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# Rendering of Stained Glass Designs with Stencil Printing Technique on Kurti Materials

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**A B S T R A C T**

Stencil printing is a resist style of printing method and it is one of the oldest methods to embellish apparels. The non-absorb materials used as stencils having design cuts on it. These stencils are placed on the fabrics and applied or sprayed colour in cut out portions then result get beautiful well outlined designs. In this article, Stained glass designs adopted and developed new designs and rendered those designs with Stencil printing technique on kurti materials. Considering kurti materials as products for application of designs A5, B8, F5, S10 and G4 were selected with more than 70% of acceptance was done for suitability of finalized designs by the panel. These products highly accepted by the consumers.

## Introduction

Fabric Embellishment very important aspect for changing trends according time. Embellishment means adding other materials or colours to the fabrics for establish the beauty of the fabrics. There are number of applications for the fabric embellishment such as Printing, painting, embroidery, tie and dye, batik, laces attachment, beads etc. among them Stencil printing method is the simple, easier, cheaper and it requires less man power, equipments to produce beautiful deigns than the other fabric ornamentations. Another benefit is that the less wastage of water, dyes and less damage to the environment than dyeing. Early Javanese batiks, Japanese stencil prints and plangi tie- dyes are examples of this technique (Joseph, 1980). Stencil printing was also practiced in India during the Gupta period (6th to 8th century). Now this stencil printing technique advanced with screen printing technique for fast process.

Appearance plays key role to build a status to the wearer in the society. Every person wants to be unique with their unique style. This is the one which creates more importance to the textile designer.

In this research article, Stencil printing method used to render the decorative designs on the kurti materials. It will help for further research and advanced application for fast production process and marketing in huge production.

Stencil printing first developed by Japanese, was the precursor of modern screen printing. Today it is considered a handcraft (Joseph, 1980). Stencil is the name used for the thin cut outs which are usually made of paper, plastic or metal. In stencil printing, a separate pattern is cut out from a special waxed paper or thin metal sheet for each colour (Sara, 2014). It must be planned so that they register or fit together properly to result in a perfect print. A difficulty with stencil printing is that the design areas must be connected to prevent parts of the stencil from falling out. To offset this problem, Japanese stencil artists developed a method of tying the various sections together with silk filament or human hair (Joseph, 1980).

A stencil design is usually limited to the application of 2-3 colours and is generally used for printing fewer repeats on a narrow width of fabric (Swami, 2011). The Pigments are used as colours for printing. These are insoluble colour particles that are held on the surface of fabric by agent. The thickened dye or pigment is called print paste (Sara, 2007). The stencil printing process can be accomplished with the help of a cotton swabs, brushes, or air pressure pumps, each giving the desired effects (Swami, 2011).

Printing allows great design flexibility and relatively inexpensive to get patterned fabric. Patterns can be the achieved with printing that are not possible with any other method (Sara, 2007). In this research article, Stencil printing technique was used as rendering technique for the development of fabric embellishment, because it allows great design flexibility and relatively inexpensive to get patterned fabric. This article helps small entrepreneurs to start mini business with this stencil printing technique to decorate apparels

## Materials and Methods

The study was undertaken to enhance the beauty of kurti materials through the surface embellishment with the stencil printing technique during the year 2020.

### Selection of Fabrics

A market survey was conducted to know the availability of cotton material suitable for kurti materials. Five different coloured materials both for dresses in 100% plain weave cotton materials were selected. Experts preferences were considered for selection of fabric colour of kurti material. The cotton material was a plain weave in 90sX 65s count and 60sX 40s count for dress/kurti materials. Material was sourced from Mangalagiri of Guntur district and from Vijayawada of Krishna district of Andhra Pradesh state.

Cotton coloured kurti materials were selected and purchased to get perfect print designs. They contain starchy matter to remove that, materials were soaked in luke warm water with 1% detergent. Squeezed and dried under shade. Later, fabrics were ironed neatly for further printing process.

### Stencil Printing

Stencil printing is a method of printing which is done using stencils to resist, parts of design from printing colour on fabric. It is a quicker method of executing design in various colours and shades. Stencils can be made out of various materials from a waxed paper to X-ray sheet to metal plate or else designed stencils available in the market.

Depending on the colours used in the design the number of stencils are to be cut precisely so as to keep the design intact. In this research work, bond papers were used as stencils.

### Preparation of Stencils

Developed designs from stained glass were took photocopies and stuck on bond papers. Those papers were dipped in melted wax and dried. Based on the colours used in the design, those many design sheets were prepared for each design. Apart from these again two extra stencils were made, one for the background and another for the border of the motif. Extra care was exercised while tracing on all required sheets for a design.

Wax coating prevents the absorption of water to the sheets while printing on fabric, it provide more durability. Waxed papers were dried without folds and creases. Through the wax coating, the design was visible on the paper. The next step was to cut the traced design fig. 3.7 to 3.8 shows the different stages of stencil preparation.

## Cutting Stencils

Waxed design sheet was placed on a flat glass sheet, which acts as a base for cutting stencil. Using stencil cutter or any sharp blade, a part of the design was cut on each sheet as per the plan of colours. Care was exercised to see that it had smooth cut edges without indentations.

After every sheet of the design was cut, they were laid one over the other and checked for design accuracy. Stencils for a particular design were numbered in sequence for usage (Fig. 3.9 and Fig. 3.10).

## Printing with Stencils

Desized fabric was laid on a print table which had padding material (Fig. 3.13). The design placements were marked on the material using tailors chalk or similar material which can be removed easily. Background stencil was placed on the material as per the marking and the edges of the stencil are marked with tailors chalk on the material as a guide for placement of other stencils of the same design. Different acrylic colours were used for printing design. Colour is taken in a palette and mixed with water for right consistency.

## Results and Discussion

A panel consisting of 30 members assessed the developed stencil printing designs through their opinion and preferences. Motifs selected for kurti materials were A5, B8, F5, S10 and G4.

### Kurti Material-I

Rounded dear motif was selected and rendered. It was long sleeved kurti material. The grass designs were used as a design element placed along with dear motif at centre front line and at hem line. Stained glass innovative designs used here shown in fig. 4.31.

### Kurti Material II

The motif with bees was enclosed with polygonal shape and using of split complementary colour harmony, it was placed at near neck line and at border of kurti material, rendered with stencil printing fig. 4.32.

### Kurti Material III

On a light greenish-yellow Mangalagiri cotton fabric, rose motif was stencil printed as shown in fig. 4.33. In the design only one motif was used as a highlighter and leaf taken from this motif was used as border. Triadic colour harmony was used in rendering design on kurti material-III.

### Kurti Material IV

The stylized motif was place at the bottom border along with small basic units. The same element was shown near neck at center front. The material used was pinkish colour, also a Mangalagiri cotton fabric was shown in the fig. 4.34.

### Kurti Material V

On a short-effect green shaded Managalagiri cotton material, geometric motif, enclosed in a circle was designed. Only motifs were used in the creating this kurti design. One motif on the left shoulder and three at the border were used. Motif was also printed without the outer round frame. kurti was shown in the fig. 4.35.

**Table.1** Consumer evaluation of kurti materials

n=30

| S.No. | Parameter | Developed Kurtis | | | | |
|---|---|---|---|---|---|---|
| | | **Kurti-I** | **Kurti-II** | **Kurti-III** | **Kurti-IV** | **Kurti-V** |
| **1.** | Use of stencil printing technique in rendering the design is apt | **2.63** | 2.5 | 2.23 | 2.43 | 2.3 |
| **2.** | The design is unique and different from ordinary Printing. | 2.86 | 2.56 | 2.6 | 2.4 | **2.9** |
| **3.** | Overall appearance of the product is appealing or unique | **2.9** | 2.6 | 2.8 | 2.8 | 2.83 |

**Fig.1** Design sheets

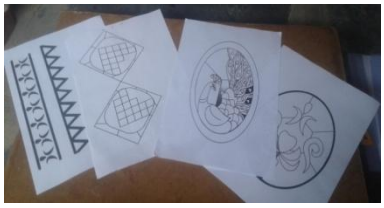


**Fig.2** Wax coated design

**Fig.3** Stencil cutting

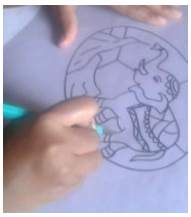


**Fig.4** Steps in stencil printing

Preparation of print bed

Fabric laid on print bed

Design placement marking

Stencil placement

**Fig.5** Developed stencils

**Fig.6** Stencil printing tools and materials

**Fig.7** Finished kurti material-I

Rendered motif

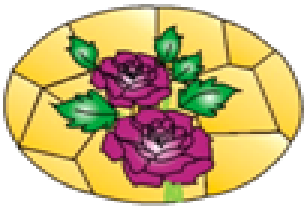
Kurti design

**Fig.8** Finished kurti material-II

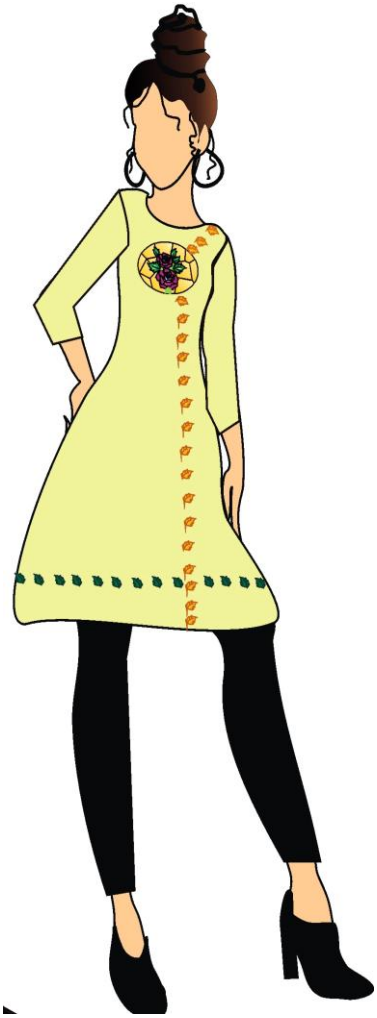
Rendered motif

Kurti design

**Fig.9** Finished kurti material-III



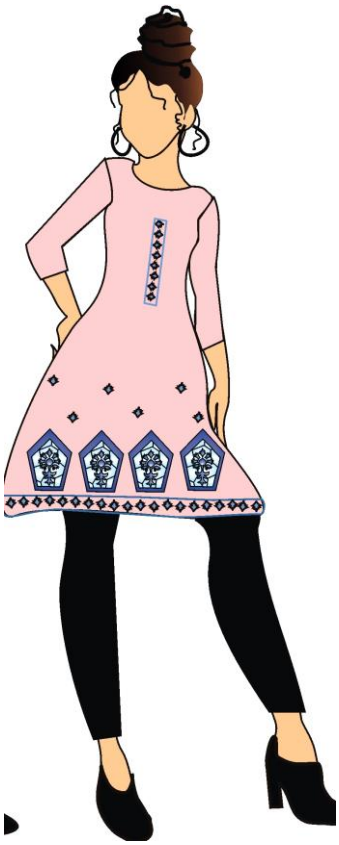
Rendered motif



Kurti design

**Fig.10** Finished kurti material-IV

Rendered motif



Kurti design

**Fig.11** Finished kurti material-V

Rendered motif

Kurti design

The table.1 shows final evaluation of all five kurti materials designed on ten different parameters done by 30 consumers.

The table.1 shows final evaluation of all five kurti materials designed on ten different parameters done by 30 consumers. All kurti materials designed in stencil printing have scored more than 2.3 in average. Among all five kurti materials K-I has scored high with 2.63 average on use of stencil printing technique in rendering the design is apt and again scored high average with 2.9 on Overall appearance of the product is appealing or unique.

K-V scored high with 2.9 average on the design is unique and different from ordinary Printing. K-IV received little lowest average over the other four. Design rendering with stencil printed technique in

all kurti materials was rated unique with an average of 2.4 and above. Overall this research, rendering of stained glass designs with Stencil Printing on Kurti materials accepted by the consumers and judges.

Adopted designs were successfully rendered with stencil printing technique on kurti materials were well accepted by the consumers. Using of stencil printing technique in rendering the designs is apt scored more than 2.2 and above. Among all, animal motif A5 (Kurti material-I) was scored 2.6 averages for 3 points scale. This printing technique was unique and different from other printing technique parameter well scored more than 2.4 and highest is 2.9 (Kurti-V) average out 3 points. This research work would be helpful to the designers to create innovative designs in easy manner with this technique.

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