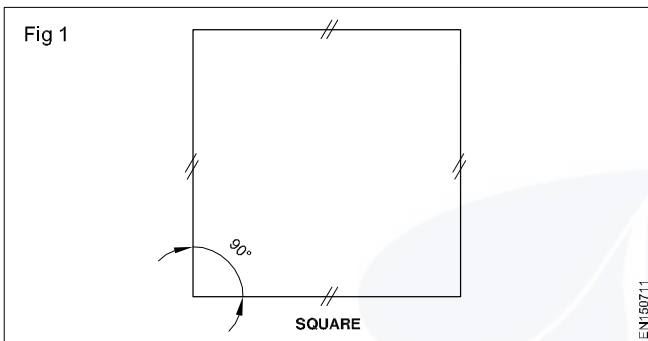


- All the fabrics and garments made with plain, strips, chems, natural, animal and fruit designs. The designs are used in different occasions like marriage, birthday party, uniforms and festivals. Straight lines and strong angles of geometric shapes convey stability, power and confidence. Curved shapes convey femininity and confidence. Unequal geometric shapes have more interest. Shape is a space enclosed by lines, e.g. a silhouette is the outer shape of the garment. A shape features in the garment structural and decorative feature of the garment. The basic shapes are natural, geometrical and abstract.
- Fabrics and garments are used by the people having different types of human figure structure.

Therefore a designer must understand the different types of forms in drawing to design the fabric/garment according to the uses and structure (Physical appearance) of the body of the person.

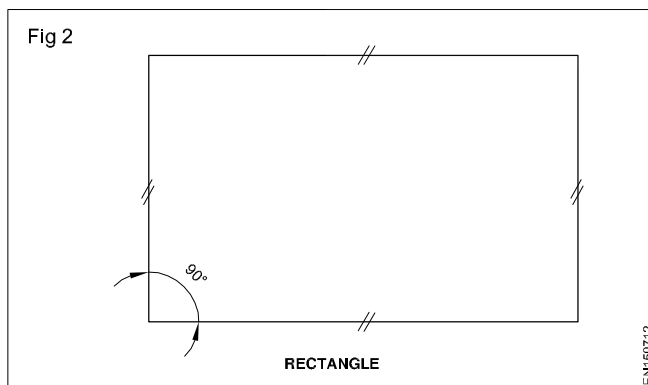
### Square

A flat shape with four sides are in equal length and for angles are  $90^\circ$ .



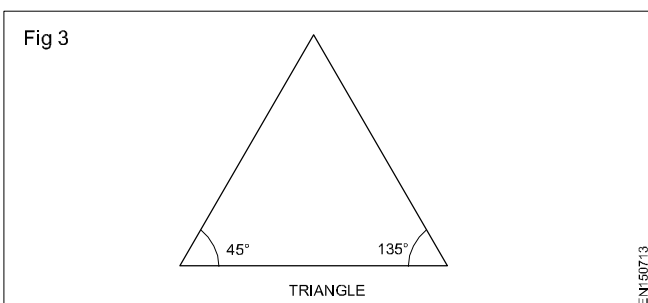
### Rectangle

A flat shape with four  $90^\circ$  angles and four sides, with opposite sides of equal length.



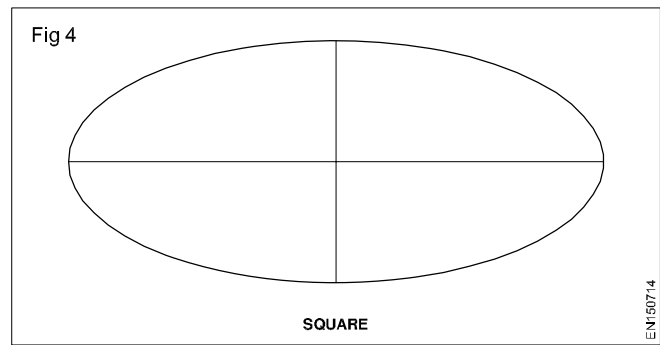
### Triangle

A flat shape with straight three sides



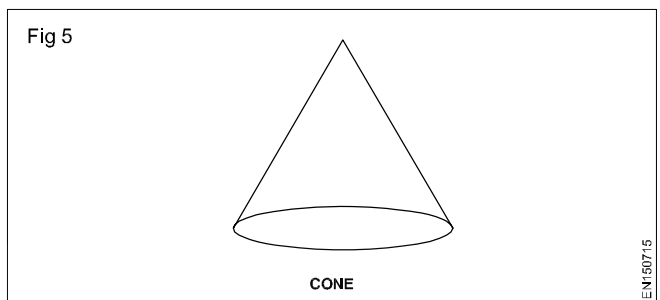
### Ellipse

An oval or a flattened circle.



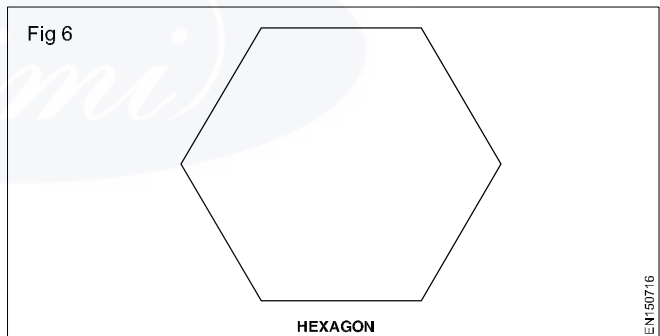
### Cone

A shape with a flat round or oval base and a top which narrows to a point



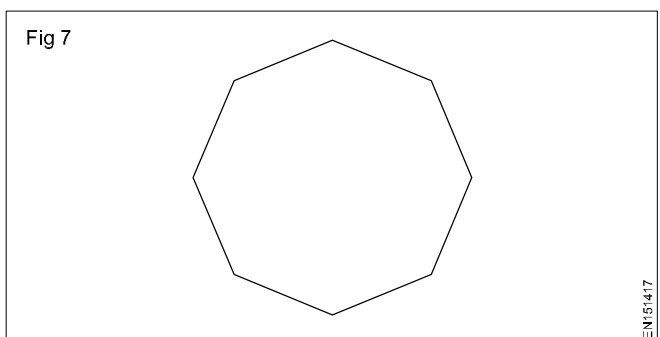
### Hexagon

A shape which has six straight sides hexagonal. All the sides are equal.



### Octagon

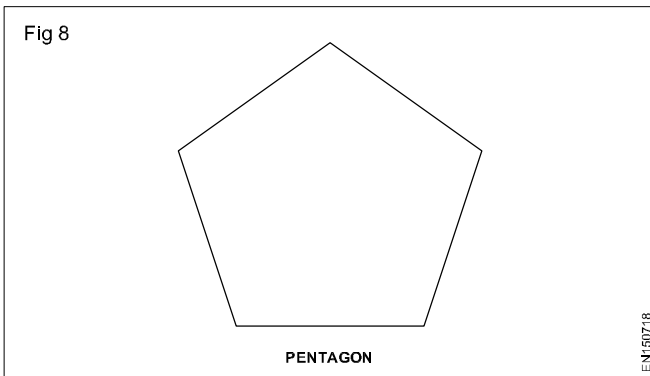
A flat eight sided shape. All the sides are equal.





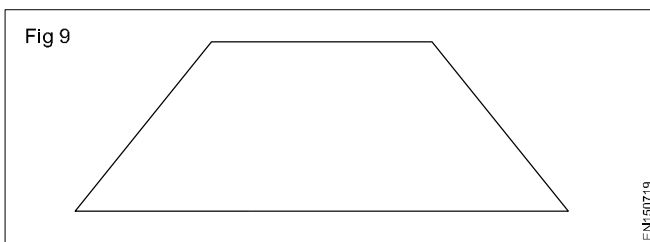
## Pentagon

Five-sided shape with five angles.



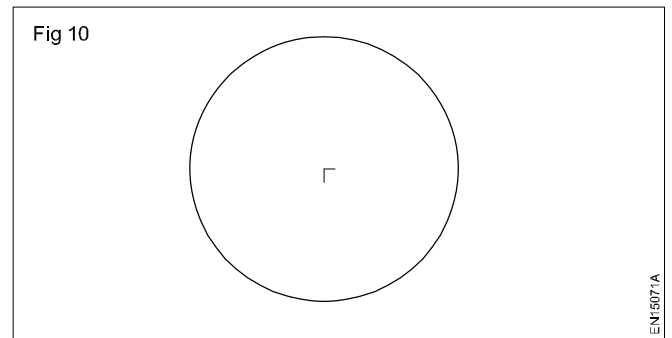
## Trapezium

A flat four sides shape where two of the sides are parallel.



## Circle

A continuous curved line, the point of which are always the same distance away from the fixed centre point.



## Shapes and designs

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

- explain about shapes
  - explain about designs
  - explain creating of design.
- 

### Shape

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

### Designs

Designs are the forms of shapes and sizes in appropriate proportions as suitable to the requirement. There are different types of designs, scenic designs, abstract designs etc., The design to be sketched is based on its purpose. Line, shape, color, tone, texture, direction, size, mass are the basic elements of a design.

### Creating a design

The key to good design development is good research material that actually means something special for the purpose. As the designing process continues different skills are required and personnel judgment, decision making, is needed to select ideas that need to be developed. Starting to collect required material will provide a focus for your thoughts and material from which to start generating ideas. Collection of colour schemes, articles, sketches, it can be come from anywhere can be completely original and connected to the designer in a very individualistic way, or can be the current trends.



**Color and color combination**

**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 effect 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(1 drop)= Yellow green

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

There we see the family of green

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

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

Red(2drop)+Blue(1 drop)=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:**

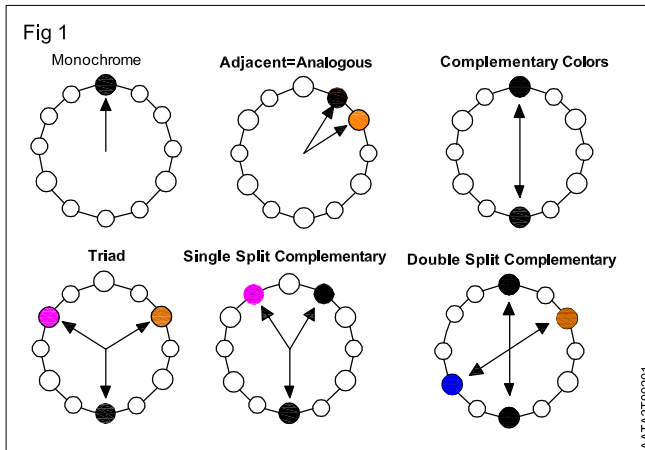
Dark colours relate to royalty .Adding of black give weight to the colour and the dress. Most of the gents/men's wear have these colours. We can see in suits and formal wear. When lighter colour are paired or combined with this dark colour it is more conventional and comfortable in use.

## Color schemes

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

- explain feature of color harmonies.

### Color Schemes (Color Harmonies):



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. Where as, the color scheme that do not include red at all is known as cool color scheme.

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## **Grey colours**

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**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



**Enlargement and reduction of designs**

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

- state the features of enlargement and reduction of designs
- state the principles of making the design.

Designing is an art of expressing a value in a definite form. A design consists of various features and factors to be considered while designing. A design may be a geometrical or non-geometrical pattern. At every place of its application, the size of the design plays an important role.

When the design drawn is all perfect in its every aspect but fails to satisfy the required size, it is of no use to convey its purpose. Thus, the design selected can be either enlarged or reduced as required to suit the purpose.

Enlarging or reducing a design is done following a definite method. The design chosen is first viewed and analysed to decide upon either to enlarge or reduce it. The required size of the design is finalised. The original design is then worked out to enlarge/ reduce it proportionately.

The design is enlarged/ reduced using measurements of increased (enlarge) or decreased (reduce) size. The original design is measured and the ratio at which it should be enlarged/ reduced is found out and changed.

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**Surface Ornamentation Techniques - Zig Zag embroidery machine****Types of embroidery machines**

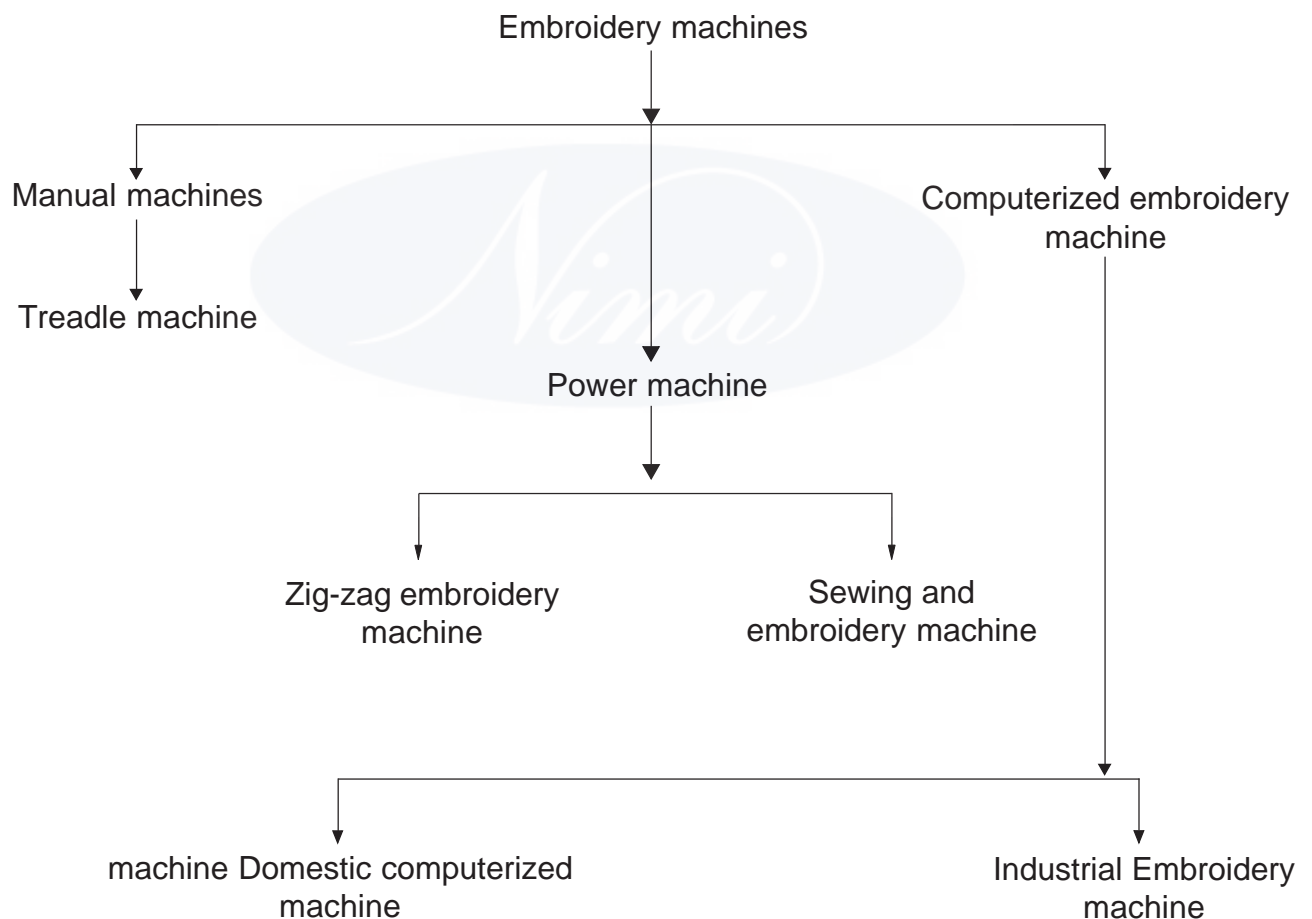
**Objectives:** At the end of this exercise you shall be able to

- state the introduction to the machine
- explain the types of embroidery machines.

Embroidery is a rich and versatile art. This technique is used to create pattern on fabric using threads, needle and other material. Embroidery can be done by both hand and machine.

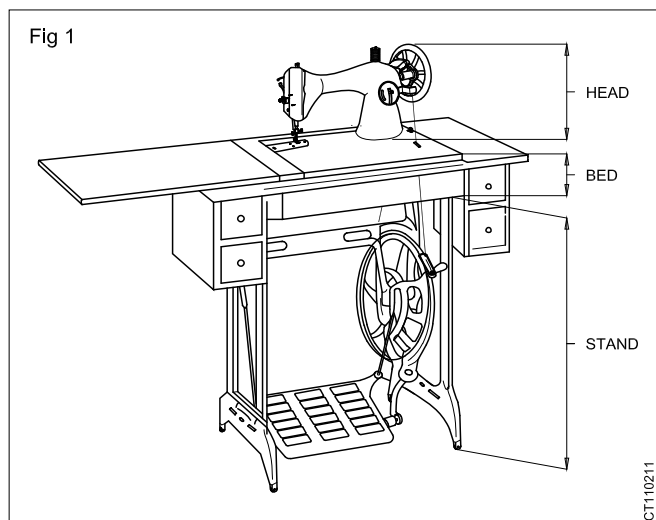
There are different types of embroidery machines are in the market and each one have its own special feature.

Generally three types of machines are categorized according to their speed, accuracy and capability etc. Types of different machines are as follow:

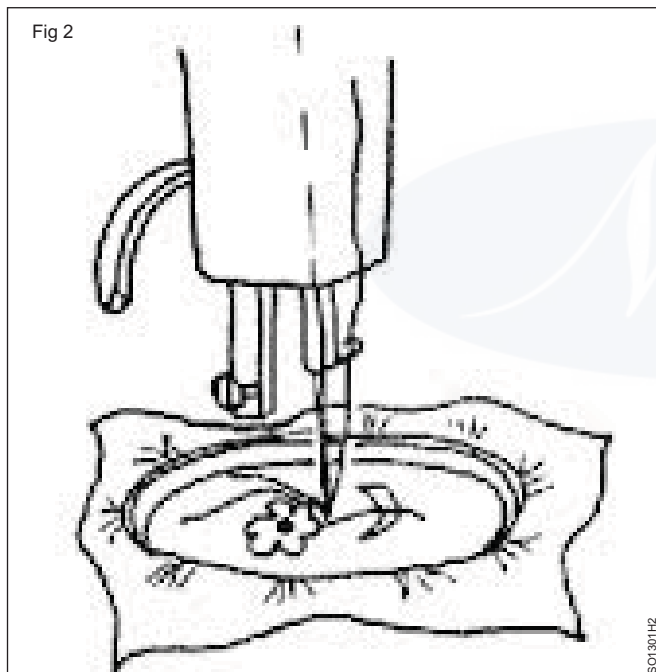


## Manual Machine

It is a simple domestic sewing machine with its treadle (Fig 1).



This machine is very easy to operate and its used for embroidery. Embroidery frame is controlled freely by hands. (Fig 2)

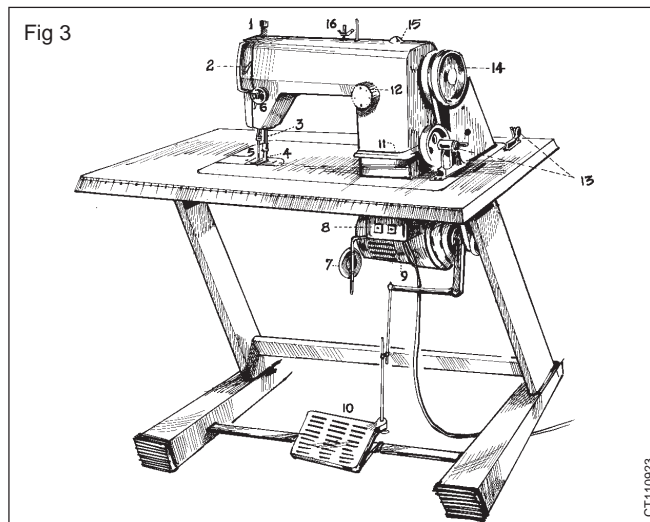


## Power machines

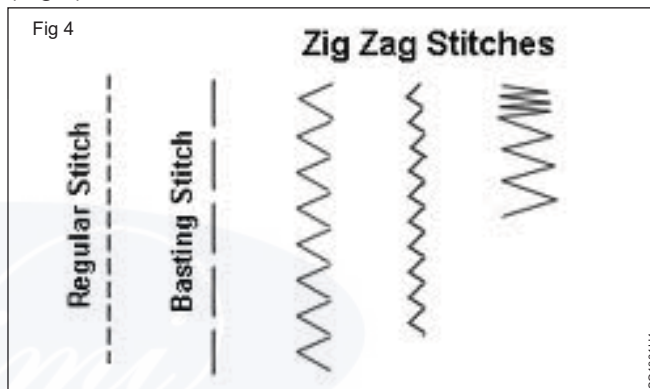
Power machine are motorised embroidery machines. Two types of power machines are :

### Embroidery machines

This machine also known as zig-zag embroidery machine (Fig 3).



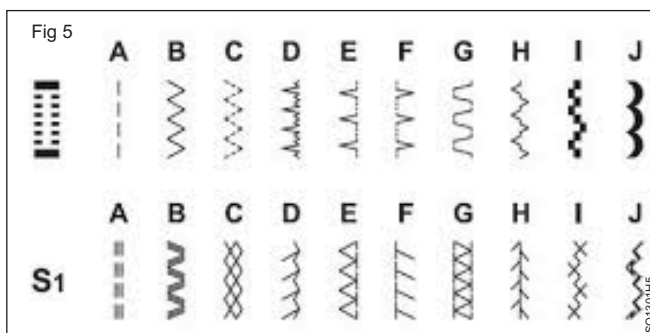
Running stitch and zig-zag shape stitches can be done using this machine. It creates running stitch or straight stitch on 'O' no. and zig-zag or satin stitch on '3-5' no. (Fig 4)



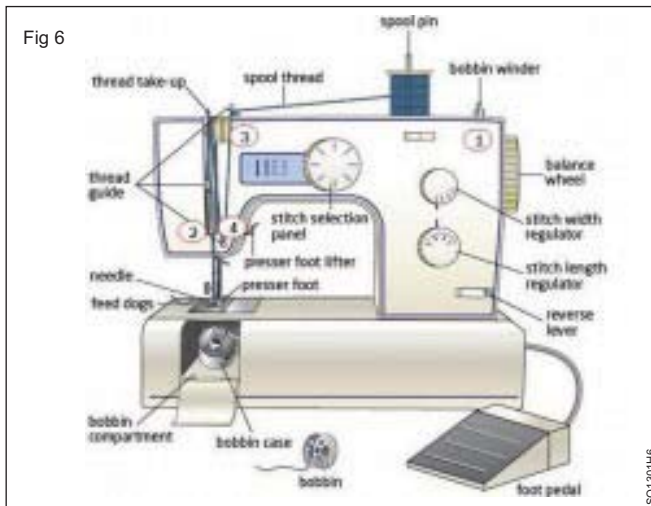
Embroidery hoop is controlled freely by hand.

## Sewing and embroidery machine

This machine is also known as 'Disk system machine'. These machine have the capabilities of both sewing and embroidery. Some particular embroidery pattern can be done with this machine (Fig 5).



Some machine have separate embroidery units that attach to the machine while other have built n embroidery function that are out of the way when not in use (Fig 6)



### Computerised embroidery machine

There are many types of computerised embroidery machine are available in the market according to their size, type and capabilities. These machine are controlled by computer and its work automatically. These machine are operated by special software called 'Embroidery digitizing software'. Two types of computerised embroidery machines are as follow :

#### Domestic computerised embroidery machine

These machines have the capabilities of computerized machine embroidery and also can be used for stitching garments. These machines have coloured screen and have one or two needles. (Fig 7)



### Multi head computerized machine

These machine are generally used in industries because of production work. These machines have multi needles in each one head. The number of needles can vary according to the machine. (Fig 8, 9)



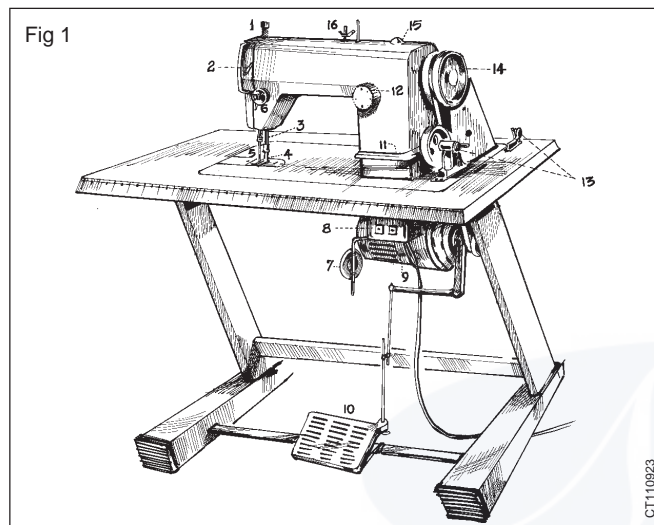


## Introduction to the zig-zag embroidery machines

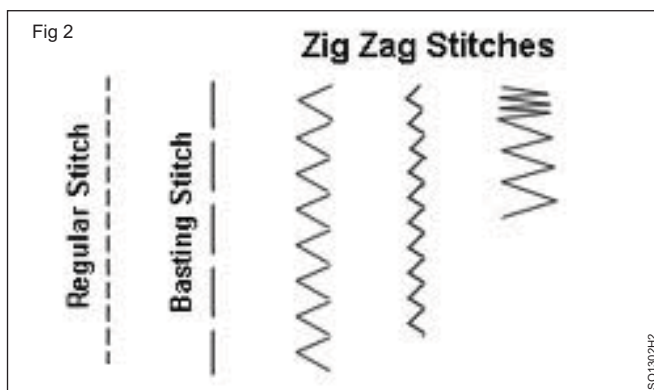
**Objectives:** At the end of this exercise you shall be able to

- state the introduction to the zig-zag embroidery machine
- describe the setting of zig-zag embroidery machine.

Embroidery only machines known as power machines and zig-zag embroidery machines. Creating embroidery on fabric using this machine is an art and it needs lots of practice. Because the embroidery hoop is controlled freely by hand rather than being fixed to the machine. (Fig 1)



Zig-Zag embroidery machine is a full shuttle easy to operate machine. This machine has only one or two needles. It can sew the stitch in zig-zag shape called 'satin stitch' and straight called 'Running stitch'. (Fig 2)



Other stitches such as picot, darning, shade work, cording, scallops and appliqué work etc. can be done using this machine. Any type of fabric such as silk, cotton, and rayon can be used for embroidery.

Power machine has stitch controller located in front right side of the machine and it contains 0-8 numbers on it, which shows the width of stitches in mm (Fig 3).



Using it width of stitches can be fixed from 0-8 mm according to design and it is also can be controlled using knee pad or knee lifter, to make pointed leaf shape etc. Knee pad is located in the bottom side of the machine. (Fig 4)



This machine fits on metal or wooden stand. It is motorised machine and generally 250 watt motor is used in this machine. The zig-zag machine can sew generally 800-1200 stitches per minute. The speed of machine can be controlled by accelerator located at bottom part of stand.



## Machine parts and their functions

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

- identify the parts of embroidery machine and name their functions
- explain the importance of machine maintenance
- explain the importance of needle guard policy.

Common parts of the embroidery machine and their functions are as follow:

### 1. Belt (motor or machine) :

The belt transmit circular motion from the pulley to the hand wheel allowing the machine to operate.

### 2. Bobbin winder :

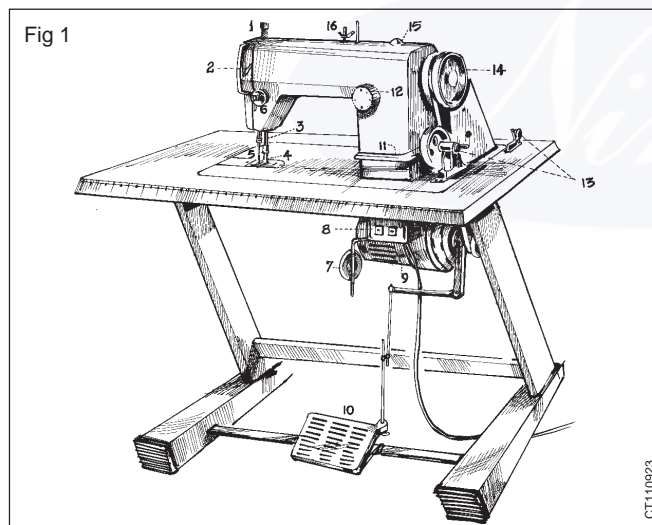
The part that used to fill the bobbin.

### 3. Face plate :

Located on the left side and cover the needle bar and pressure bar etc.

### 4. Hand wheel :

Also known as balance or fly wheel, controls the motion of the machine manually or electrically



### 5. Head :

The part of the machine above the table, containing the stitching mechanism.

### 6. Hook :

Known as rotary hook, a rotating device that hooks the needle thread to carry it around the bobbin and form the lock on the lock stitch.

### 7. Motor :

The electrical unit that drives the machine.

### 8. Needle :

The part that penetrates the fabric, it carries the upper thread through the fabric to create a stitch.

### 9. Needle bar :

A vertical bar that holds the needle, and moves the needle up and down.

### 10. Needle bar clamp :

The screw secures the needle in place.

### 11. Oil gauge :

The part that indicates the amount of oil in self-oiling machine.

### 12. Machine pan :

The metal pan located under the head that catches oil and lint. On self-oiling machines, it holds the oil.

### 13. Pulley :

The wheel that is attached to the motor and transmits motion from the motor to the hand wheel by a belt.

### 14. Rotary hook assembly :

That part holds the bobbin case.

### 15. Stand :

A metal or wooden structure upon which the machine is fixed.

### 16. Switch :

A button that turns the machine on or off.

### 17. Stitch controller :

A device that regulates stitch width.

### 18. Slide plate :

A removable cover at left side of the machine bed that allows access to the lower mechanism.

### 19. Table :

The cabinet upon which the machine is fixed.

### 20. Take up lever :

The part that loosens the top thread during the stitch formation then removes any slack to set the stitch.

### 21. Thread guide :

The part that guides the thread from thread cone to the needle smoothly and protects it from tangles.

### 22. Thread stands :

A metal device that holds the thread cones.

### 23. Tension discs :

Two concave discs that control the delivery of the upper thread from the spool to the needle.

### 24. Bed :

The working surface of machine under which is located the mechanism.

### 25. Knee pad :

Also known as knee lifter or knee press. A lever located under the sewing table to control the width of each stitch with the right knee.

### 26. Pedal :

Known as accelerator. It controls machine speed.

### Care and maintenance of machine

In the apparel and textile industries a clean and well-oiled machine is very essential for safety as well as good performance. The same is true in the classrooms or work shops. Cleanliness of machine and other thing such as table, stand, work station area and tools and equipment is the responsibility of students who use the machines. The machines are given a quick oiling after every eight hours of operation and cleaning once a week. Machines are cleaned very frequently when sewing materials produce a lot of lint.

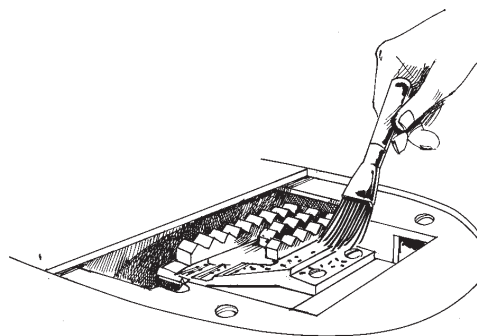
### Importance

- To prevent stitching faults.
- For safety purpose.
- For good performance
- for smooth production work
- To prevent accidents
- To prevent damage to 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 settling 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 2)

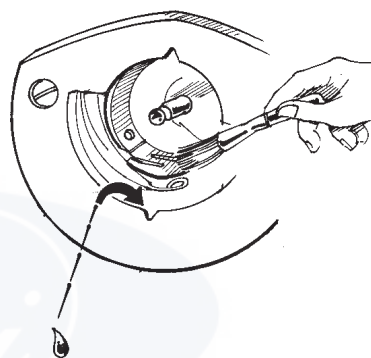
Fig 2



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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 3)

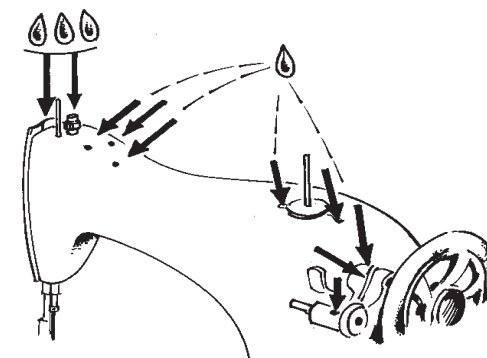
Fig 3



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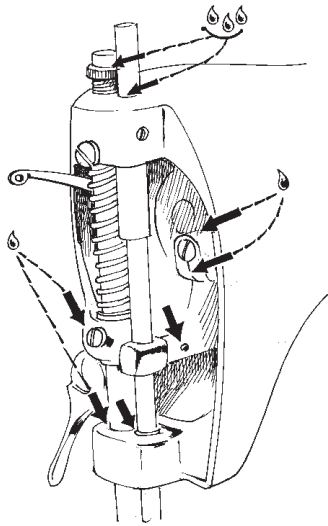
**Oiling:** It is necessary to oil and lubricate the machine periodically. If the machine is used everyday, oil it once a week. If you use it infrequently then once a month should be sufficient. To oil thoroughly, remove the upper thread, needle plate, slide plate, faceplate, bobbin case, needle and 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. (Fig 4 & 5)

Fig 4



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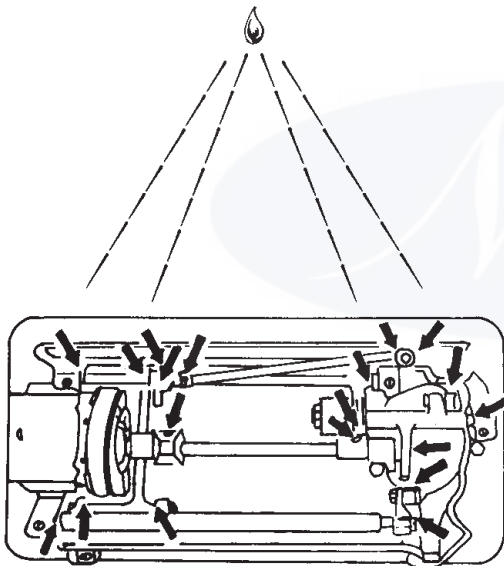
Fig 5



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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 6)

Fig 6



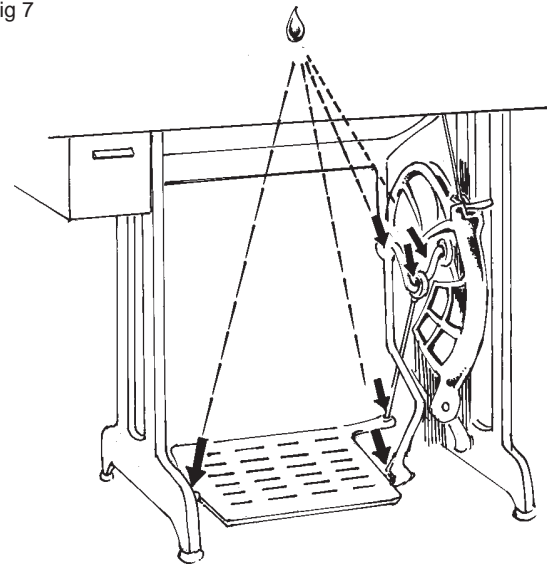
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Do not forget to oil the machine stand. (Fig 7)

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.

Fig 7



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### 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.

**Defects and remedies of embroidery machine**

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

- explain machine troubles occurring while embroidering with and name its rectification.

Fault	Causes	Remedies
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	One or both tensions too tight. Stitches too long for material being sewn. Blunt needle.	Select the correct needle. Check for both tensions. Fix the stitch length accurate to the fabric.
Needle breaking	Incorrect size of needle for thread and fabric. Needle bent. Pulling of material while embroidery	Set the presser foot properly. Select appropriate needle and thread to match the fabric. Fabric should not be pulled out while stitching.
Machine runs heavily	Lack of oil. Thread wound around the wheel or treadle bearings. Belt too tight. 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.
Lower thread is visible on fabric	Upper tension too light. Lower tension too loose Bobbin threaded wrongly	Loosen the top tension. Use a different type of embroidery thread. Tighten the bobbin case. Re thread the bobbin

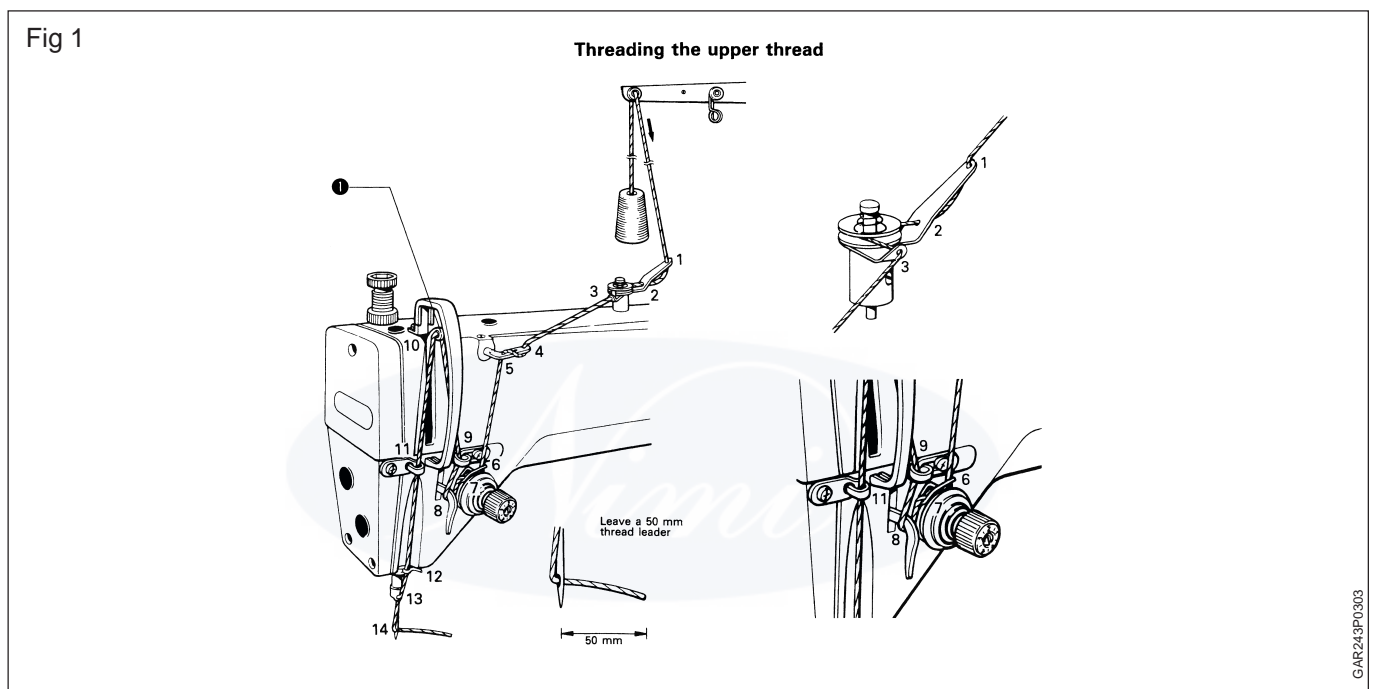
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## Threading the machine

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

- describe the process of threading the machine.

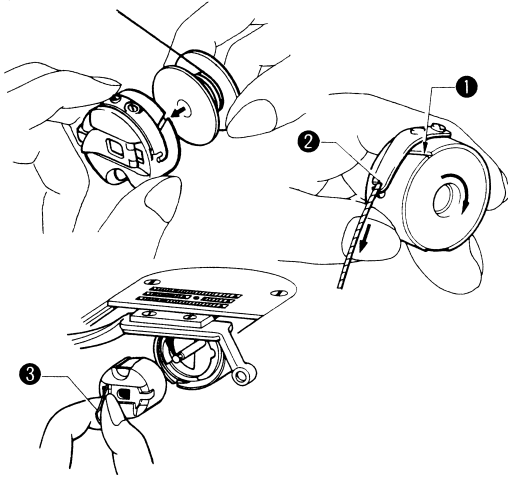
Zig Zag embroidery machines have so many operation after knowing the parts of machine and their functions, every trainee should have the knowledge of threading the machine before operating it. It helps the smooth and tangle free operation and prevents stitching faults. steps of threading the machine and draw up the bobbin thread are ( Fig 1 to Fig 3 )



1. Turn off the machine.
2. Place the thread on the thread stand. Then pass the thread over the guide at the top of the thread stand and through the hole in the spool pin.
3. Guide the thread into the hole of the needle thread retainer. Then, guide it through the remaining hole.
4. Guide the thread between the tension discs.
5. Guide the thread from right to left into the eye of the take-up lever.
6. Guide the threads through the remaining guides.
7. Trim the thread end as needed and thread it into the eye of the needle from left to right.
8. Pull the thread end about 5" and hold the thread.
9. Turn the hand wheel so that the needle moves down and up again to catch the bobbin thread.
10. If the thread doesn't come up, check the machine threading. Remove the bobbin case, rethread and insert again.
11. Pull the needle thread fault to bring the bobbin thread up through the needle hole.
12. Pull both threads up to 5".

Fig 2

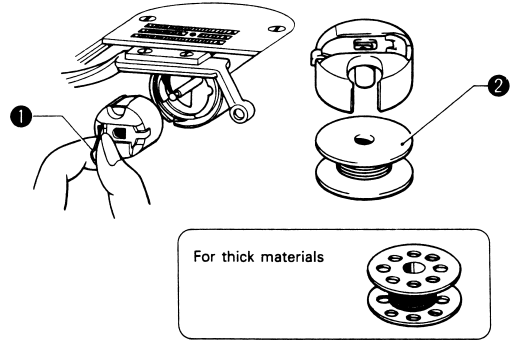
### Threading the lower thread



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Fig 3

### Removing the bobbin case



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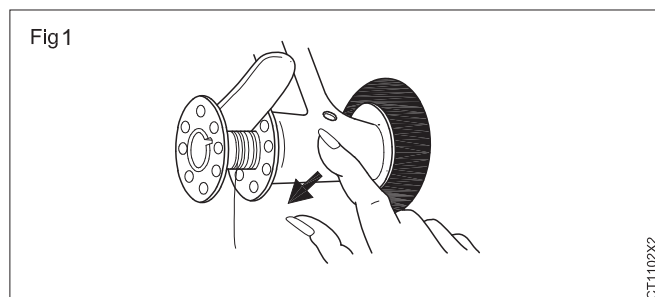


## Bobbin winding

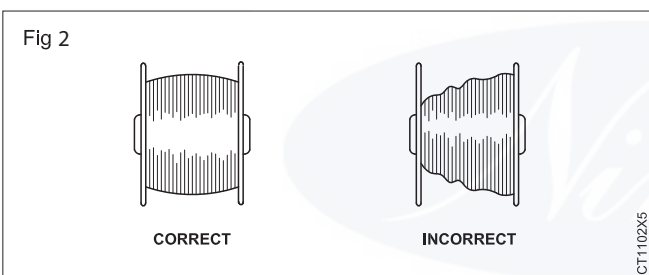
**Objectives:** At the end of this exercise you shall be able to

- explain winding the bobbin
- describe the process of inserting bobbin in to the bobbin case.

Every trainee or operator should have the knowledge of correct bobbin winding before operating the machine. It is very important to wind the bobbin evenly. It helps to prevent stitching faults. Bobbin can be wound on bobbin winder located on the left side of machine. (Fig 1)



Bobbin is wound with thread about 80% (Fig 2)

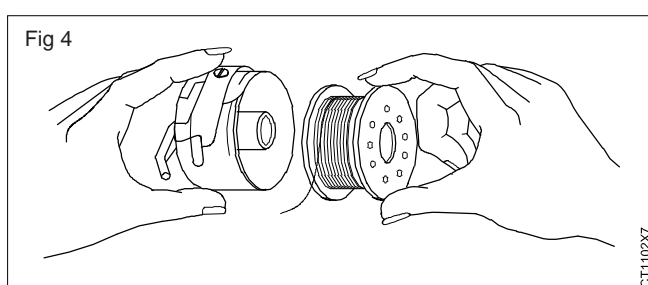


located on the left side of machine now days separate bobbin winder is also available in market to wind a bobbin (Fig 3).



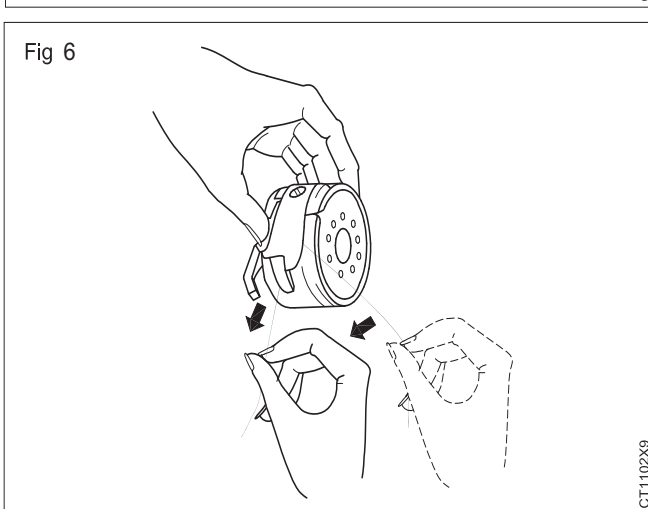
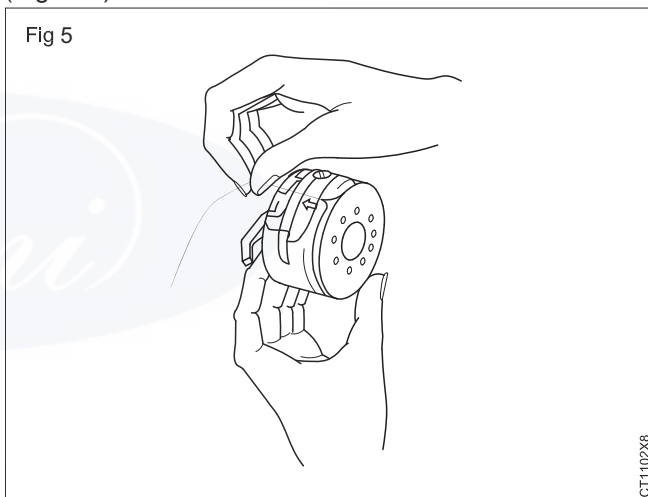
Readymade bobbin called pre-wound bobbin are also available in the market.

After winding the bobbin, put the bobbin into the bobbin case (Fig 4).



To do bring thread down under the tension spring. Pull thread over and round the end of the bobbin tension spring. leave 10 cm long thread.

After threading the bobbin case, install it in the machine (Fig 5&6).

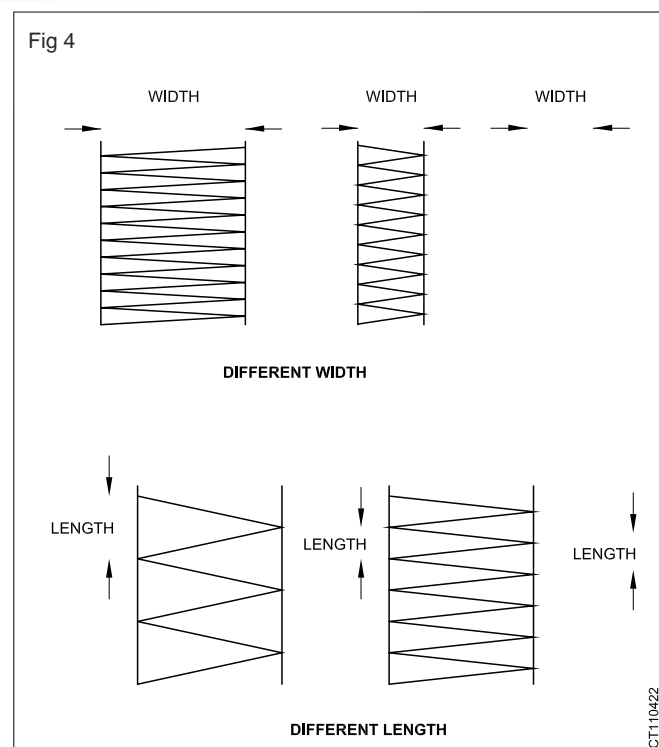
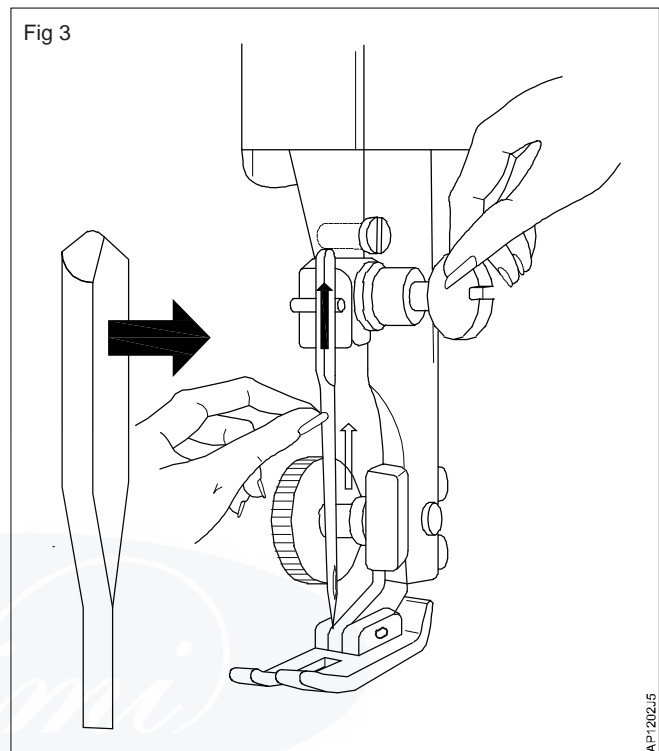
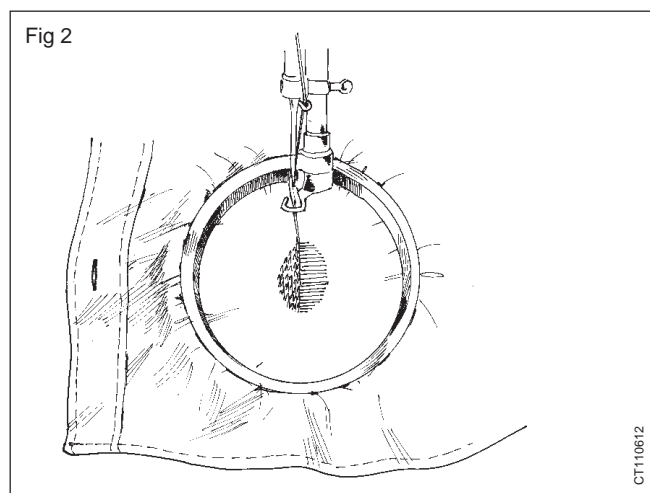
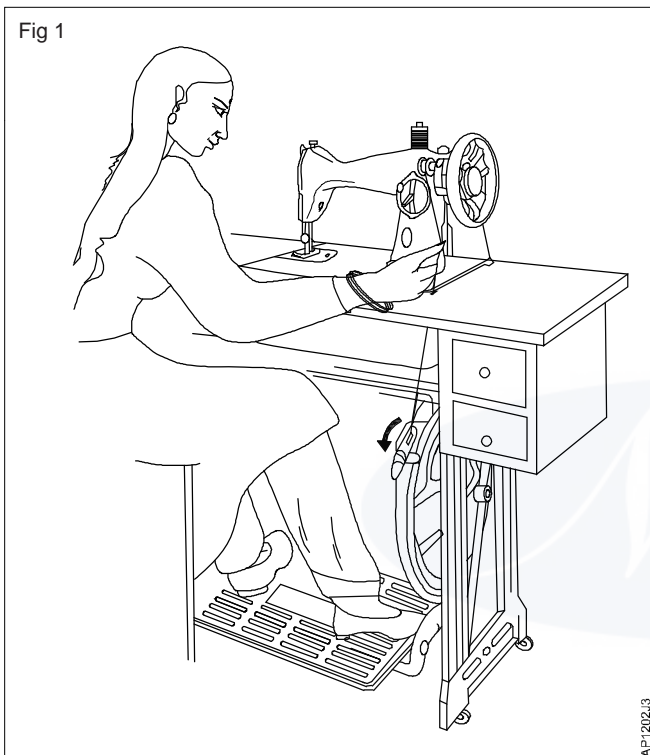


## Setting the machine for embroidery

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

- describe the process of setting the machine for embroidery
- state the zig-zag embroidery machine.

The processing of creating embroidery using an ordinary sewing machine is called free motion embroidery. Free motion embroidery is an art and needs practise because the ordinary embroidery hoop is controlled freely by hand rather the being fixed to the machine. (Fig 1 to Fig 4)



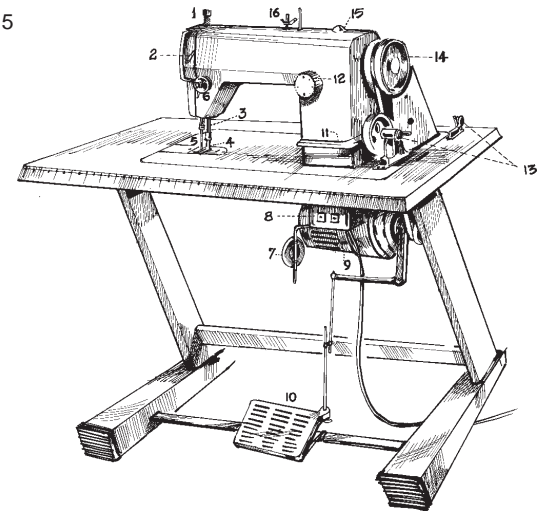
To prepare the machine for embroidery, drop the feed dog or cover it using embroidery needle plate. After dropping the feed dog remove the pressure foot. Now correct thread tension is very important for successful machine embroidery. So moderate the upper and lower tension according to embroidery stitches. The top tension usually needs to be looser the bottom. After adjusting the thread tension change the needle. Mostly A 9 no and 11 no needle can be used accordingly to fabric. Now set the sewing machine for straight stitch by setting the stitch length/width at zero. Hoop the fabric using appropriate backing and place the embroidery hoop in stitching area for sewing embroidery stitches.

Check the setting before beginning the project.

### Embroidery only machines

This machine also known as zig-zag embroider machine. Running stitch and zig-zag shape stitches can be done using this machine. It creates running stitch or straight stitch on 'O' no. and zig-zag or satin stitch on '3-5' no. Embroidery hoop is controlled freely by hand. (Fig 5)

Fig 5



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## Embroidery machine attachments

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

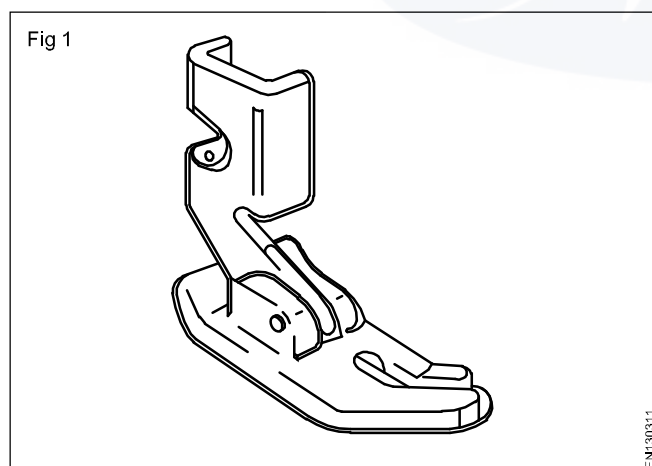
- state the different types of embroidery attachments and their uses.

Embroidery machine attachments are very important to design and use to increase the embroidery machines versatility and efficiency. Most of them take the form variations on the presser foot, but the group also includes embroidery stitch pattern cams, and special purpose attachments.

Some of the attachments are shown below in figures. The names given to them may vary. Some manufactures may combine several features into one foot. It should not be assumed that all the attachments shown are available for all the machines, they are interchangeable from one machine to another. While using any type of presser foot, it is important to know that the type of stitch which can be sewed with it. This is depends up on the needle hole of the machine. If the foot is small and round it can be used only for straight embroidery stitches. If the hole is wide the foot can be used for straight and zig-zag embroidery stitches.

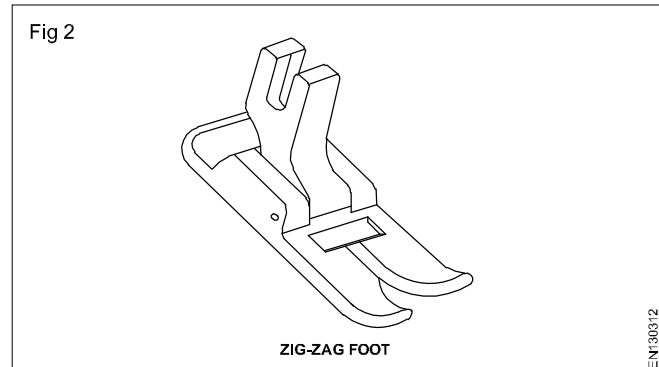
### Straight stitch foot

This foot is best one to use when doing single needle straight stitching. If is a narrow foot one toe is slimmer than the other toe. (Fig 1)



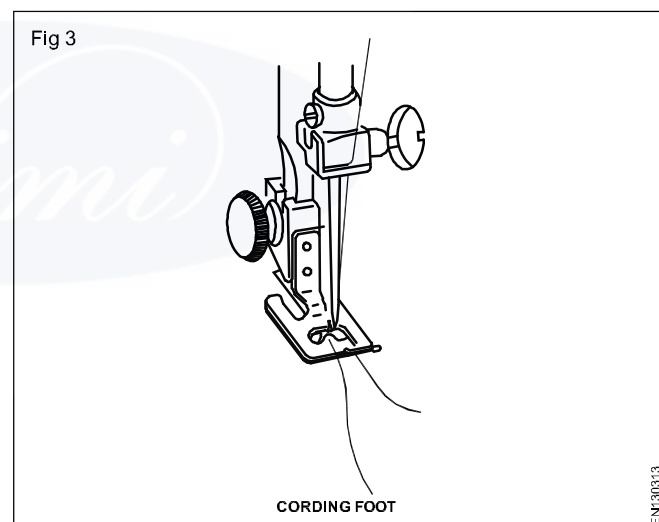
### Zig-zag foot

This foot often referred to as an all purpose foot. It is used primarily for plain zig-zag stitches, but it can also be used for straight stitches. (Fig 2)



### Cording foot

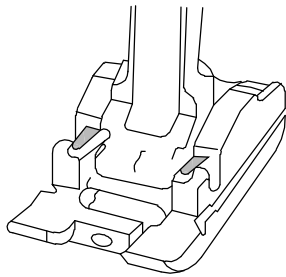
This foot has a built-in device that provides for a steady supply of cord to be fed with and attached to the fabric. Sometimes incorporated into button hole foot. (Fig 3)



### Embroidery foot

This embroidery foot is best for stitching decorative stitch pattern. Bottom of this foot is grooved to create a shallow "tunnel" that permits the dense stitching to pass easily under the foot. (Fig 4)

Fig 4



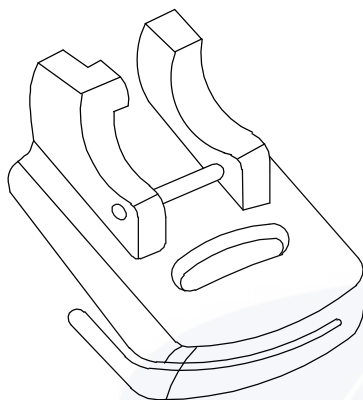
EMBROIDERY FOOT

EN130314

### Gathering foot

This foot is used for gathers up a length of fabric as it is being stitched. Some gathering foot will simultaneously gather one layer of fabric while stitching it to another flat piece of fabric. (Fig 5)

Fig 5



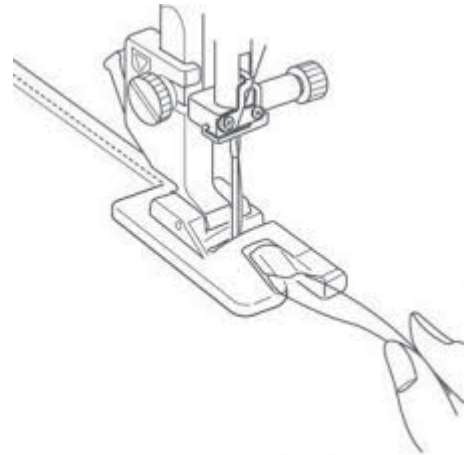
GATHERING FOOT

EN130315

### Hemmer foot

This hemmer foot allows a raw edge of fabric to be clean finished. It does this by automatically turning under the edge, which is then fed under the needle and stitched into place. (Fig 6)

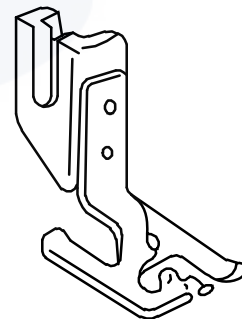
Fig 6



### Special purpose foot

The special purpose foot provides ample visibility and allows closely spaced zig-zag stitch to feed freely. It is ideal for accurate placement of satin stitching in monograms, motifs and applique. Eyelet in front of foot accommodates a filler cord for corded applique. (Fig 7)

Fig 7



SPECIAL PURPOSE FOOT

EN130317

**Tools for aari embroidery**

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

- explain the tools and its uses.
- 

**1 Aari needle**

It has a hook at the tip of one end and wooden handle at the other end back. The needle are also available with plastic and iron handle.

**2 Zardozi**

There are spring kind of threads they are cut into small size and used as per the requirement.

**3 Gold & silver thread**

Zali or metallic threads are commonly used for aari works. Threads of various colors are used.

**4 Silk thread**

Silks thread which available is variety of shades and colors.

**5 Shiny stones**

There are available in different shapes, sizes and colors.

**6 Small beads**

There beads come in different shapes and sizes.

**7 Sitara**

Sitara are small spangles, golden and silver colors.

**8 Sequins**

Sequins available in many shapes of the typical circle to star & flowers.

**9 Tube beads**

The glass beads with cylindrical structure

**10 Stretched frame (adds)**

It is wooden adjustable frame consisting of four wooden bars. The cloth on which the embroidery is supposed to be done is stitched on two horizontal bars and stretched. It is then fixed tightly and locked on the other two vertically parallel bars.

**Scissors**

It is used for cutting the fabric with blunt point on upper blades prevent fabric from tearing while being cut.

**12 Pin cushion**

It is used for wrist or table

**13 Hand needle (or) crewel needle**

Needle have a long oval eye are there fore easily threaded. The most suitable size for general hand sewing is crewel no .9

**14 Embroidery scissors**

Sharp pointed embroidery scissors are essential. The handle are longer. They have narrow and pointed blades. They are used for cutting fine and short threads.

**15 Thread cutter.**

It is used for trimming the thread with spring action blade.

**16 Mirrors**

There are available in varieties of shapes like round shape and diamond shapes and square shapes.

**17 Sequence lace**

Sequence lace is a soft, available in many and more shades.

**18 Tapestry needle**

A tapestry needle is a blunt needle with a large eye. The large eye is useful to needle workers because it can accommodate threads that are thick ordinary sewing thread.

**19 Stiletto.**

It is stainless steel, has a light weight to it, in perfect smooth. It has very sharp tip.

**20 String (or) Nails.**

It is used for stretched wooden frame.



## Frame setting for aari

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

- explain how to stretch frame
  - explain tracing method.
- 

Stretched frame is a wooden or metal frame. It's another name is called adda. Mostly wooden frame is used for aari work.

Stretched frame is a wooden adjustable frame consisting of four wooden bars. Frames are a variable in different sizes. The height of the frame is 1,5-2 feet above the ground 4 to 6 persons can sit on both the sides.

Which gives the cloth a uniform tension also the frame can be made to fit any size of fabric. The fabric is stitched on to the wooden frame using thick cotton thread. The cloth on which the embroidery is supposed to be done is stitched on the two horizontal bars and stretched. It is fixed tightly and locked on the other two vertically parallel bars. This prevents the cloth to move while working and also enables clear vision and faster movement of the tool.

Small metal frames may also be used if the embroidery focus is in a small area.

The cloth is pulled tightly to prevent it from moving while working on it. The frame enables faster work and clear vision.

### Tracing method for aari works - pounce method

Tracing the design on the plain cloth. The design is first sketched on a tracing paper or butter paper and small holes are made on the outline of the designs using a needle. Therefore the cloth is placed on the frame the tracing sheet is placed on the position the design is required mixture of chalk powder and kerosene. A cloth dipped in either of the two solutions is rubbed on the tracing sheet so that the solution seeps through the holes and reaches the cloth. This the design gets traced on the cloth.



## Chain stitch for aari embroidery

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

- introduction to aari embroidery
  - explain chain stitch for aari work.
- 

### Introduction to aari embroidery

Aari embroidery is the method used for decorating fabrics with a needle and a thread. Different types of embroidery styles and techniques are used by aari embroidery. The word aari derives from the word 'aar' or the needle used for this work. It is a kind of embroidery work done by aari needle. It is a beautiful embroidery work. The main advantage of aari is that very small embroidery is possible.

### Aari chain stitch

Aari work is done by stretching the fabric on a frame and stitching with long hook (needle) Different sizes of frame and needle thread are used by ari work.

### Needle

1 Tambour or luneville.

2 Crewel

### Threads

1. Silk
2. Zari (gold or silver)
- 3 cotton

Aari embroidery look like a chain stitch. The needle is holding on the right hand. The other hand feeds the thread from the backside, and the needle bring it up, making a chain stitch. Chain stitch is a quiker stitch but it is a simple stretched. Different types of pattern lines using by aari embroidery. Straighy lines, curvelines, sharplines, square line etc as shown in Fig 1. Different types of lines are used for aari embroidery

### Lock stitch :

lock stitch is called knot stitch. It is a starting stitches of chain stitch using by aari embroidery.

### Start stitch :

Start stitch is a form of chain stitch. The stitches are very fine and small. Start stitch is a basic of aari embroidery stitch.

### Finish stitch :

Finish stitch is called final knot stitch It gives neat finishing of the embroidery.

### Curve lines :

Cureve stitch is a normal chains in plains and small chains in the bends and curves to turn the needle and the stitch.

By practising these embroidery pattern will be able to do chain stitches in forward, reverse and all directions

Fig 1



## Suface Ornamentation Techniques - Aari embroidery

### Utilities & scope of aari works

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

- utilities and scope of aari work
- different types of sequens
- explain the stitching method of sequins.

Sequins are round discs used for decorative purpose. They are available in over a dozen popular colors. Sequins are frequently used on clothing. Sequins are available in a number of styles.

#### Sequins types :

Flat sequins, cup sequins ,big sequins, pet sequins, copper sequins, laser sequins & iron.

- 1 Halo grame.
- 2 Metallic.
- 3 Crystal iris.
- 4 Transparent irides scent.
- 5 opaque irides scent.
- 6 Crystal opaque.
- 7 Silky & glossy.
- 8 Moonshine.
- 9 Satin.
- 10 Clearance .
- 11 Printed sequins.
- 12 New halograme shapes.
- 13 Halograme circles - new.
- 14 New metallic shapes.
- 15 Large squares.

Sequins comes in many shapes, from the typical circle to stars , flowers, snow flakes, Octagons and hexangons. It made to be attached to fabric from the edge or middle of the sequins.

Cup sequins are usually round and unlike the common flat sequined bead have a faceted surface and a can cave bowl like shape that helps reflect and catch light.

The different types of sequins are small size dated sequence are called SITARA other sized sequences are called devadas.

**Colour:** Transparent colour, laser colour, rainbow colour wood colour, metal brushed colours.

Size : 2mm to 100mm sizes of are available.

The needle used for aari work is needle no .14, which is hooks shaped at one end and round shaped at the other end. It can have plastic or metal handle.

Aari works can be done with zari thread, cotton thread or silks thread etc,. Only chain stitch can be done with aari needle.

#### The main advantages of aari work are :

- Bead works can be done.
- Zardori works & can be done.
- Sequence works & mirror can be done.
- Small embroidery can be done nearly.

#### The different types of sequences are :

1 Smallll size dated sequences are called sitara

2 other sized sequences are called devadas.

Sequence works have been famous since mughal period. Even a simple aari works enhances the material to a large extend.

In present days,aari work plays an important role in fashion world both in traditional and western world. The traditional wears includes, bridal dresses, western wears include party wears.

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