Lesson 5 Block Printing Technique

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5. **BLOCK PRINTING TECHNIQUE**

In Lesson 4, we learnt how the block printing technique came into existence, and became a widely used textile designing technique. We also learnt how blocks are fabricated. Different types of blocks and the printing that can be done with them were also briefly discussed. In this lesson we will learn how this technique is actually used for making designs on fabrics. In the third and final lesson of this unit, we will describe some pre- and post-treatments which lead to superior performance.

### 5.0 Objectives

After going through this lesson, you will be able to understand:

- Materials and tools required for block printing
- Technique of block printing
- Preparation of colour paste for printing
- Advantages and limitations of block printing
- Value addition through block printing.

### 5.1 Introduction

Block printing involves the use of a block generally made of wood into which the design is cut or carved or sometimes mounted over it just like a stamp. The carved surface of the block is covered with colour and the design is transferred to the printing surface by stamping the block on to the fabric.

In this lesson the actual block printing technique will be discussed. This will include the tools and the materials required, preparation of colour paste, the transfer of design on to the cloth to give sharp outline, the advantages and limitations etc. The process involves the use of wooden blocks (Fig.5.1) and the designs are transferred manually.
5.2 Materials and Tools Required

For printing with wooden blocks, the following materials and tools are required:

1. Wooden table: A table with polished top or with sun mica top
2. Woollen cloth (Fig. 5.2): To cover the wooden table and form a stable, flexible base.
3. Jute fabric (Fig. 5.3): To form a base on the table.
4. Spoon: Table spoon to pour the colour on the pad.
5. Foam sheets: To make pads for colours.
6. Tooth brush: To clean the blocks.
7. Tray or Thali: To keep the foam sheet and colour in it.

5.3 Print Paste Formulation

The print paste formulations for block printing, and also for screen printing are either based on the use of pigment colours or dyes. The pigment-based formulations are quite appropriate for block printing also and since one such formulation is described later in Lesson 14, it will not be repeated here.

Instead, a print paste formulation based on a reactive dye is given below, which can also be used for screen printing. The various ingredients should be added in the order shown:

- Reactive dye (according to depth of shade) 1-4 parts
- Hot Water (70-80 °C) 20 parts
- Resist Salt (Mild Oxidizing agent) 2-3 parts
- Urea (dye dissolving assistant) 5 parts
- Sodium Bi-Carbonate or Sodium Carbonate 1.5 - 2 parts
- Sodium Alginate (thickener paste, 4% to 6% concentration) 65-70 parts

Self-check Questions

1. Write the full form of CMC.
2. What is the role of wooden table and of woollen cloth in block printing?

5.4 The Technique of Block Printing

First lay 3-4 layers of jute fabric on the table, then cover the jute fabric with 3-4 layers of woollen cloth, spread a couple of bed sheets over it. Then spread the fabric to be printed in creaseless position on the table (Fig. 5.4).

After preparing the print paste based on pigment or dye as described, pour it into a small tray where foam padding with other material is placed. The Paste (printing colour) is evenly brushed on the surface of the block containing the design with the help of a brush and then pressed onto the pad lightly so that the dye paste cannot enter the inner parts of the block.

The printing paste will overlap the design in case there is an excess of paste in the block, so proper care must be taken while pressing the block on the pad which contains the print paste. The print paste must be evenly spread on the pad so that there is no excess quantity. The block is then pressed heavily by the hand on the surface of the cloth to get the impression of the design transferred on to the cloth. The block is then moved one step forward and the operation repeated to maintain continuity of the design. To decorate (fill) the different parts of the design, separate blocks are used according to the design as well as the process.

Activity

1. Print a cotton dupatta with the help of wooden blocks.

5.5 Drying and Fixing the Print

After the printing process, the colours need to dry and also to get fixed. For fixing the pigment print, the recommended thermal treatment is dry heat treatment at 140º - 150º C for 4-5 minutes. For this a drying chamber is generally used. When the print paste formulation is based on reactive dye, the treatment could also be steaming at atmospheric pressure for 5 to 10 minutes. After drying and fixing, the fabric is washed, soaped and dried.
5.6 Advantages and Limitations of Block Printing

5.6.1 Advantages of block printing

1. Beautiful effects can be created.
2. Bright and colourful prints are obtained.
3. A number of blocks can be used not only for different colours but also for different shades in the same colour.
4. Many types of designs can be made with blocks.

5.6.2 Limitations of block printing

1. Slow output and high cost
2. The placement of the blocks is rarely perfect leading to slight misalignment of the design.
3. Absence of delicate shading and gradation
4. Separate block is necessary for each colour

5.7 Value Addition

After printing, further ornamentation of the fabric may be done by Embroidery such as Kantha, Mirror work, Stem stitch etc. and Bead Work to enhance the aesthetic value, thus increasing the value of the fabric (Fig. 5.5).

Fig 5.5 Value addition

Activity
2. Embellish your block printed dupatta by doing some embroidery. For example- Kantha, stem stitch, bead work etc.

Self-check Questions

3. State the advantages of block printing.

4. Why is cleaning of the block necessary immediately after the printing operation is over?

5.8 Assignments

5.8.1 Class assignments

i) Identify and collect the equipments used in Block printing.

5.8.2 Home assignments

i) Collect different block printing designs.

5.9 Summing Up

To sum up, in this lesson the materials and tools required for block printing are first described followed by how the print paste is prepared. The technique of block printing is then briefly considered. Finally the advantages and limitations of these processes are listed.

5.10 Possible Answers to Self-check Questions

1. CMC - Carboxy Methyl Cellulose

2. The Wooden table which acts as the support base for block printing should be strong and stable. It must have a metal or thick slate top covered with a woollen blanket to give resilience and a water resistant topping. Woollen cloth is used for making pads which are used as print paste applicators.

3. Advantages of Block Printing:
   • Bright and colourful prints are obtained.
   • A number of blocks can be used not only for different colours but also for different shades in the same colour.
• Many types of designs can be made with blocks.

4. Blocks have to be cleaned immediately after printing, otherwise the colour can dry within the engraved design and subsequent prints will be ill defined.

5.11 Terminal Questions

1. From where can the inspiration for creating designs for blocks be derived?
2. Why is a thick paste used for block printing?
3. Give the recipe of print paste formulation.
4. Write about the process required for fixing the print on fabric.

5.12 References and Suggested Further Reading


5.13 Glossary

1. Amazing  Wonderful
2. Apply  To put or spread on
3. Binder  Something used to bind separate
4. Continuity  State of being continuous or unbroken
5. Curing  Prepare by chemical processing in order to improve properties
6. Definite  Exact
7. Dyes  Colour chemicals
8. Engrave  Carve
9. Excess  What is over and above
10. Existence  Survival
11. Impressed  Imprinted
12. Inability  Incapability
13. Intermediate  Middle
14. Limitations  Restriction
15. Manufacture  Fabricate  Polished  Refined
16. Pour  Transfer
17. Properly  Correctly
18. Restriction  Limit  Stamp  Impression
19. Steaming  Heat using steam
20. Stiff  Rigid