



# FABRIC *Study*

A stylized illustration of a woman with long black hair, wearing a blue top and a red skirt with white diagonal stripes. She is depicted in a running or dancing pose, positioned to the right of the word "Study" in the title.

**Practical Manual**

for

**Class - XII**



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## Practical - 1: Fiber, Yarn and Fabric

**Aim:** To collect various types of fabrics and identify fiber type (cotton, linen, wool, etc.); Yarn type - spun/ filament, fabric type-woven/knit/non-woven.

Fabric Swatch Folder:

Swatch No.	Swatch No.	Swatch No.
Fiber type:	Fiber type:	Fiber type:
Yarn type:	Yarn type:	Yarn type:
Fabric type:	Fabric type:	Fabric type:

Swatch No.	Swatch No.	Swatch No.
Fiber type:	Fiber type:	Fiber type:
Yarn type:	Yarn type:	Yarn type:
Fabric type:	Fabric type:	Fabric type:



Swatch No.	Swatch No.	Swatch No.
Fiber type:	Fiber type:	Fiber type:
Yarn type:	Yarn type:	Yarn type:
Fabric type:	Fabric type:	Fabric type:

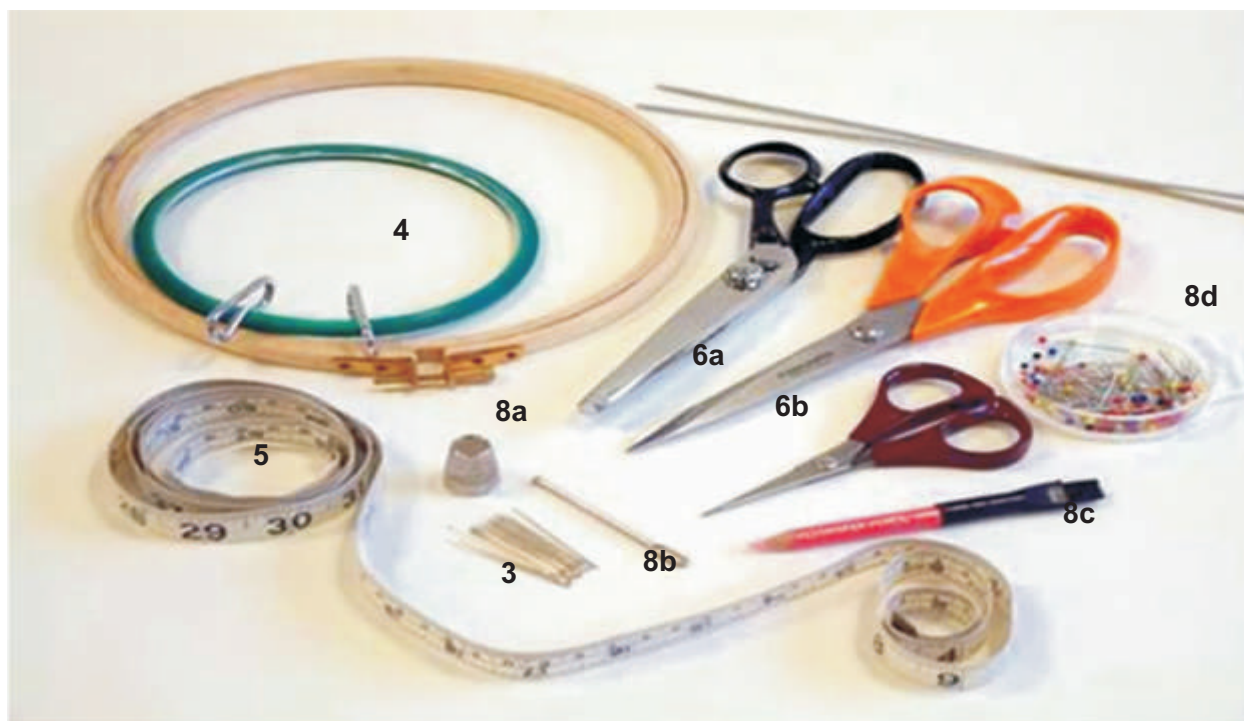
Swatch No.	Swatch No.	Swatch No.
Fiber type:	Fiber type:	Fiber type:
Yarn type:	Yarn type:	Yarn type:
Fabric type:	Fabric type:	Fabric type:



## Practical - 2: Basic Embroidery Stitches

**Aim:** To understand and practice basic embroidery stitches

**Tools and Equipment:** Most commonly used tools and equipments are:



S. No.	Tools	Details
1.	<b>Yarn and threads</b>	Cotton, linen, silk, rayon, wool, twisted and untwisted floss. Available in a variety of colors in six strand skeins.
2.	<b>Fabrics</b>	Cotton, silk, linen, wool, jute, canvas, etc.
3.	<b>Needles</b>	Points are sharp and eyes are smooth and well polished. Crewel needles designed for embroidery have long oval eye and are therefore easily threaded
4.	<b>Frames</b>	It is necessary to hold the fabric taut for stitching. It has two rings, the outer ring has an adjustable screw and the inner ring support the fabric to be in place. They come in different sizes, hand held or attached to a stand made in wood or plastic.
5.	<b>Measuring tools</b>	<p>a. <b>Tape</b> – is flexible, permitting accurate measurements over curved areas</p> <p>b. <b>Ruler</b> – is a good all purpose measuring device available in different sizes, 6", 12", 24" and so on.</p>



		c. <b>Right angle triangles</b> – verifies the exact right angles especially when enlarging and reducing designs.
6.	<b>Cutting tools</b>	a. Shears - 7" and 8" are generally used for cutting fabrics. b. Embroidery scissors - small and sharp, good for fine work, cutting of threads, paper etc.
7.	<b>Design transfer materials</b>	Are used to mark and transfer the designs on fabrics such as: a <b>Tracing paper</b> – is useful to transfer original designs. Available in different sizes and weights. b. <b>Carbon papers</b> – this is a tracing paper with one side wax and is available in limited colours and aid in transfer of designs to fabric.
8.	<b>Other tools used are</b>	a. <b>Thimble</b> - a metallic ring worn on the middle finger of left hand to protect the finger and do the hand sewing quickly. b. <b>Bodkin</b> - This is a flat needle with a blunt and a large eye, used for threading elastic and tape. c. <b>Transfer pencil</b> - enables hot iron transfer from any design. d. <b>Pins</b> – all pins and dress makers pins

## Transferring the Design:

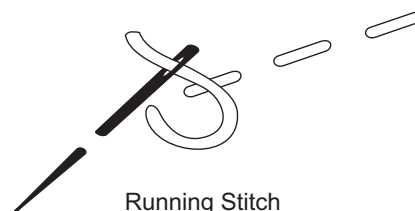
After selecting the design for embroidery work, the markings for the design should be transferred to the right side of the material without soiling it. There are several ways of doing this, the simplest is by using hot iron transfer keeping the face down on the material and then pressing it. Alternatively, a design from any source can be transferred with help of carbon paper too.

## Common Embroidery Stitches

In general embroidery stitches are worked with two strands of embroidery skein. Sometimes more strands may be used for special effects. In the beginning and ending of the stitches avoid using knots. Begin with a back stitch leaving a short length of the thread (about 2 inches) extending on the wrong side which can be caught and held under the first few embroidery stitches. To end the work, take the thread to the wrong side and work a back stitch again.

### 1. Running Stitch

This is an easy outline stitch which can be equal or unequal. Work the stitch from right to left. Bring the needle up at one point and down at the second point as in fig. Pick several stitches on needle at a time before pulling it through.

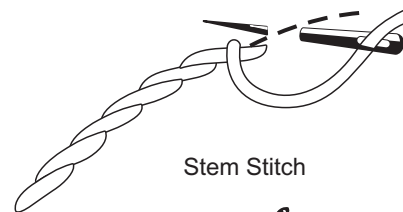






## 2. Stem Stitch

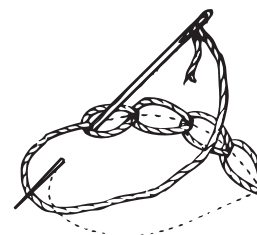
This is a line stitch used for outlining designs especially stems and leaves. It can also be used for filling small designs by working several lines side by side. Work should be done from the bottom upwards each time taking a stitch almost vertically down, but with a slight slant as shown in the fig.



Stem Stitch

## 3. Chain Stitch

This is one of the most popular embroidery stitches for outlining or worked in close rows for filling an area. Work the stitches towards you starting from the top of the line. Bring the thread out to the right side of fabric. Insert needle in the fabric at the same point, holding the thread down with your left thumb. Bring needle point out a short distance ahead and pull it through, keeping the working thread under the needle. The result is a loop as shown in the fig above. Other variations in the basic chain stitch that can be worked are open chain, twisted chain, square chain, etc. Open Chain stitch Twisted chain.



Chain Stitch



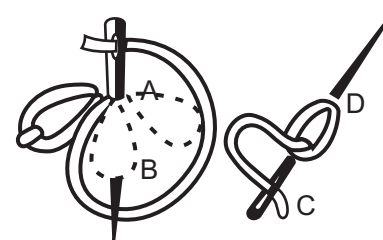
Open Chain Stitch



Twisted Chain

## 4. Lazy Daisy Stitch

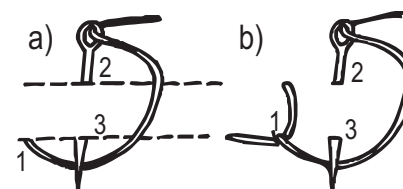
This is an elongated chain stitch used to work petals of small flowers. Bring the thread out on the right side near the base of one petal. Take a long stitch, length of a petal and pull the needle through the fabric, looping the thread under the needle. To hold the end of the loop in place insert the needle down over the thread that forms the loop. Bring out the needle again near the base of next petal as shown in the fig.



Lazy Daisy Stitch

## 5. Blanket Stitch

This stitch is used as edging for blankets and other articles or as part of design for which the blanket stitch makes the border. The work should be done from left to right, stitching towards you. Bring thread out on the lower line, insert needle in position on upper line and take a downward stitch with the thread under the needle point. Draw out the thread as shown in the fig. Stitches may be of the same size at regular distances apart or grouped as spaced according to the effect desired.



Blanket Stitch

## 6. Fly Stitch

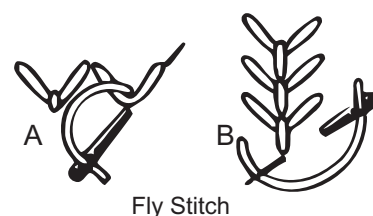
This is an open chain stitch done as V. Work from left to right, bring needle out at a point which



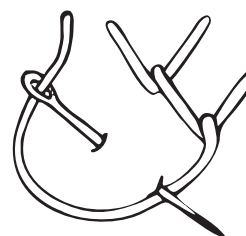
will be the top of left side of V. Hold thread down with left thumb, insert needle at the top of the right side of the V and bring it out at the base of the V, keeping the working thread under the needle. Draw out the thread and reinsert the needle below the base of the V to hold the loop in place as shown in the fig.

## 7. Feather Stitch

The working of this stitch is similar to that of blanket stitch, but the stitches slant towards a centre line from either side. First mark a line lightly to indicate the centre line. Work from top to bottom, bring needle out at the beginning of the marked line. Hold the thread down along the centre line. Starting from the right of the line take a stitch with the needle slanting downwards, and bring it out on or near the centre line with the thread held under as shown in the fig. Pull the needle through, and take the next stitch from the left of the line with the needle slanting down and to the right.



Fly Stitch



Feather Stitch

## 8. Buttonhole Stitch

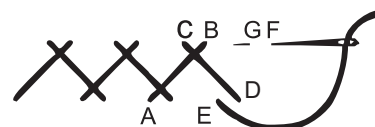
It is worked like the basic blanket stitch, except that the stitches are placed very close together to form a firm edge as shown in the fig. This stitch is particularly used in cutwork embroidery. A button whole stitch wheel is a popular method for doing flowered motifs.



Diagram 1 Diagram 2 Diagram 3  
Buttonhole Stitch

## 9. Herringbone Stitch

This is used as a decorative stitch as well as for finishing hems and raw edge seams also. Stitches are worked from left to right along two parallel lines. Bring out the thread at the bottom left hand corner of the work. Insert needle on top line at a point away to the right and take a short stitch through the fabric from right to left so as to get a slanting stitch. Next take a short stitch through the fabric from right to left on the lower line to get another slanting stitch crossing the first one at a point little below the top line as shown in fig. On the wrong side two rows of running stitches are seen. This stitch can be done in the reverse way and used as **shadow work**.



Herringbone Stitch

## 10. Filling Stitches

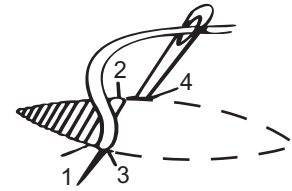
A couple of stitches are used in embroidery for outlining or filling in spaces or motifs or centre of objects for decorative purposes. Chain, stem, running, french knots, seed stitches, button hole, fishbone, etc are commonly used as filling stitches also. The other commonly used filling stitches are basic satin and long and short satin.





**a. Basic Satin Stitch**

This is a filling stitch used to cover regular or irregular shaped spaces. Bring the needle out at the starting point on the right side and take a stitch carrying the thread across the design and bringing the needle back very close to the starting point. Continue the stitches very closely and evenly till the entire space is filled.



Basic Satin Stitch

**b. Long and Short Stitch**

This is used for filling large shapes and for shading areas in design. Firstly, one row of alternatively long and short stitches are worked side by side closely following the outline of the shape. In the succeeding rows, stitches of equal length about the same as the longer stitch of the first row are worked. In the final row, the stitches should end on the edge of the design. The direction in which the long and short stitches fall is very important for proper shading effect. Before starting, decide the direction in which the stitches will take within each shape.



Long and Short Stitch

**11. Couching Stitch**

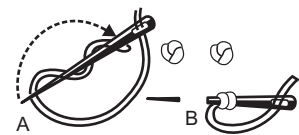
Lay a single cord or a number of threads of either matching or contrasting color on the line of the design. Catch the laid thread down firmly with another thread of desired color by working small stitches at regular intervals across it as shown in the fig.



Couching Stitch

**12. French Knot**

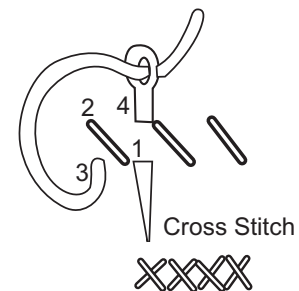
This resembles a knot and is usually applied to the centre of flower. Bring out the thread to the right side. Hold the thread tight with left thumb and wind three to four times around the needle. Now holding the thread firm, insert needle in fabric close to where it first emerged as shown in fig. Pull thread to the wrong side and bring out the needle to the point where the next knot is to be worked.



French Knot

**13. Cross Stitch**

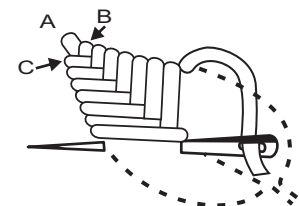
This stitch is suitable to be applied on fabrics with small checks or thick yarns which can be counted. Stitches are worked diagonally from left to right or right to left along two parallel lines. After completing the first round of crosses, work in the opposite direction filling in the second half of crosses as shown in the fig.



Cross Stitch

**14. Fishbone Stitch**

It is another leaf filling stitch. Its finished effect is similar to a fishbone with a spine down the centre. Bring needle up at point 1 and take a small stitch 2 down the centre line. Bring needle up at 3, insert at 4 directly across from point 3. Exit out from 2, carry yarn under



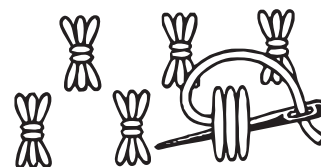
Fishbone Stitch



needle point and pull through as shown in the fig. Proceed to next stitch. Now point 2 is point 1 of next stitch.

## 15. Sheaf Stitch

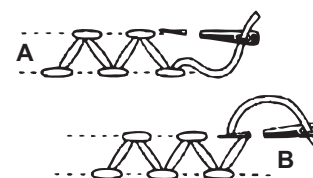
The Sheaf Stitch is commonly used in smocking. However, it would make a striking and bold border if repeated all across the row. First, three long vertical straight stitches are worked fairly loosely. Bring the needle up on the left side of the second pleat, and thread the needle under the first Straight Stitch without piercing the fabric. Now thread the needle under all three stitches, without piercing the fabric as shown in the figure. Pull gently to draw the straight stitches together.



Sheaf Stitch

## 16. Chevron Stitch

This stitch is worked in two lines. Bring the thread through on the lower line on the left side, insert the needle a little to the right on the same line and take a small stitch to the left, emerging at center of the stitch being made. Next, insert the needle on the upper line a little to the right and take a small stitch to the left (A). Insert the needle again on the same line a little to the right and take a small stitch to the left, emerging at center (B). Work in this way alternately on the upper and lower lines.



Chevron Stitch



## Practical - 3: Tie and Dye

**Aim:** To understand and explore the techniques of tie and dye.

**Materials Required:**

Items	Type
<b>Fabrics Used</b>	All kinds of cotton cloth - muslin, lawn, cambric, poplin, voile, casement, skill, wool preferably in white or cream. Man made fabrics can also be dyed but with appropriate dyes. Sample size – 12" x 12".
<b>Binding Material</b>	Thread, twine, rubber band, clamps, clips, 3D objects like beads, the rmocoal balls, etc.
<b>Dyes</b>	Direct, naphthol, natural dyes
<b>Vessels</b>	Made of steel, plastic, galvanized iron, glass, aluminium, etc are used
<b>Others</b>	Wooden spatulas, spoons, measuring spoons, scissors, pins, needles, ruler, clamps, clips, wooden blocks, 3D objects, etc.

### Preparation of Fabric

The fabric to be tie dyed should be free of starch or any other finishes. Soak the fabric with little detergent overnight in warm water. Wash thoroughly and rinse. Rinse the fabric or garment and dry it. Press it with a hot iron.

### Tying Techniques in Tie and Dye

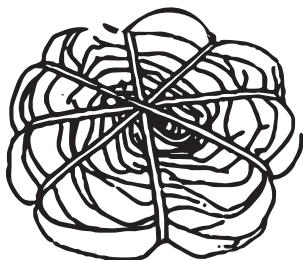
Tie-dye is a way of creating patterns of color by folding, tying, stitching, crumpling or otherwise preparing the fabric to inhibit the flow of the dye into the folds of the fabric. The pattern of the folds and where the colors are squirted determines the final design. The tying part of the process is very important. The cloth must be bunched up so closely that the dye cannot reach the inside of the sample. That is why this craft is called resist dyeing. Some of the simple techniques of tying on fabrics and garments or t-shirts are demonstrated below for you to practice and observe the patterns you get with these techniques and document.

#### 1. Knotting

	<ul style="list-style-type: none"> <li>• Hold the cloth at both ends and twist into a long rope form.</li> </ul>
	<ul style="list-style-type: none"> <li>• Tie this long rope into a knot and tighten as much as you can without damaging the cloth. Knot tying works best on long sleeves and light-weight material. You can tie as many knots as you have room for.</li> <li>• Rubber bands or string can be tied over the knots to reinforce them as well as provide fine lines in the pattern.</li> </ul>

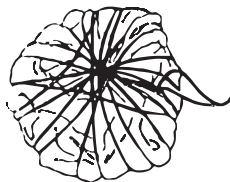
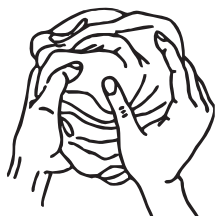


## 2. Spirals



- Lay your material on a flat surface. Place your thumb and a couple of fingers together on the cloth at the point which will be the center of the design.
- Using the weight of your fingers to hold the cloth in place, start twisting. After each twist, flatten the material with the palm of your hand to keep the folds from rising.
- With your other hand, bring the loose ends into the circle and continue to twist until the whole thing looks like a fat pancake.
- Now take rubber bands, and without disturbing the shape of the pancake slide the bands under the cloth so that they intersect at the center.
- Use as many as necessary to retain the circular shape, about twice the number shown in the illustration at right for most tie dyes.
- If you decide to immerse, instead of squirting, just set the cloth gently in the dye bath, do not stir. For an interesting effect, prevent the cloth from submerging, either by using less water or by placing the cloth on a prop to hold it out of the dye a little.

## 3. Marbling



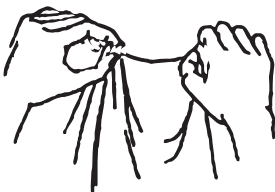

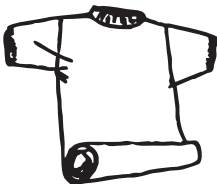


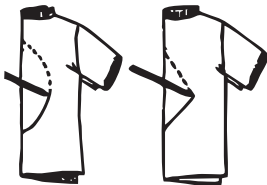
- Gather cloth together in small bunches until it is shaped like a ball. Try to expose as much of the cloth to the surface as possible. This effect works best on thin materials.
- Wrap the string or rubber bands loosely around the ball in as many directions necessary to retain the ball shape, and set gently in the dye bath.
- Do not stir. Just turn over once in a while.

## 4. Rosettes







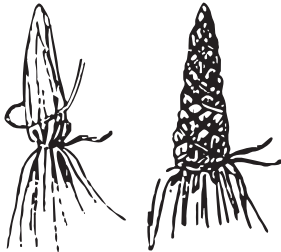
- A Rosette is many little circles, touching or overlapping each other.
- Using a pencil or your mind's eye, make a few dots on the cloth in any pattern. Each dot will be the center of a small circle.



	<ul style="list-style-type: none"> <li>• With the thumb and forefinger pick up dot after dot and transfer to the other hand.</li> </ul>
	<ul style="list-style-type: none"> <li>• Wrap string or rubber bands several times around the base of all the circles which have been gathered together.</li> <li>• Continue to wrap to the tip and back, making sure your ties are very tight.</li> </ul>
<h3>5. Stripes</h3>	
	<ul style="list-style-type: none"> <li>• Roll the cloth very loosely, forming a long tube. The stripes will be at right angles to the tube.</li> </ul>
	<ul style="list-style-type: none"> <li>• Tie at one interval or as far apart as you want the stripes to run. Loop rubber bands or wrap string around the tube a few times and knot.</li> <li>• Make sure the ties are very tight. Now you can either immerse or squirt the dye on, alternating your colors,</li> <li>• Now you can either immerse or squirt the dye on, alternating your colors</li> </ul>
<h3>6. Diamonds Ovals Squares</h3>	
	<ul style="list-style-type: none"> <li>• Fold the cloth once along an imaginary line which will run through the intended form.</li> <li>• See possibilities below. Try hearts too.</li> </ul>
	<ul style="list-style-type: none"> <li>• Draw half of the intended design with a pencil or with your mind's eye, starting and ending on the crease.</li> </ul>



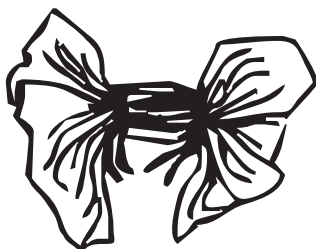
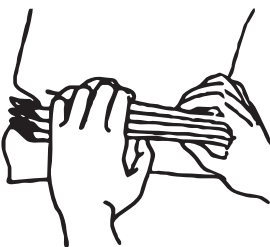


	<ul style="list-style-type: none"> <li>• Form pleats, starting at one end of your line.</li> <li>• Try to keep that line in the center between your hands while pleating until you come to the end of your line.</li> </ul>
	<ul style="list-style-type: none"> <li>• Wrap string or rubber bands around all the gathered pleats several times, and tie a secure knot.</li> </ul>
<h2>7. Circles or Sun Pattern</h2>	
	<ul style="list-style-type: none"> <li>• The circle design is relatively simple to create, yet it is easily one of the most dramatic.</li> <li>• Just pick up the cloth with thumb and forefinger at the point you choose to be the center of the circle.</li> </ul>
	<ul style="list-style-type: none"> <li>• With the other hand, try to arrange fairly neat and evenly spaced pleats around the central axis like a closed umbrella.</li> <li>• Smooth the cloth down, and hold tightly at the base.</li> </ul>
	<ul style="list-style-type: none"> <li>• With string or rubber bands, tie a strong anchor-knot around the base.</li> <li>• Continue wrapping to the tip and back again and secure at the base. Make sure the ties are very tight.</li> <li>• VARIATIONS: 1) Tie only part of the circle. 2) Tie at one inch intervals. 3) Poke the center or tip down inside the rest of the circle before tying.</li> </ul>





## 8. Pleats



- Lay cloth on flat surface.
- Place thumbs of both hands together firmly on the cloth. Position fingers about an inch or two in front of your thumbs, and pinch the fabric to raise a fold.
- Continue to pinch up more pleats until you reach the end of the cloth.
- You can change directions as often as you want by gathering more material in one hand than in the other.
- Loop rubber bands or string very tightly around all the pleats several times and knot.
- You can use as many ties as you want.
- This useful technique is also employed in tying ovals, squares, diamonds or any shape you can imagine which has symmetry.

## 9. Tritik



- Plan a design or motif to be stitch resisted.
- Stitch along the outline of the design with a needle and thread.
- Pull one end of the thread closely and tighten.
- Tie the fabric tightly.

## 10. Object Tyeing



- Mark the points to tie the fabric as planned.
- Place a 3D object as in a plastic bead, thermocol ball, buttons, marbles, etc from below with the left hand.
- Hold the object through the fabric firmly from the top.
- Shift holding the fabric to the left hand and tie below the object from the top with a thread tightly.
- Complete the process for all the markings.



### Dyeing

The steps involved in the dyeing process are as follows:

1. Before dyeing the tied up samples, soak it in clean cold water for a moment.
2. Take it out and squeeze it, or let it drain on newspaper or a towel before putting it in the dye. This is called 'wetting-out'.
3. Dyeing can be done with simple direct dyes (hot dye). The tied samples are put in the first colour.
4. Leave the samples in the dye for the required time and remove it.
5. Rinse it well in clean water.
6. Put the bundles to drain and then untie them and dry them in shade.

### To Dye a Second or Third Colour:

1. If the samples are untied after the first dyeing, tie it up again. Bring the parts that need more colour to the out side of the bundle.
2. If the sample is tied up, rearrange or add more binding.
3. Wet out if necessary, dye, rinse, drain and untie. After opening the sample rinse it ones again. Let it dry in shade and press it.

### Preparing the Dye Bath for Direct Dyeing

#### Chemicals Required:

Chemicals	Light shades (upto 0.5%)	Medium shades (0.5% to 1.5%)	Dark shades (above 1.5%)
Soda ash	0.5%	1%	2%
Glauber's salt or common salt	5%	10 - 15%	20 - 30%
<b>Note:</b> Quantity of chemicals to be added to the dye bath is calculated in percentages on weight of the material			


Direct dyes are dissolved in soft water by pasting with small quantity of cold water followed by addition of boiling water under stirring. The solution may be boiled if necessary to effect complete dissolution. The dye bath is set at 40 - 50 degrees centigrade with soda ash, and half the quantity of salt and with water equal to 20 times the weight of the yarn, and then add dissolved dyestuff solution. The samples are left in the dye bath for 15 minutes while the temperature is gradually raised to 90 - 95 degrees C and dyeing continued for 30 - 45 minutes. It is advisable to leave the sample while the dye bath cools for 10 -15 minutes. Sample is then rinsed in cold water and dried.



## Practical - 4: Batik

**Aim:** To understand and explore the techniques of tie and dye.

**Materials Required:**

Process	Tools and equipment	Details
Material for batik	<b>Fabric</b>	<ul style="list-style-type: none"> <li>Natural fibres such as cotton, linen, muslin or silk. Synthetic fibres are not suitable as they cannot hold dye sufficiently.</li> <li>Fabric in white or off white is preferable</li> </ul>
Holding tools	<b>Frames</b>	<ul style="list-style-type: none"> <li>Old photo frames of wood. Softwood is preferred as it enables the fabric to be pinned.</li> <li>To reduce the risk of tears to silks and finer fabrics it is possible to use masking tape to secure the material to the frame.</li> </ul>
Waxing tools	<b>Wax</b>	<ul style="list-style-type: none"> <li>Available in a number of forms such as blocks, flakes or grains.</li> <li>Paraffin wax is the easiest to use.</li> <li>Beeswax offers less opportunity for cracking.</li> <li>A mixture of both paraffin and beeswax.</li> </ul>
	<b>Electric Wax Pot</b>	<ul style="list-style-type: none"> <li>This is the most efficient and effective way of heating and melting wax as it is thermostatically controlled.</li> </ul>
	<b>Brushes</b>	<ul style="list-style-type: none"> <li>Varied sizes of cheap oil brushes. Brushes made from natural or synthetic fibres. Brushes with stiff bristles.</li> </ul> <p><b>NOTE:</b> After use the brushes containing wax cannot be reused for paint or dye.</p>
	<b>Tjantings</b>	<ul style="list-style-type: none"> <li>Tools used to draw precise lines of wax on to the material. Available in a range of sizes which allow a small amount of wax to flow from the reservoir.</li> </ul>  <ul style="list-style-type: none"> <li>An electrically heated Tjanting is also now available.</li> </ul>



Dyeing	Dye Bath	<ul style="list-style-type: none"> <li>Any suitable container which will allow the batik to be kept flat when submerged can be used. Steel, plastic, glass, etc are used for the dyeing process.</li> <li>Naphthol dyes.</li> </ul>
Pressing	Hot irons	<ul style="list-style-type: none"> <li>Dry heat iron to press the finished samples.</li> </ul>

## Waxing and Dyeing

- Transfer the design on to the fabric and plan the colours for different areas of the design.
- The first wax is applied over the penciled-in outline of the pattern. Almost always the original cloth is white or beige.
- The cloth is dyed in the first dye bath using cold dyes only. The dyeing starts with light and progresses to the dark colour. The area of the cloth where the wax was applied will remain white.
- Second application of wax is applied. Portions where the first colour has to be resisted, wax is applied again. The cloth is then dyed in the second dye bath in the next dark colour.
- Continue the same process as in the above step for a third colour. The fabric is submerged in the final dye bath. In this case it is the darkest colour as brown, black, blue, etc. Those areas of the cloth that have not been covered with wax will become brown.
- After the waxing and dyeing process is complete, fabric samples are washed in hot boiling water to remove all the wax. Put some soda or soap in the water and boil the fabric for few minutes. The wax will be removed from the fabric.
- The samples are pressed with a hot iron between newspapers to remove any left over wax from the fabric.

## Dye Bath Preparation

### Preparation of Naphthol Solution

Naphthols are generally water insoluble. Dissolving is done by pasting naphthol thoroughly with caustic soda and turkey red oil and little warm water followed by addition of boiling water. Further this solution may be boiled to ensure complete dissolution. Alternately, paste the naphthol with hot water followed by addition of caustic soda to the suspension and boil the solution till clear.

Following are some examples for preparation of naphthol solution

### Quantity of chemicals required for dissolving 10 gms of Naphthol

Chemicals	AS/AS-OL/AS-D	AS-G	AS-TR
Turkey red oil (c.c)	10	10	10
Caustic soda flakes (gm)	6	5	7
Water (c.c)	400	330	800
Salt	20 g/litre	20 g/litre	20 g/litre


**Quantity of chemicals required for preparation of 10 gm Base**

Base	Water	HCL	Sodium nitrite	Sodium acetate	Acetic acid	Common salt
Blue B*	350cc	10 cc	10	10 gm	5 cc	25 gm/ L
Scarlet R**	350cc	17 cc	7	8.5 gm	6 cc	25 gm / L
Yellow GC*	350cc	10 cc	800	10 gm	5cc	20 gm / L
Red RC**	350cc	10 cc	20 g/litre	10 gm	7.5 cc	–

\* base need HCL added followed by sodium nitrite while dissolving

\*\*base need sodium nitrite added followed with HCL while dissolving.





## Practical - 5: Block Printing

**Aim:** To study and explore the techniques of block printing.

**Material Required:**

Fabric	Cotton, silk, and blended fabrics either dyed or undyed of any weight and count.
Tables	Wooden tables with packing on the surface
Trolleys	Wooden trolley with a tray and a rack below to store the blocks
Blocks	Wooden blocks with design carved on the surface. Blocks with copper engraving are also available. They have more fineness and are long lasting.
Dye paste	Pigment colours are generally used. Dye paste made out natural/vegetable colours is also used. Other dyes used are rapid, naphthol, discharge, etc
Binders and mixing agents	Emulsifiers, kerosene, fixers, di ammonium phosphate, urea

### Process of Block Printing

- The fabric to be printed is washed free of starch and soft bleached if the natural grey of the fabric is not desired. The fabric is dyed with the desired colour if required.
- The fabric is again washed to remove excess dye and dried thoroughly.
- The fabric is stretched over the printing table and fastened with small pins.
- Usually pigment dyes are used for cotton. Color is kept in a tray on a wheeled wooden trolley with racks which the printer drags along as he works.
- On the lower shelves printing blocks are kept ready. The colour is put on the jute cloth in the tray where the blocks are dipped before printing.
- The printing starts from left to right.
- The color is evened out in the tray with a wedge of wood and the block dipped into the outline color (usually black or a dark color).
- The block is applied to the fabric, it is slammed hard with the fist on the back of the handle so that a good impression may register.
- A point on the block serves as a guide for the repeat impression, so that the whole effect is continuous and not disjointed.
- The fabric, after printing is dried out in the sun. This is part of the fixing process.
- It is then rolled in wads of newspapers to prevent the dye from adhering to other layers and steamed in boilers for fixing the dye.





- After steaming, the material is washed thoroughly in large quantities of water and dried in the sun, after which it is finished by ironing out single layers, which fix the color permanently.

### After Treatment

The fabric is dried till free from kerosene. It is then rinsed, soaped lissapol D (1 g/L) and soda ash (2 g/L) at boil for 1/2 an hour followed by rinsing and drying.

### Recipe for Preparing Printing Paste

#### Chemicals Required:

#### Binder Emulsion

- |   |           |
|---|-----------|
| • Acramin SLN binder                      | 200 parts |
| • Emulsifier W                            | 5 parts   |
| • Urea                                    | 50 parts  |
| • Water                                   | 50 parts  |
| • Kerosene mixed under high speed stirrer | 665 parts |

#### Printing paste Recipe

- |                   |           |
|-------------------|-----------|
| • Acramin Pigment | 50 parts  |
| • Binder emulsion | 940 parts |
| • Fixer CCL       | 10 parts  |

The printing paste is prepared by mixing the above chemicals using a motorized stirrer for uniform consistency,

## Practical - 6: Stencil Printing

**Aim:** To explore the technique of stencil printing.

### Material Required:

- Fabric paints
- stencil printing brushes or sponges, tooth brush, comb
- Thick ivory sheets with design transferred and dipped in wax for stiffness or OHP sheets can be used.
- Paper cutter or knife to cut the stencil
- Piece of glass with smoothed edges
- Newspapers, plates to mix colours, water and paper towels,
- A fabric or garment to work on
- Iron-to-set fabric paints

### Stencil Printing Process

The step by step process of stencil printing is demonstrated below:

The design is marked on the stencil sheets. Plan the colours and cut out the portions where each colour has to be applied. Separate stencils are used for different colours.

Cut out the portions of design for each colour



Colour is applied with a sponge or a stencil brush or by spraying technique using a tooth brush and comb



The printed fabric is then allowed to dry and pressed with a hot iron by placing the sample in between news papers. This helps fixing up the dye.

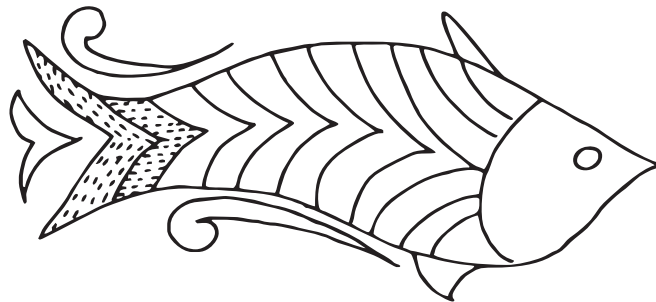


## Practical - 7: Indian Traditional Embroideries

**Aim:** To practice various stitches used in Traditional embroideries.

### 1. Kantha Embroidery

Trace the motif on a 8"x 8" cotton cambric and fill the given motif with appropriate stitches and colors suitable for Kantha embroidery.



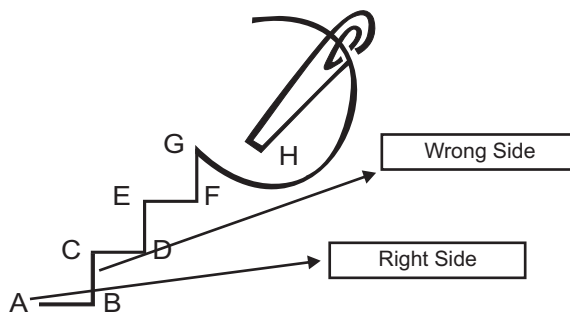
### 2. Kashida Embroidery

Trace the motif on a 8"x 8" Silk fabric and fill the given motif with appropriate stitches and colors suitable for Kashida embroidery .



### 3. Kasuti Embroidery

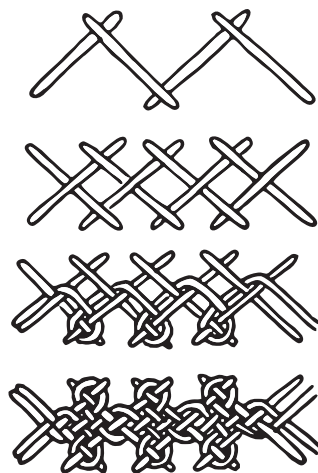
Following the instructions given below execute a border design on a 8"x8" Matte fabric





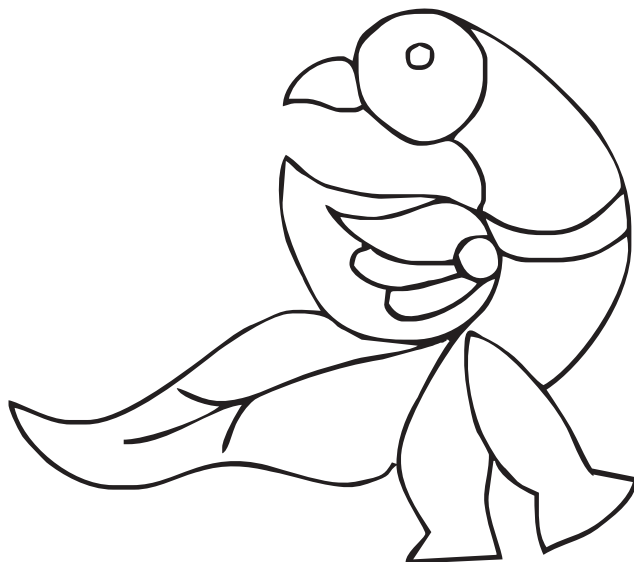
#### 4. Kutch Embroidery

Following the steps given under create a border on a 8"x 8" cotton cambric fabric.



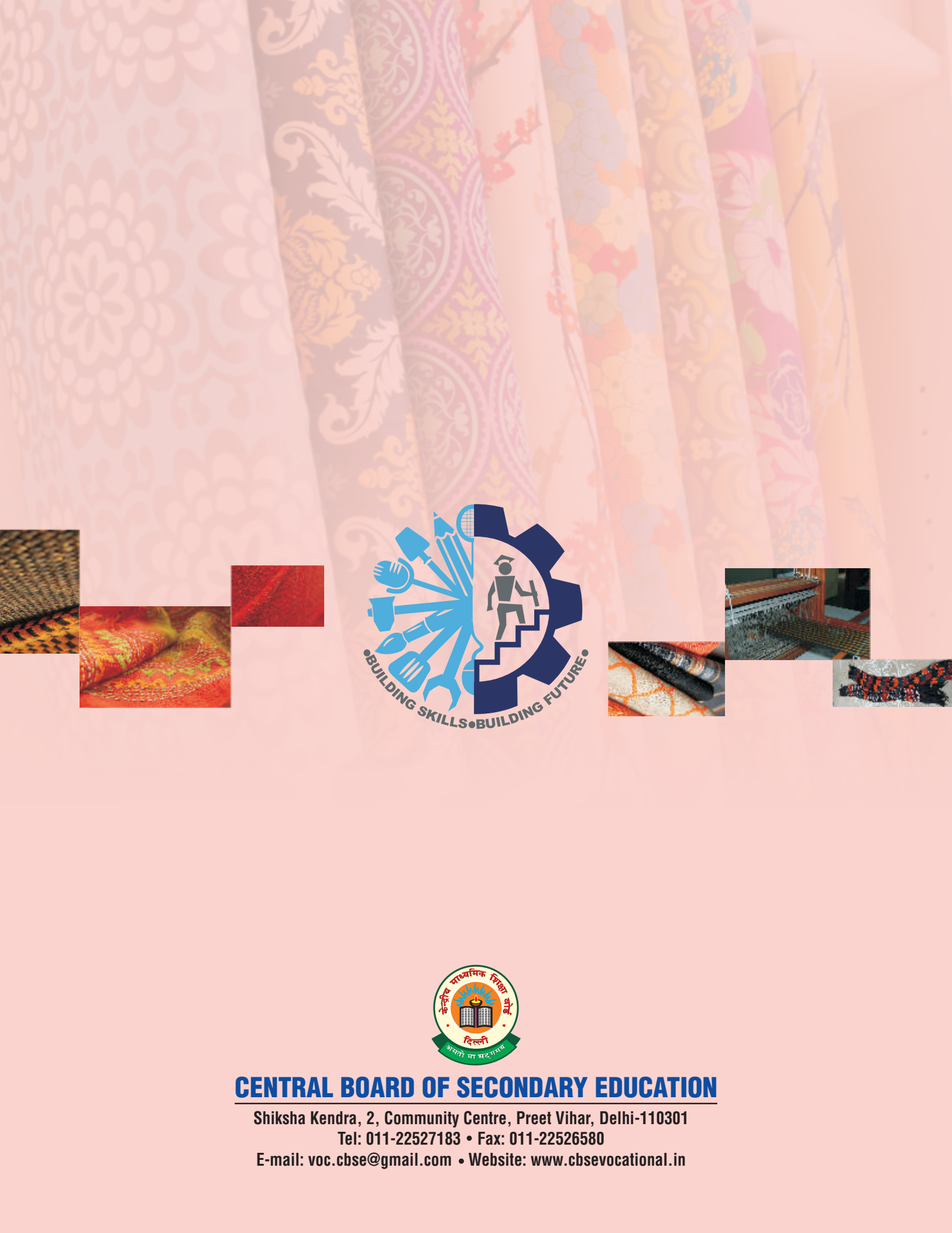
#### 5. Zardozi Embroidery

Trace the motif on a 8"x8" silk fabric fill the given motif with appropriate stitches and colors suitable for zardozi embroidery









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