



# International Journal of Home Science

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## Design development of theme-based curtains

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### Abstract

Early childhood is the time for children to be in school and at play, to grow strong and confident with the love and encouragement. This period is creative, free and fanciful; their imagination works overtime. Their creativity and imagination is also affected by the décor of their room. Keeping this thought in mind, the present study was planned with an aim to develop theme-based curtains for girl child's room using combination of surface ornamentation techniques taking inspiration from nature. Thirty curtain designs were created using CAD softwares which were evaluated to select top ranked design from each category of center, border, all over, scenic and lines. Further, 20 curtain set combination were created using the top ranked design and evaluated to select top combination of curtain set. Colour ways were evaluated and the final selected curtain set was printed and constructed. The developed curtain set design for the child's bedroom was registered under the Design Act.

**Keywords:** Inspiration board, Theme board, design & product development, stencil printing, costing and registration of Design

### 1. Introduction

*Creativity is a backbone of fashion design. Its elusive, yet intriguing, characteristics make it a natural component of the enigmatic world of fashion, and the malleable and adaptive nature of the concept makes it uniquely applicable to the ever-changing apparel field.*

Jennings (2011, p.13)<sup>[2]</sup>

Creativity acts as a driving force behind designing various innovative and original thematic connections. It adds to the richness and complexity of living, and when designers are involved with it they feel that they are living life to the fullest. It empowers the designer with the capacity to make associations and connections that inspires the designs (Jennings, 2011)<sup>[2]</sup>. When these designs are created, they require conscious and knowledgeable manipulation of the art elements to produce an expressive statement in which aesthetic, functional, economic and sociopolitical dimensions of the art highlighting its emotions, knowledge, imagination and intellect are operative (Jyoti, 2007)<sup>[3]</sup>.

The word 'designing' refers to the composition of lines, forms, colors, shapes and texture in a pleasurable manner. As the conventional method of designing is time consuming and requires considerable skills to produce a design, hence, various Computer Aided Designing (CAD) softwares are used nowadays to perform the specialized design functions with quick pace and reproducibility. Designing is done for apparels, textiles, foot wears, jewelry as well as any article one can think of. Out of which, textile designing is the most demanding and emerging field as it is full of scope and creativity. Eye catching effects can be created on variety of textiles through various surface ornamentation techniques. These techniques are used to decorate the surface of the apparels, furnishing articles to make them more beautiful and attractive. In today's modern era, printing and needle work are the most common methods used for ornamenting textiles. Among all furnishing articles, a curtain arrangement is often the most eye- catching aspect of a room as it provides vast scope for transforming space creatively in the house into a personality- packed room. Curtains are the focal point of the room. The child room serves both the purpose of home and playground for a small child; it is a place of wonder where they are free to explore their imagination (Demir, 2003). Hence secure and warm environment in his or her bedroom should be provided with a sensational unlimited imaginative experience for the child as well as his friends. Décor of their room is believed to influence their minds as they grow, so it is very imperative to make their room interesting so as to keep the child's mind active and imaginative.

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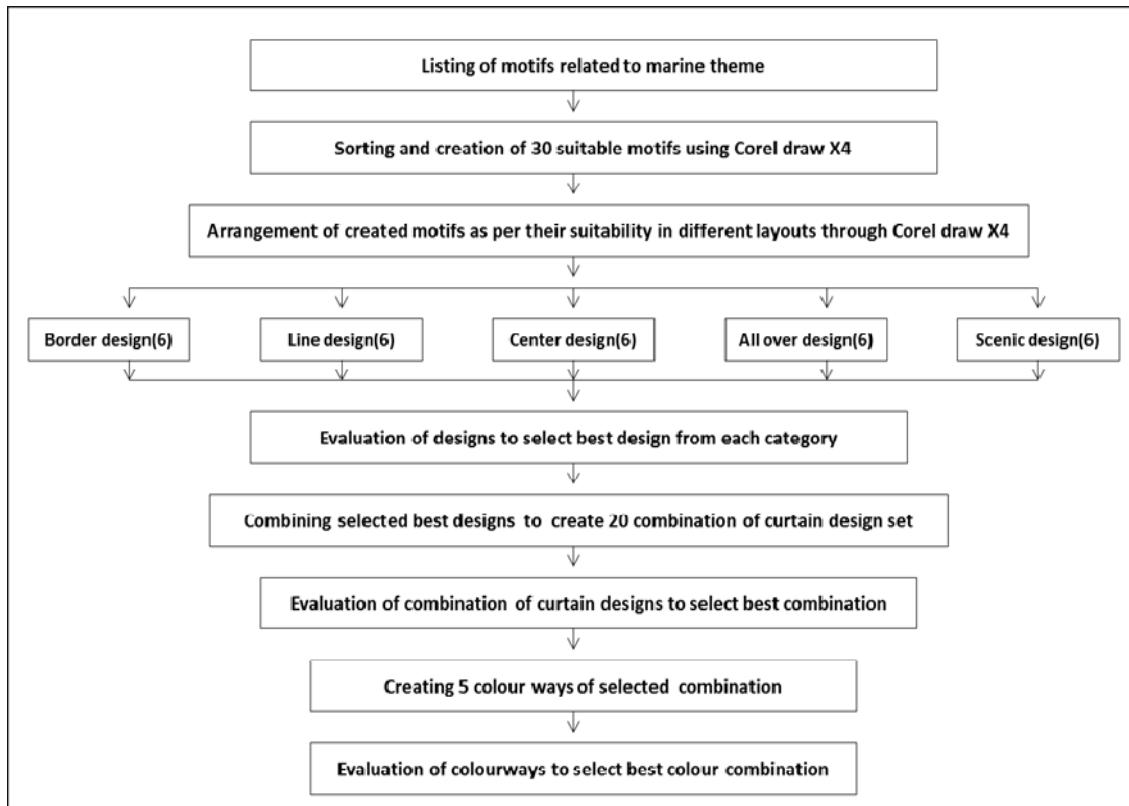
### Aims and Objectives of the Study

1. To design theme-based curtains for girl child bedroom using CAD software.
2. To construct selected curtain set for girl child bedroom.
3. To register the developed design under Design Act of Intellectual property rights.

### 2. Methodology

The design process starting with the creation of mood and inspiration board, evaluation of fabrics suitability, designs and colour ways, making design specification sheet, shade card, design adaptation and costing of the curtain set. Evaluation

were done by 30 consumers having a knowledge of textile designing as well as good aesthetic sense comprising of 10 faculty members of Home Science College Chandigarh, 10 students of Masters in Clothing and Textiles and 10 of Bachelor in fashion designing. The degree of change in colour of printed sample and staining of white material in colour fastness tests to sunlight and washing was evaluated as per the grades for colour change and staining given and explained by Dorothy Lyle. Coral Draw X4 was used for designing motifs and designs. Steps involved in the design development are shown in Figure 1.



**Fig 1:** Steps involved in Design Development

The process of registration of design started with exploration of web site of patent office regarding checking whether the design was previously registered or not. Later, the class and sub-class of the design were identified. It was followed by hiring of the attorney who was authorized to file the application for registration of the design. Virender Devgan (# 124, Morinda, Punjab), was authorized to act as researcher's agent / attorney for registration of the curtain design set. Following the same all the information regarding the design to be registered was provided to the attorney. A fee of Rs. 5000 was paid for the procedure, out of which Rs. 2000 (Rs. 1000 for one design) was the government fee for filling the application. The application was submitted by the attorney to the branch office of Chandigarh (Mahatma Gandhi institute of public administration) which was transmitted to the head office -The Patent Office, CP-2, Sector-V, Salt Lake, Kolkata - 700091 for processing and prosecuting.

The Attorney was provided with the following essential information for filling the application for registration.

- i) Four photos of the designs which were pasted on A4 size representation sheet.
- ii) Priority date was claimed for the protection of design with the guarantee that the application was prepared in India within 6 months.

iii) Fee of Rs.5000

iv) Additional information and clarification after preliminary examination were provided on the prescribed form along with all contact details and address.

### 3. Results and Discussions

The results of design process followed to design and develop theme-based curtains for children's bedroom are discussed below.

**Creation of Inspiration Board:** Researcher was inspired from nature as depicted in inspiration board which was created as a collage of the related pictures of nature representing the colors, theme, techniques and so forth to be used as shown in Figure 2. Various inspirational sources were water fall (depicted the drape of curtains), veins of leaf (depicted 3D or raised effects), bites of insects and bugs in leaves (depicted stencil printing), and dew drops (depicted bubbles and bead work), Rumex acetosella leaf (depicted fishes) and pineapple (depicted scales).

**Creation of Theme board:** Theme board was created by the researcher by putting together pictures as a collage depicting the theme of the designer. The theme for the design development was 'marine' as shown in Figure 3.

**Fig 2:** Inspiration board**Fig 3:** Mood board

**Selection of Fabric:** Ten off white plain textured fabric swatches suitable for stencil printing were collected from various curtain shops in Chandigarh. The evaluation was done in two ways that is by textile experts and textile tests of colour fastness. The evaluation results revealed that plain polyester blackout fabric of Prince Company was found to be the most preferred fabric swatch on the basis of price and overall appearance as shown in Table 1.

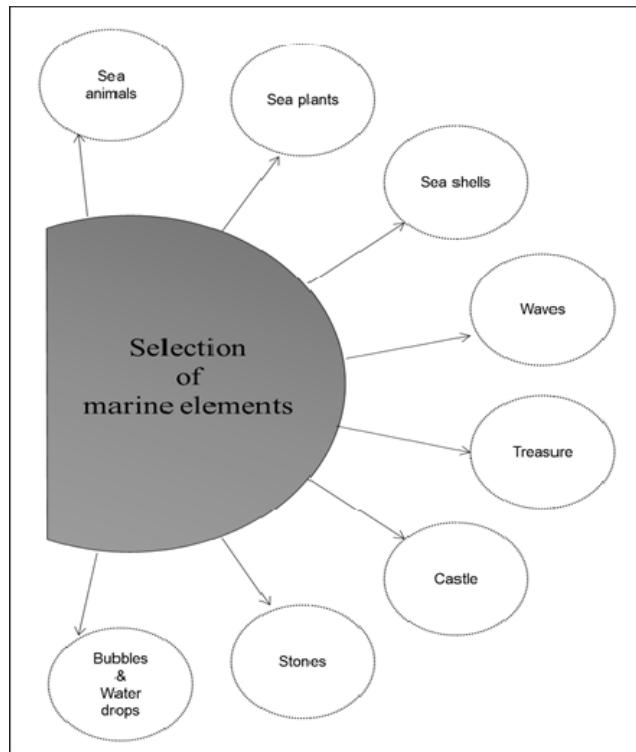
**Table 1:** Evaluation of curtain Fabric Swatches  
n=30

S.no.	Fabric name	Total score	Weighted mean	Rank
1	Tanjore silk	117	2.12	IX
2	Syntex silk	109	1.98	X
3	Velvet	134	2.43	V
4	Net	135	2.45	IV
5	Linen chintz	144	2.61	II
6	Chanderi	130	2.36	VII
7	Satin	131	2.38	VI
8	Polyester Blackout plain	146	2.65	I
9	Crushed	129	2.34	VIII
10	Tissue	138	2.50	III

The *colour fastness test to sunlight* revealed that Blackout plain fabric on exposure to sunlight for seven consecutive days showed excellent colorfastness to sunlight with respect to

colour change. The *color fastness to washing* revealed that after washing 5 samples of Polyester Blackout plain fabric for 10 minutes, it showed excellent colorfastness to washing with respect to colour change and staining.

**Selection of Marine Elements:** Elements such as sea animals, sea plants, sea shells, waves, castle, treasure, stones and bubbles related to the marine theme were shortlisted as shown in Figure 4 and used for creation of curtain designs.

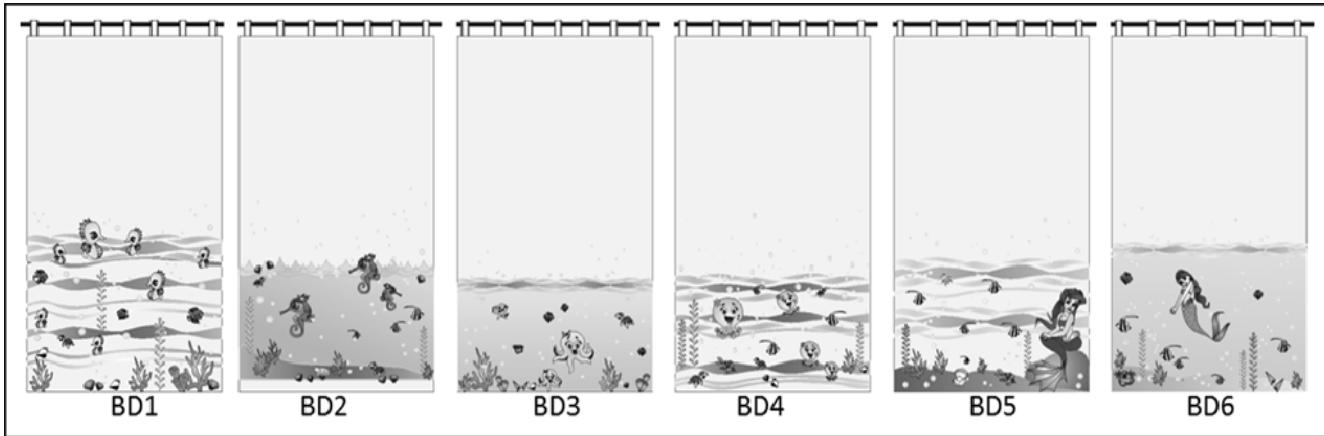
**Fig 4:** Shortlisted marine motifs

**Evaluation of Stencil Printing Technique:** Ten stencil printing samples were prepared using 10 different materials to create different effects. Weighted mean analysis revealed that sponging technique was ranked first while poly fill fiber technique got the lowest score and hence was ranked tenth as shown in Table 2.

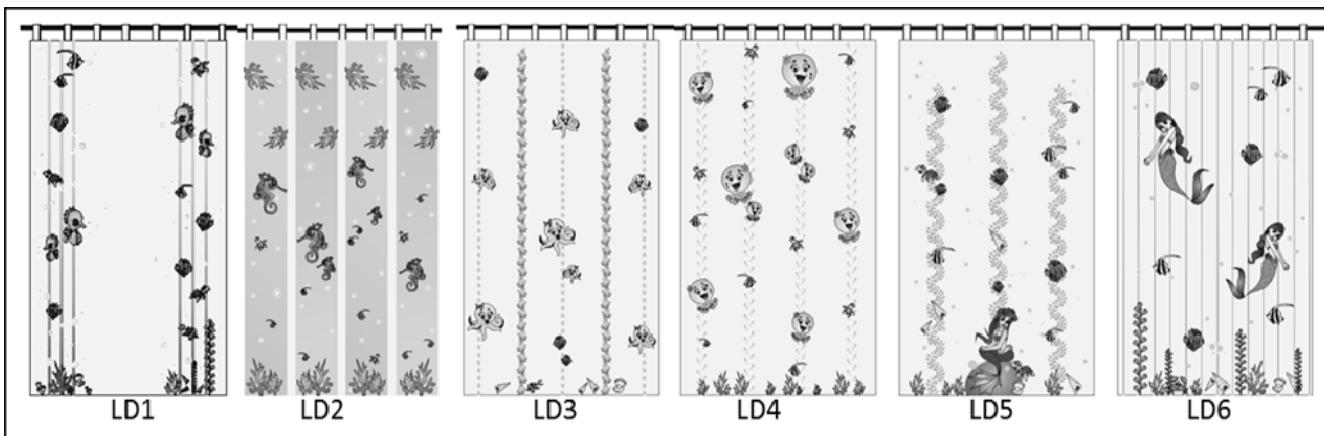
**Table 2:** Evaluation of techniques of stencil printing  
n=30

S.no	Technique/texture	Total	Weighted mean	Rank
1	Sponging	158	5.26	I
2	Spray	141	4.7	II
3	Dry brush stroke	136	4.53	III
4	Jute fiber	127	4.23	V
5	Jute sack	131	4.36	IV
6	Scotch brite	61	2.03	IX
7	Corduroy fabric	98	3.26	VIII
8	Net fabric	112	3.73	VI
9	Cut-pile fabric	77	2.56	VII
10	Poly fill	48	1.6	X

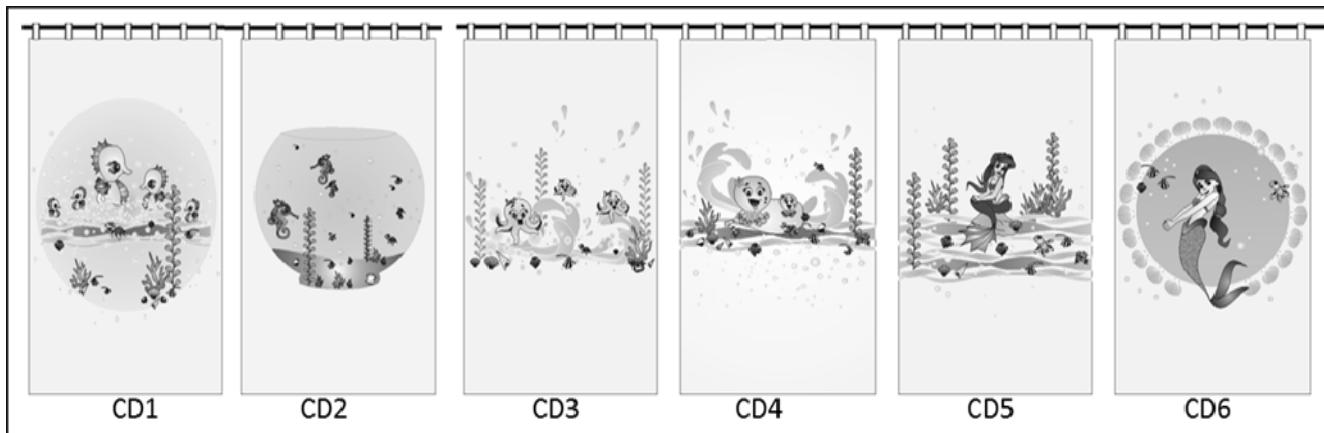
**Evaluation of Curtain Designs:** The evaluation of the curtain designs to select most preferred design revealed that in border category, BD 1; in line category, LD 1; in center category, CD 6; in allover category, AD 4; and in scenic category, SD 6 were ranked first (Figure 5-9).



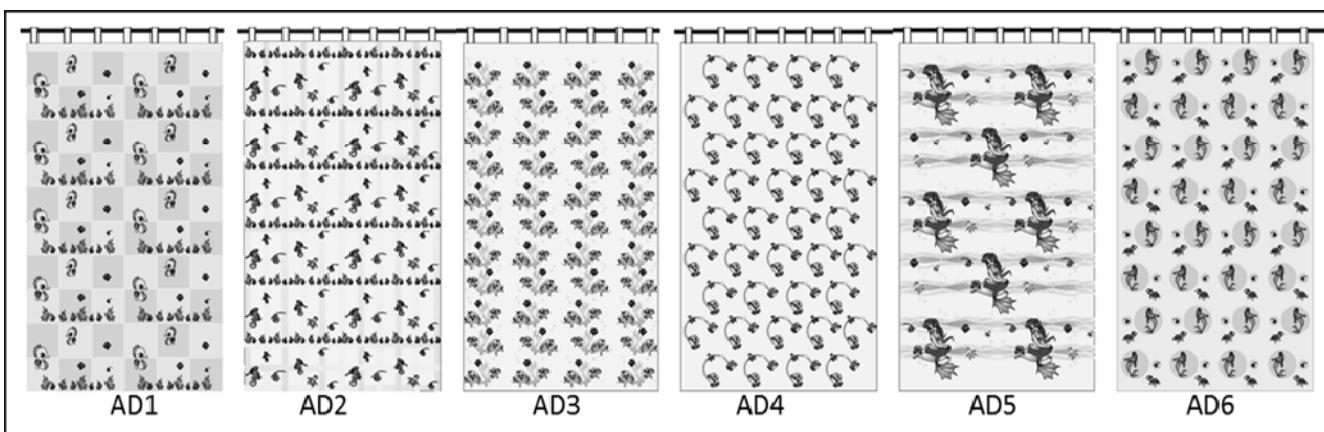
**Fig 5:** Border designs



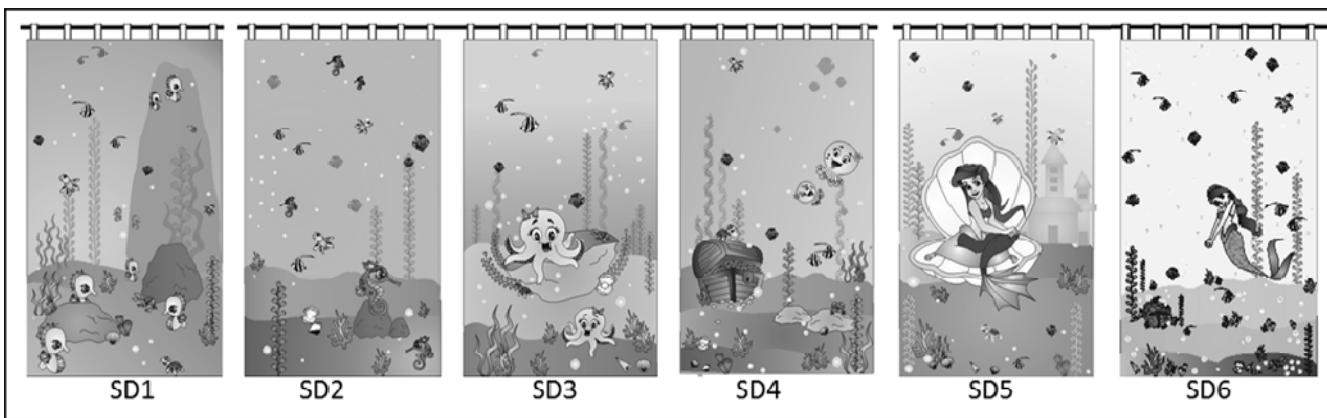
**Fig 6:** Line designs



**Fig 7:** Center designs

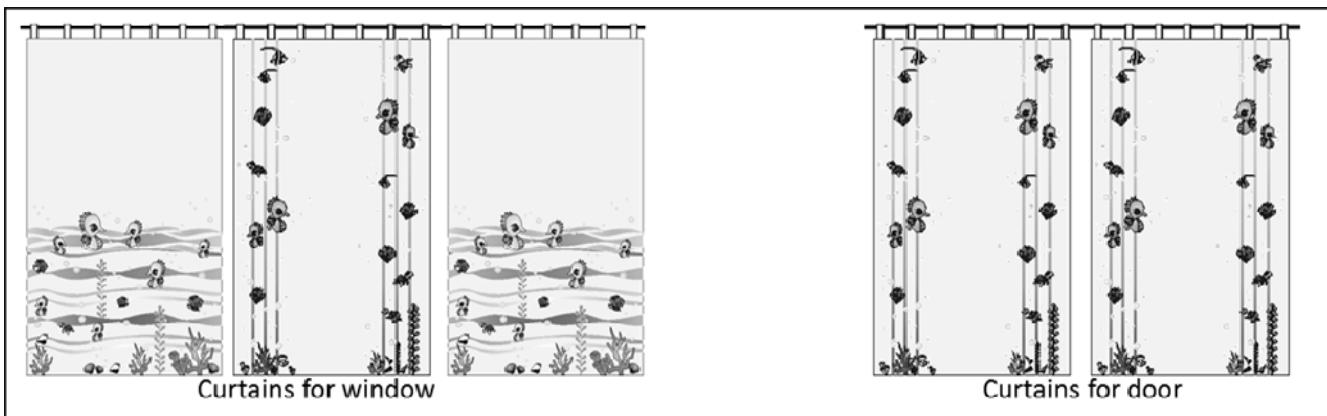


**Fig 8:** Allover designs

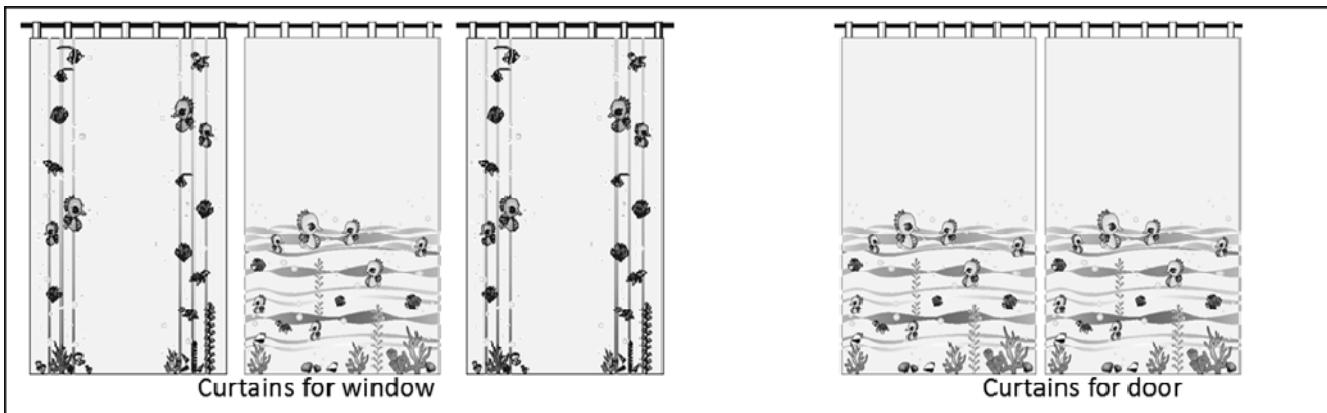


**Fig 9:** Scenic designs

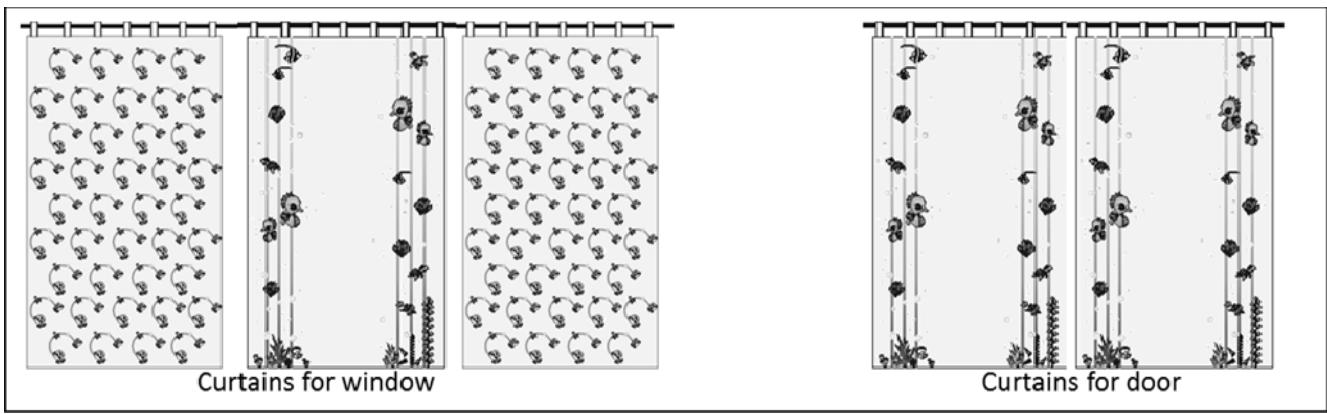
**Curtain Design Combinations:** Evaluation of 20 combinations using top ranked designs from each category revealed that combination no. 13 was most preferred by the judges (Figure 10-29).



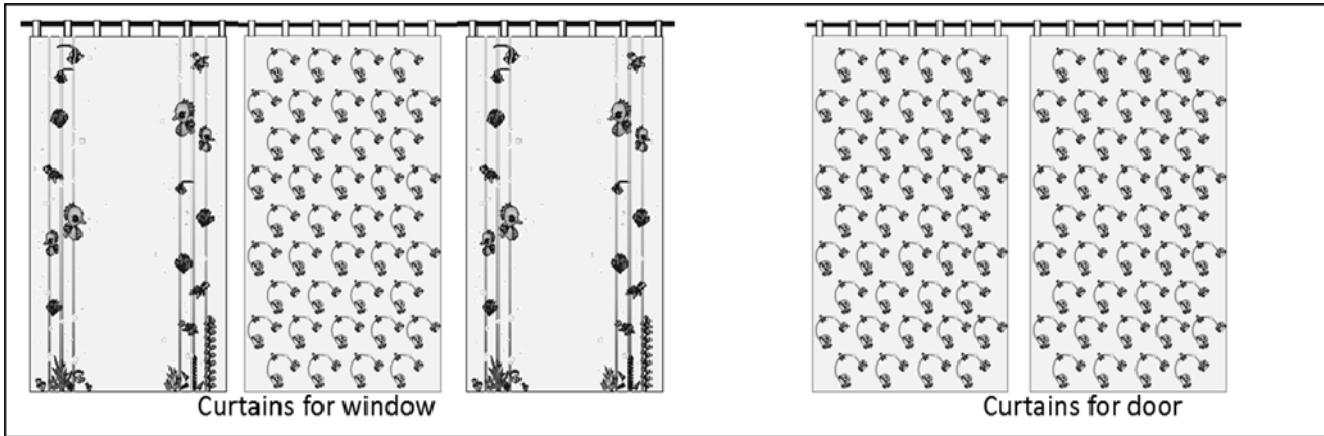
**Fig 10:** Curtain combination 1



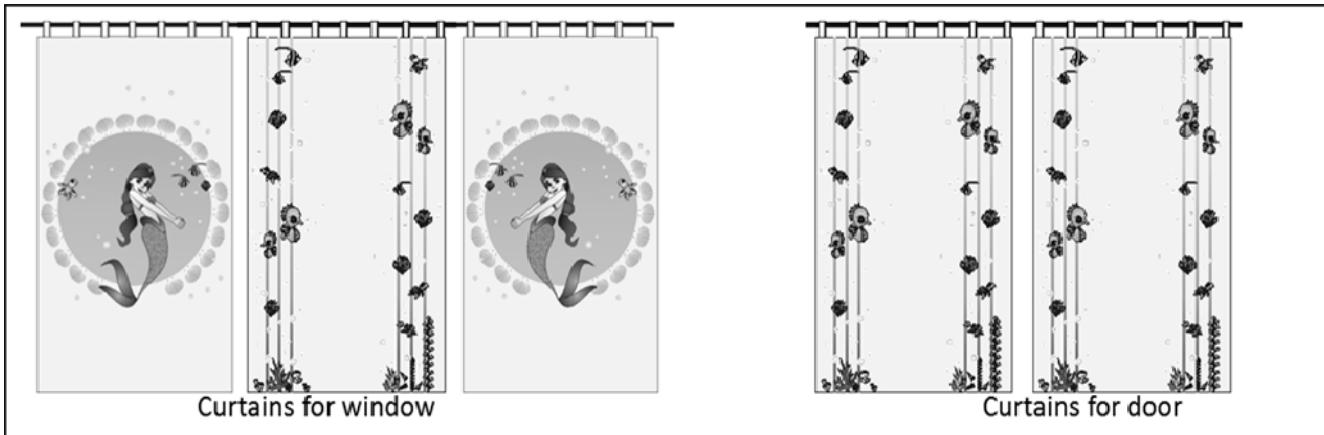
**Fig 11:** Curtain combination 2



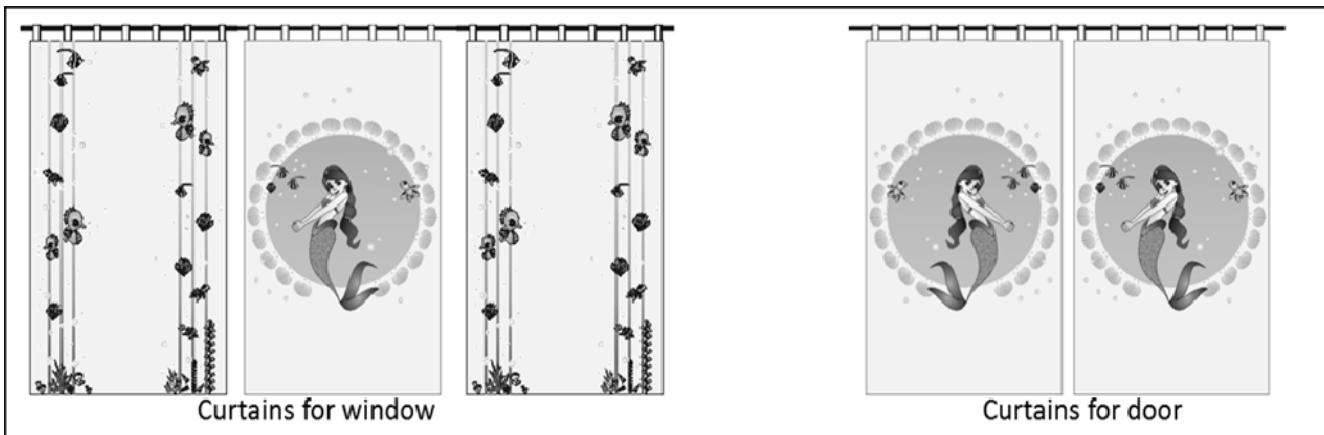
**Fig 12:** Curtain combination 3



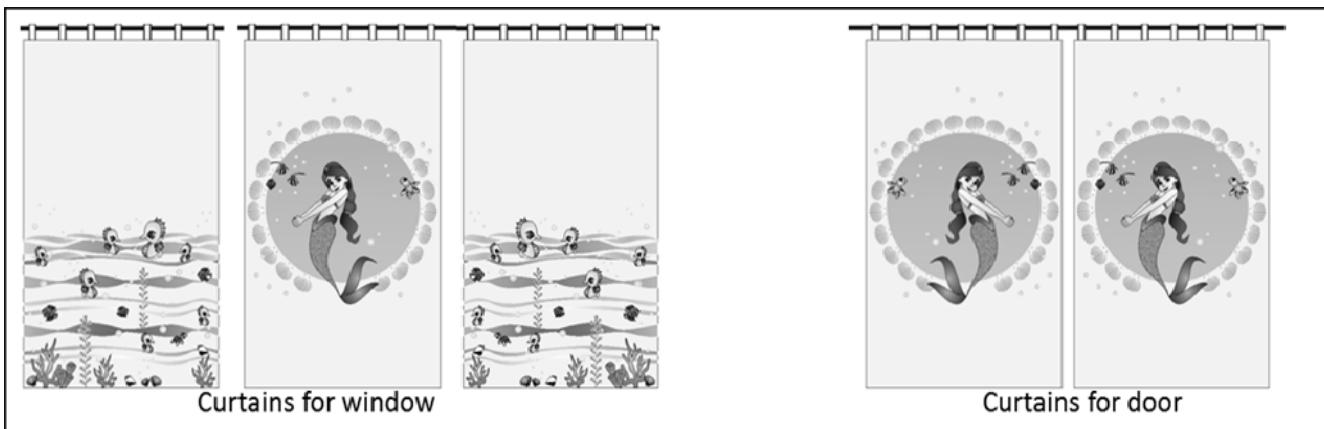
**Fig 13:** Curtain combination 4



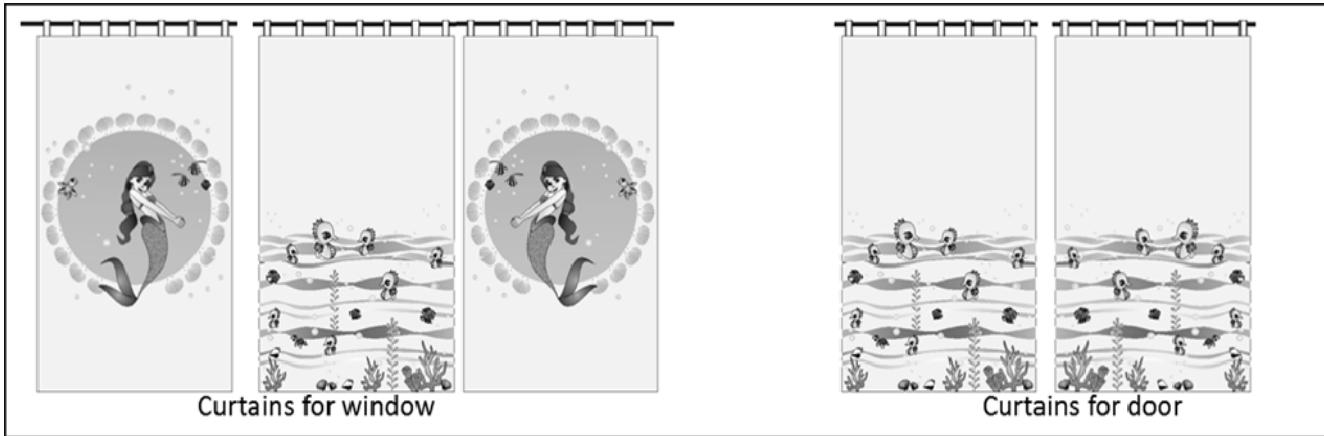
**Fig 14:** Curtain combination 5



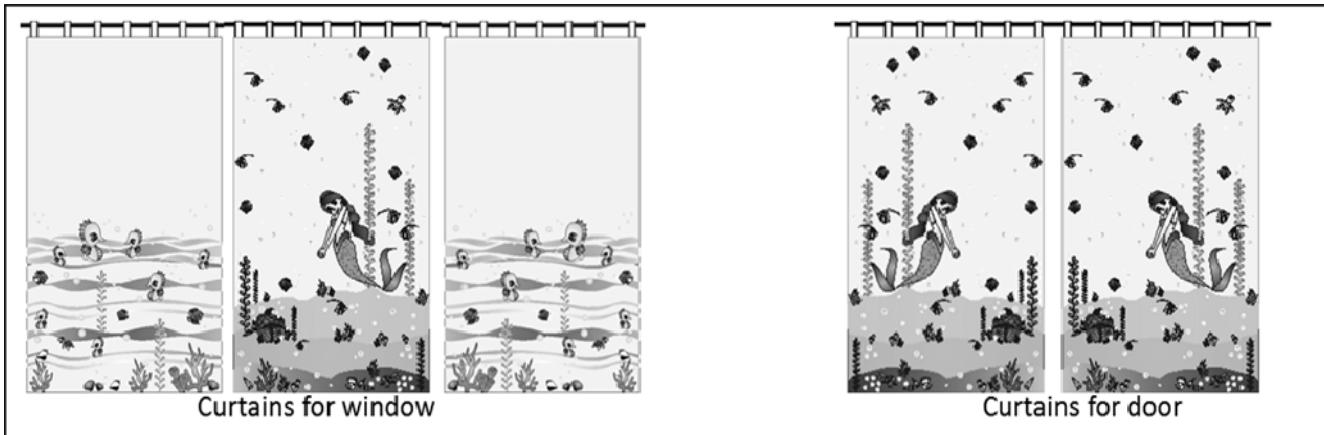
**Fig 15:** Curtain combination 6



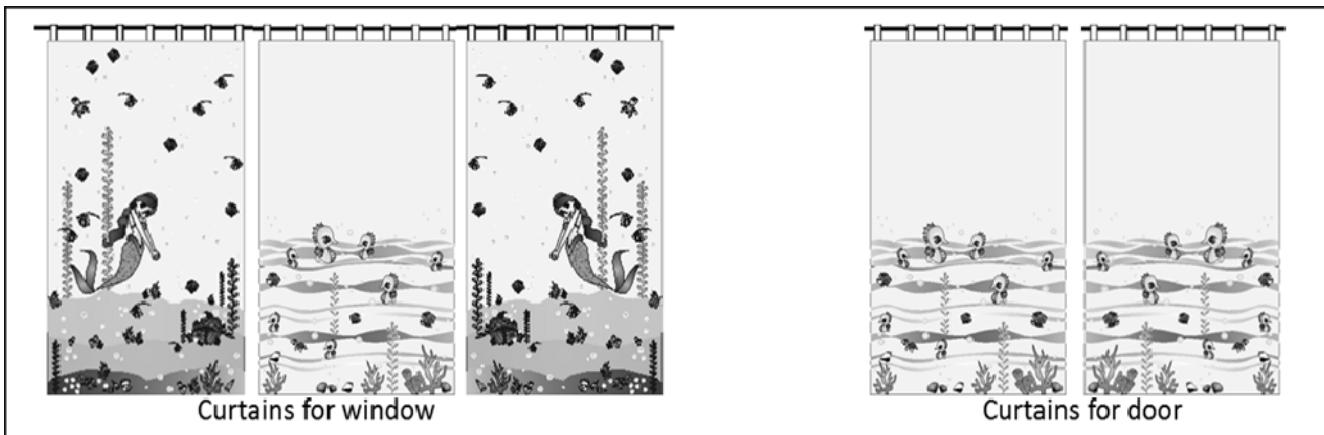
**Fig 16:** Curtain combination 7



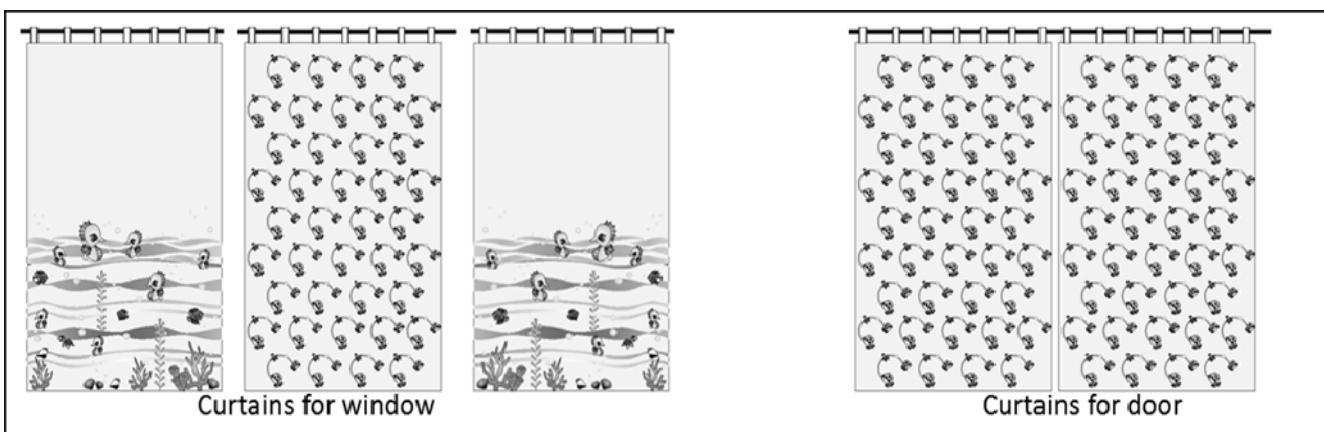
**Fig 17:** Curtain combination 8



**Fig 18:** Curtain combination 9



**Fig 19:** Curtain combination 10



**Fig 20:** Curtain combination 11

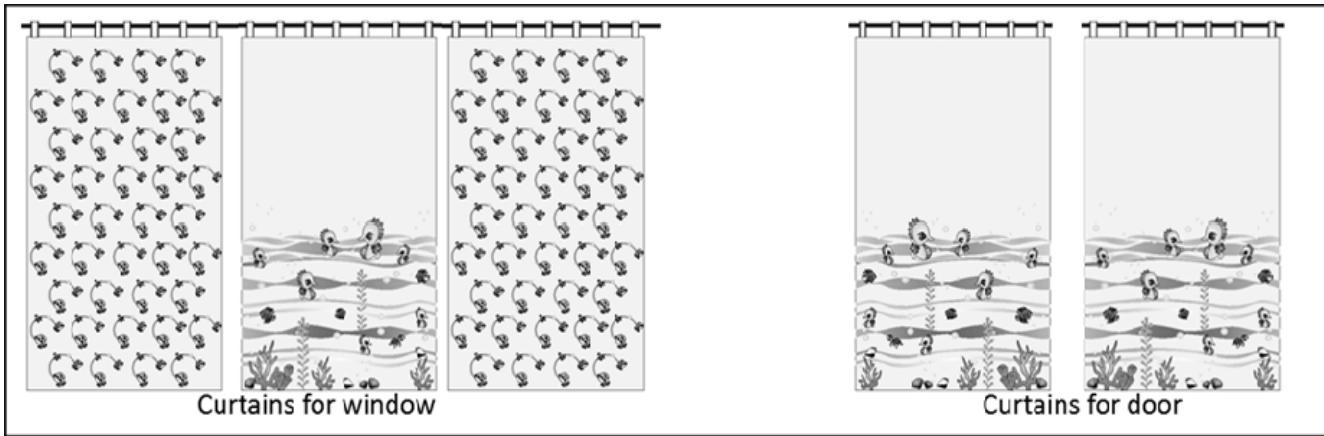


Fig 21: Curtain combination 12

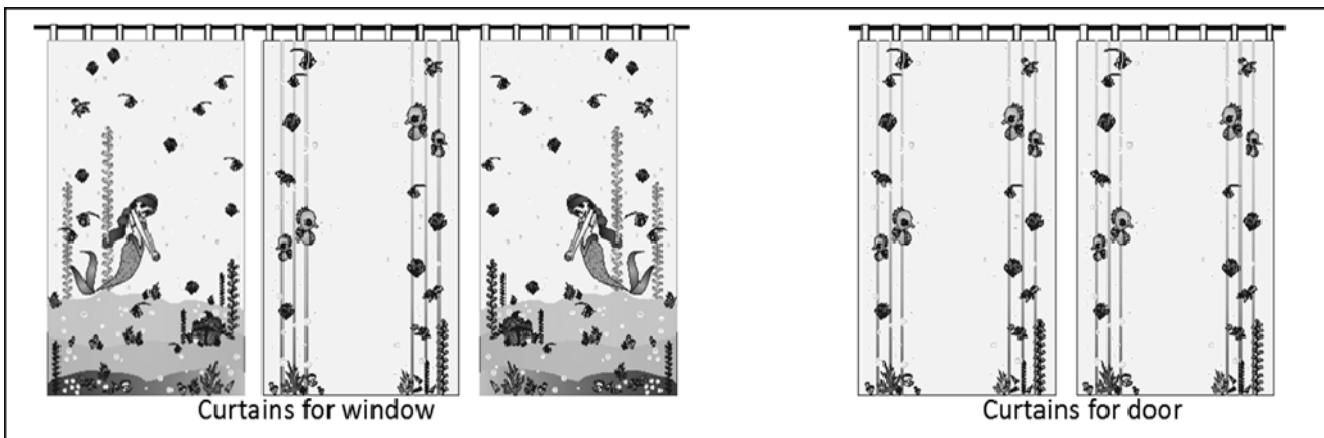


Fig 22: Curtain combination 13

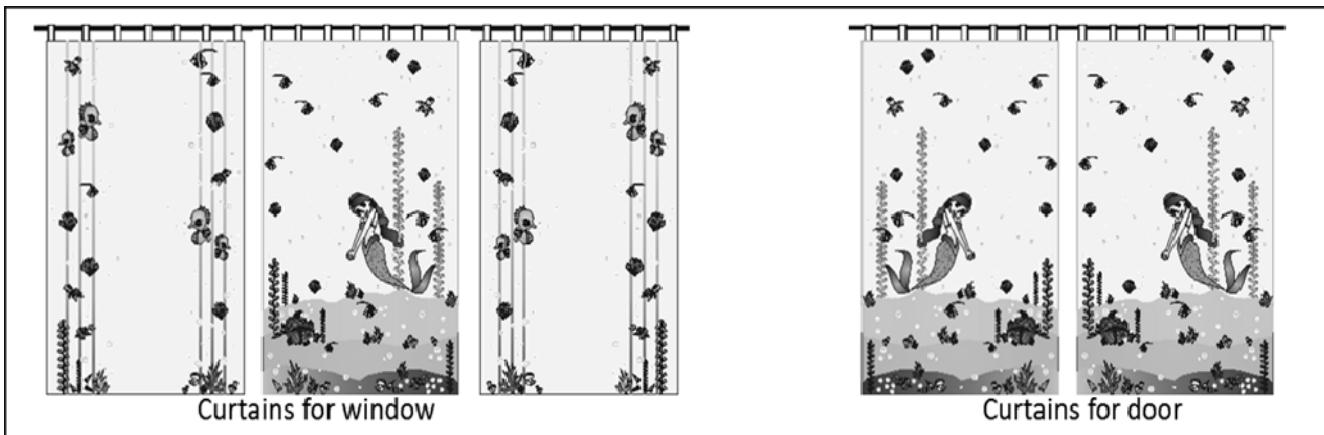


Fig 23: Curtain combination 14

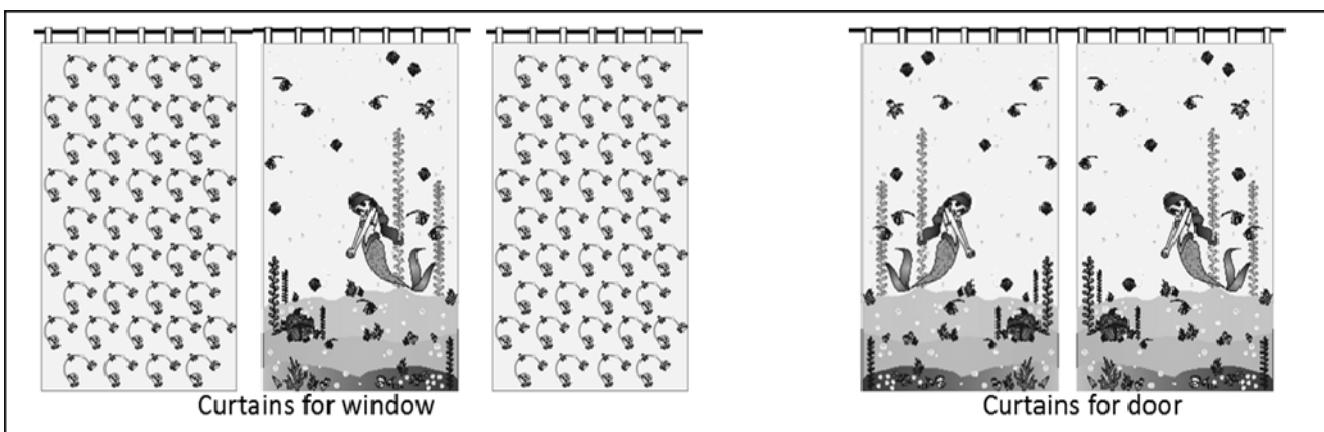
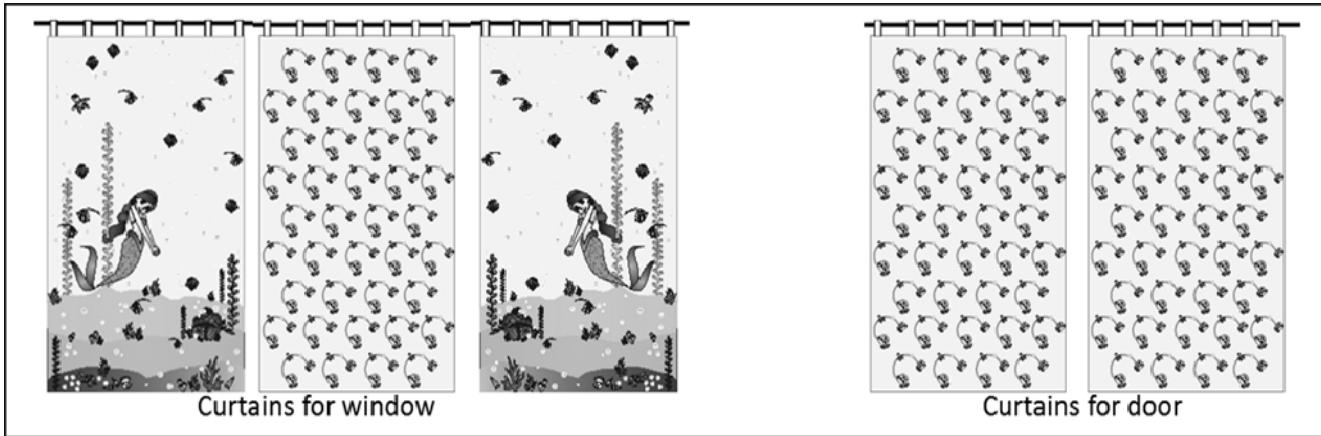
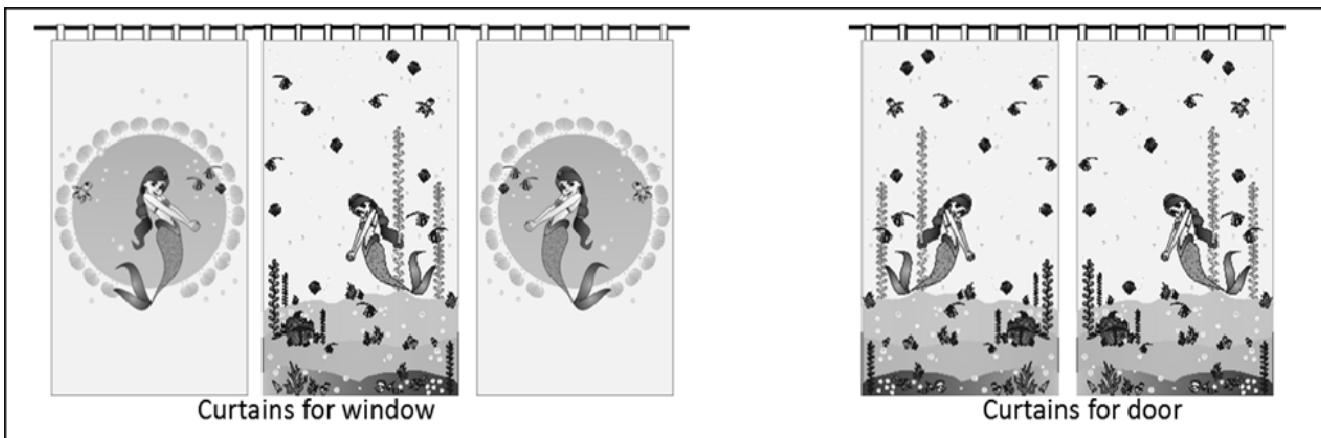


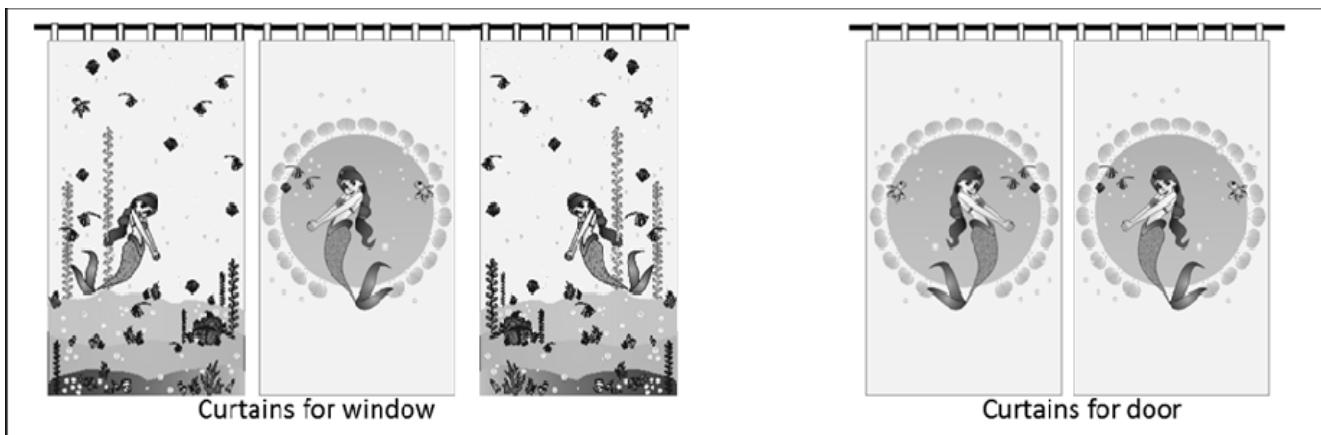
Fig 24: Curtain combination 15



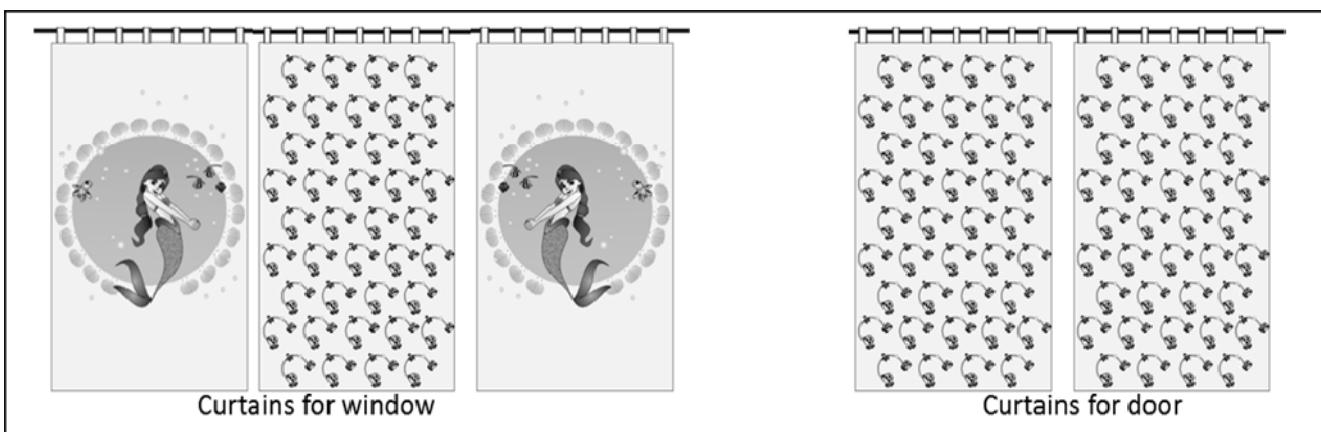
**Fig 25:** Curtain combination 16



**Fig 26:** Curtain combination 17



**Fig 27:** Curtain combination 18



**Fig 28:** Curtain combination 19

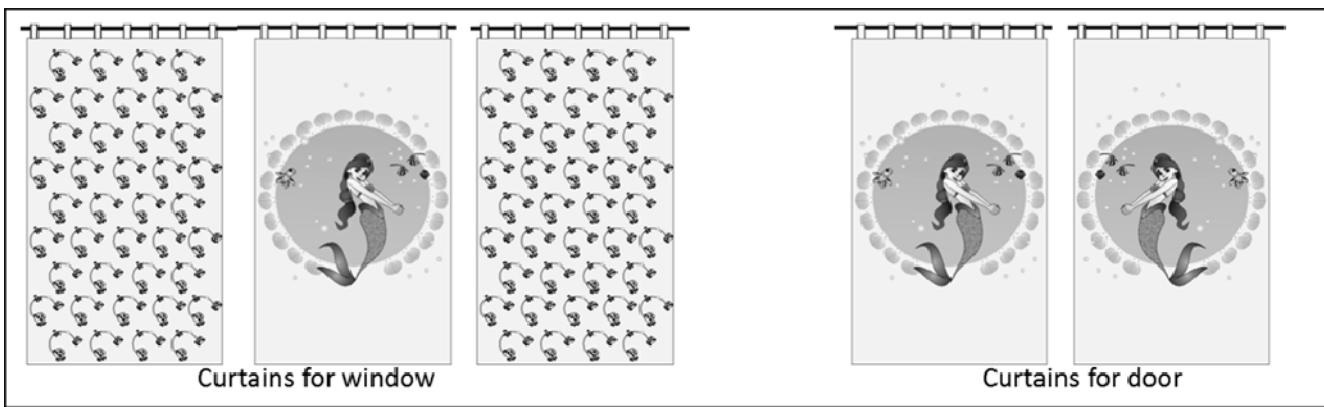


Fig 29: Curtain combination 20

**Colour ways:** Five colour ways were created from top ranked curtain design combination and were evaluated to select best colour combination. The evaluation revealed that colour ways

No. 2 was ranked first and was further selected for printing and construction (Figure 30).

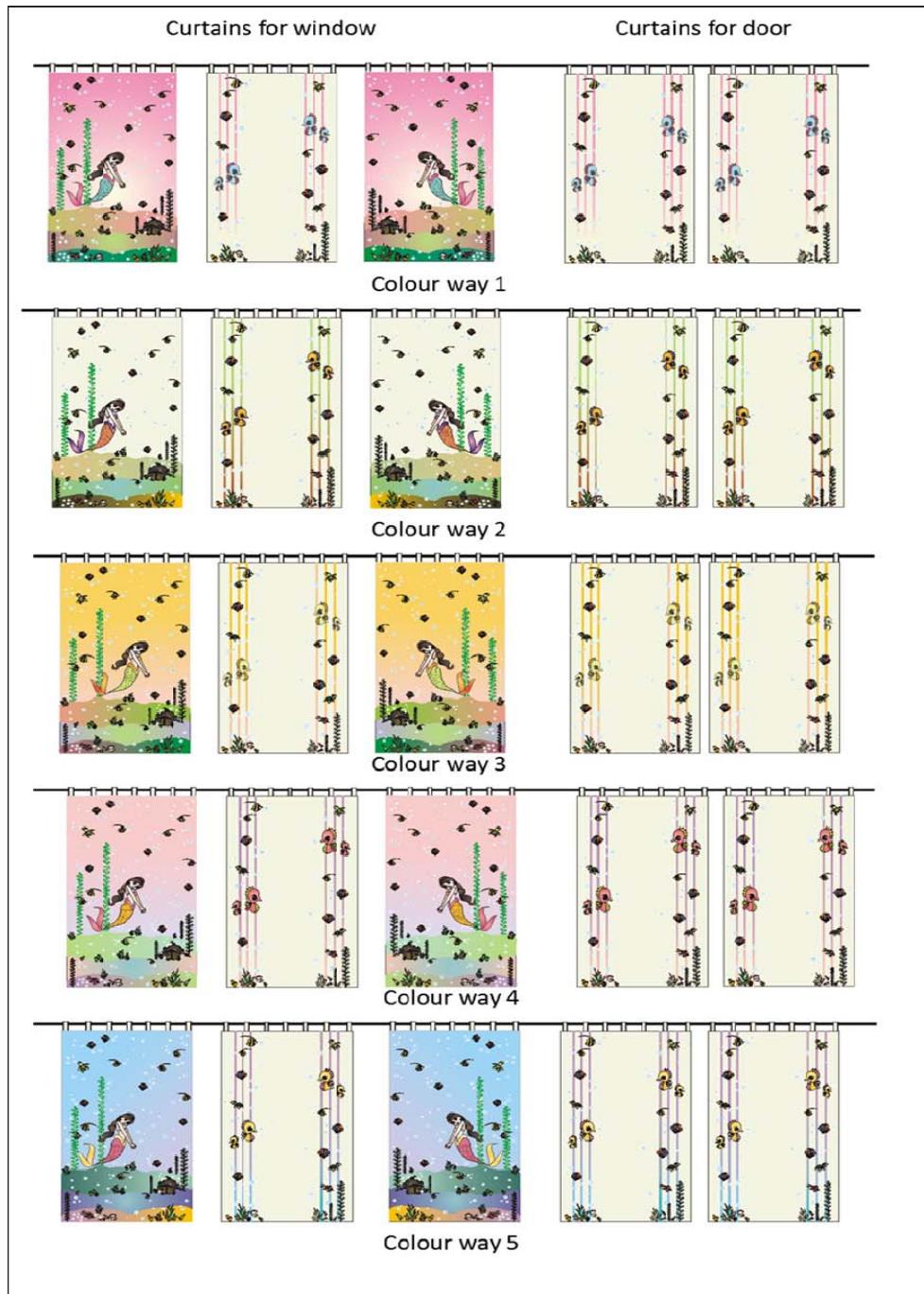


Fig 30: Colour ways

**Design Specification Sheet and Shade Card:** Design specification sheet of the curtain was prepared including information related to finishing of the selected design (Figure 31). Shade card was also attached which displayed the shades and tints of various hue and selected pieces of fabrics for curtains (Figure 32).

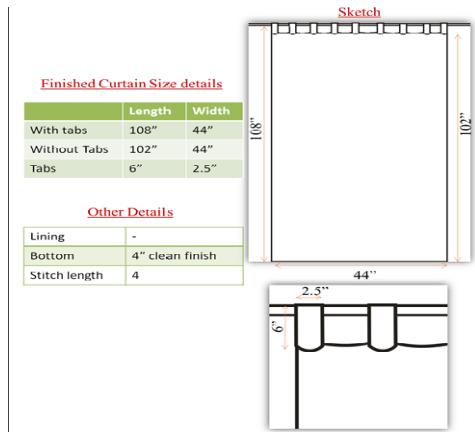


Fig 31: Design specification sheet

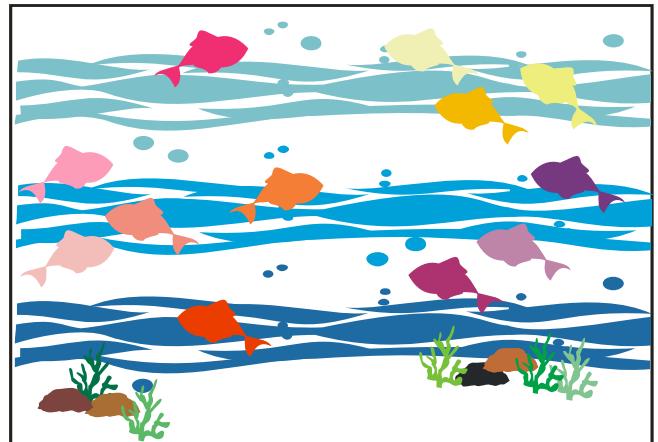


Fig 32: Shade card

**Design Sketch and its Adaptation:** Pencil sketch of final design and its adaptation is shown in Figures 33. The selvedges and hem of the curtains were finished by simple turn and stitch technique.

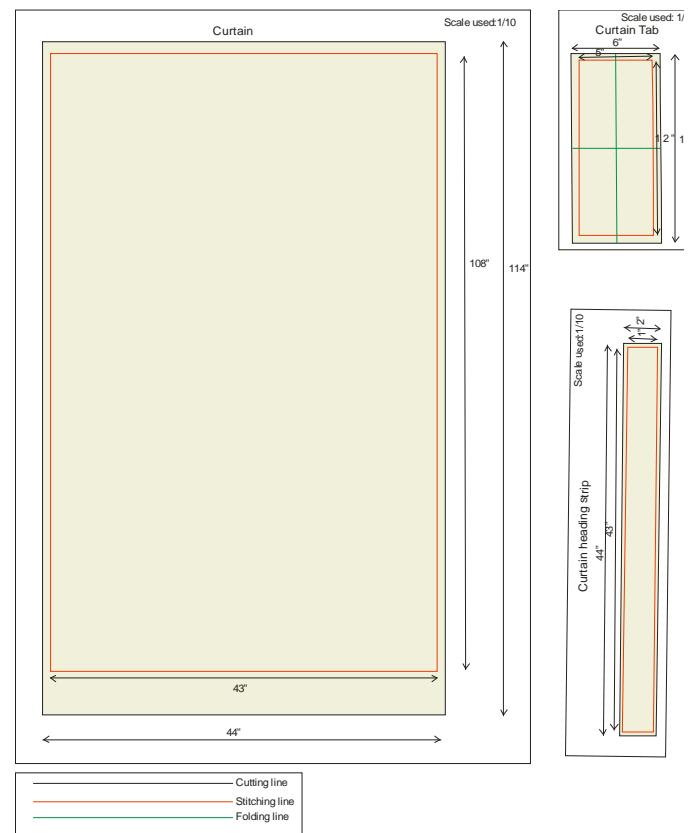
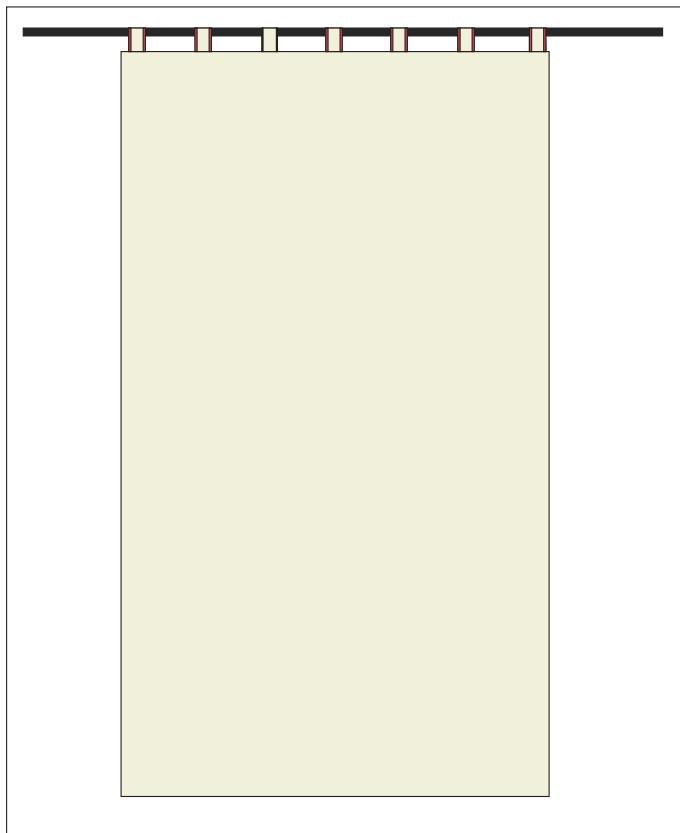


Fig 33: Design sketch and its adaptation

**Printing and Construction of Curtain Set:** The curtain set was constructed and screen printed in color combination which was preferred by most of the judges (Figure 34).



Fig 34: Developed set of curtains

**Costing of the Curtain Set:** In order to check market and consumer acceptability of the developed design, cost sheet was prepared for one curtain set including five curtains as shown in Figure 35 and it was calculated to be Rs. 9378.

Style information		Fabric information																																																																	
Date	21-8-2014	Resource	Blackout prince																																																																
Item	Kid's room curtain	Width	44"																																																																
Style no.	224C	Colour	Off white																																																																
Size	L-108",W 44"	Material	Cotton-polyester blend																																																																
<table border="1"> <thead> <tr> <th>1. Material</th> <th>Quantity</th> <th>Price in Rs.</th> <th>Total amount in Rs.</th> </tr> </thead> <tbody> <tr> <td>•Poly-cotton blend</td> <td>15 meters</td> <td>180</td> <td>2700</td> </tr> <tr> <td>•Lining</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>•Interlining</td> <td>-</td> <td>-</td> <td>-</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>2700</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>2. Trimmings/ other material</th> <th>Quantity</th> <th>Price in Rs.</th> <th>Total amount in Rs.</th> </tr> </thead> <tbody> <tr> <td>•Velvet ribbon</td> <td>17 meter</td> <td>5</td> <td>85</td> </tr> <tr> <td>•Beads</td> <td>10 gm</td> <td>10</td> <td>20</td> </tr> <tr> <td>•Fabric Colours</td> <td>125 bottles</td> <td>20</td> <td>2500</td> </tr> <tr> <td>•3 D outliner</td> <td>5 tubes</td> <td>20</td> <td>100</td> </tr> <tr> <td>•Sewing thread</td> <td>2 reel</td> <td>5</td> <td>10</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>2715</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>3. Labour</th> <th>Per piece</th> <th>Price in Rs.</th> <th>Total amount in Rs.</th> </tr> </thead> <tbody> <tr> <td>• Cutting and sewing</td> <td>5 curtains</td> <td>80</td> <td>400</td> </tr> <tr> <td>• Printing</td> <td>5 curtains</td> <td>200</td> <td>1000</td> </tr> <tr> <td>Total</td> <td></td> <td></td> <td>1400</td> </tr> </tbody> </table>				1. Material	Quantity	Price in Rs.	Total amount in Rs.	•Poly-cotton blend	15 meters	180	2700	•Lining	-	-	-	•Interlining	-	-	-	Total			2700	2. Trimmings/ other material	Quantity	Price in Rs.	Total amount in Rs.	•Velvet ribbon	17 meter	5	85	•Beads	10 gm	10	20	•Fabric Colours	125 bottles	20	2500	•3 D outliner	5 tubes	20	100	•Sewing thread	2 reel	5	10	Total			2715	3. Labour	Per piece	Price in Rs.	Total amount in Rs.	• Cutting and sewing	5 curtains	80	400	• Printing	5 curtains	200	1000	Total			1400
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<b>Transportation charges:</b> Rs. 1000 <b>Total cost :</b> Material+ Trimmings/other material + Labour+ Transportation charges : 2700+ 2715+ 1400+1000 <b>Rs. 7815</b> <b>Sale price (S.P) :</b> Profit (20% of Cost Price) + Cost Price (C.P) : 20% of 7815 + 7815 <b>: 1563 + 7815</b> <b>: Rs. 9378</b>																																																																			

Fig 35: Cost sheet

**Registration of the developed design:** The developed designed curtain set was registered under design act of Intellectual property rights. The design registration certificate was allotted by the patent head office, Kolkata as shown in Figure 36.



**Fig 36:** Design registration certificate

#### 4. Conclusion

The developed designs of curtain set were a combination of scenic and line designs, which make it innovative, novel and original. Hence, it was registered under design act of intellectual property rights so that it could be protected and not copied for mass production. This study not only brought something new and unique in the market but also satisfied the creative need of the designer.

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