

**Design And Application Of Hand Painted Tropical Designs On Styling The
Garment**

By

Booma .M

(21PTF004)

A Thesis submitted to the

**Avinashilingam Institute for Home Science and Higher
Education for Women Coimbatore -641043**

**IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE
DEGREE OF MASTER OF SCIENCE IN
TEXTILES AND FASHION APPAREL**

MAY 2023

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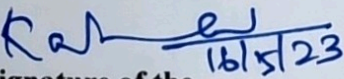
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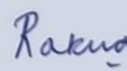
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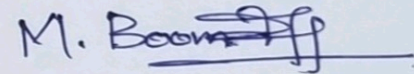

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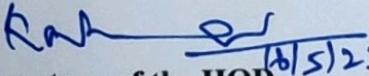
I declare that the dissertation entitled "**Design And Application Of Hand Painted Tropical Designs On Styling The Garment**" submitted by me for the degree of Master of Science (M.Sc.) is the record of work carried out by me during the period from 2022 to 2023 under the guidance of guide **Dr. (U.RATNA) M.Sc., M.Phil., Ph.D.**, and Assistant Professor, Department of Textiles and Clothing, Avinashilingam Institute for Home Science Higher Education for Women, Coimbatore -642043 and has not formed the basis for the award of any Degree, Diploma, Associate ship, Fellowship, Titles in this University or any other similar institution of higher learning.

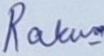


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CERTIFICATE FROM THE SUPERVISOR

I certify that dissertation entitled "**Design And Application Of Hand Painted Tropical Designs On Styling The Garment**" submitted for the degree of Master of Science (M.Sc.,) Textiles and Fashion Apparel by **BOOMA.M** (21PTF004) is the record of project work carried out by her during the academic year 2022 to 2023 under my guidance and supervision and this work has not formed the basis for the award of any Degree, Diploma, Associate ship, Fellowship, Titles in this University or any other similar institution of higher learning


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INTRODUCTION

1. INTRODUCTION

Design is a composition of silhouette, color, texture, details, which create specific versions or variations of a style. For example, a coat is a style; increasing or decreasing its length, adding or reducing its fullness creating different necklines, or varying its sleeves, and any other changes will give it an unlimited variety of designs. Once a style gains acceptance, many different designs of the same style are developed by altering its composing elements and introduced in the market by apparel manufacturers. (Naavneet 2010)

Fashion style has always been an integral part of human culture. It is a way of expressing oneself through clothing and accessories, and it has evolved over time to reflect the changing trends and attitudes of society. From the elaborate costumes of the Renaissance to the minimalist designs of today, fashion style has undergone countless transformations. One of the most significant changes in fashion style occurred during the 1920s, when women began to reject traditional gender roles and embrace more masculine clothing styles. This era saw the rise of flapper dresses, short haircuts, and bold makeup looks that challenged societal norms.

In recent years, there has been a growing movement towards sustainable fashion as people become more aware of the environmental impact of fast fashion. This trend emphasizes ethical production methods and materials that are eco-friendly. Ultimately, fashion style is a reflection of our individuality and creativity. Whether we choose to follow current trends or create our own unique look, it is an important aspect of how we present ourselves to the world. (Tania 2007)

Our knowledge of cultures varies greatly with the climatic conditions to which archeological deposits are exposed; the Middle East and the arid fringes of China have provided many very early samples in good condition, but the early development of textiles in the Indian subcontinent, sub-Saharan Africa and other moist parts of the world remains unclear. Early woven clothing was often made of full loom widths draped, tied, or pinned in place. (Anmol 2011)

Hand painting is a traditional art form that has been practiced for centuries. It involves the use of brushes and paint to create intricate designs on various surfaces such as canvas, paper,

wood, and even walls. The beauty of hand painting lies in its uniqueness and personal touch. Each stroke of the brush is carefully crafted by the artist, making each piece one-of-a-kind. Hand painting has been used to depict various themes such as landscapes, portraits, still life, and abstract art. It requires patience, skill, and creativity to produce a masterpiece that captures the essence of the subject matter. Hand painting also allows artists to experiment with different techniques and styles to create their own signature look. In today's digital age where everything is mass-produced and easily replicated, hand painting remains a valuable art form that celebrates individuality and craftsmanship. It reminds us of our human connection to art and the importance of preserving traditional techniques for future generations to appreciate. (Sandhya 2016)

The Madhubani paintings or Mithila paintings originated in the Madhubani village of Bihar and are mostly created by women. This type of Indian painting uses many tools like fingers, twigs, brushes, nib-pens, matchsticks, and natural colors. These are done on walls, floors of holy places, canvases, etc. These brightly colored Madhubani paintings are characterized by their geometrical patterns and are widely practiced in the Madhubani district in Bihar. Originally, these paintings were done on mud walls and soil ground or floors. Now, they are also done on canvases, cloth, and handmade paper. It is one of the most celebrated and popular styles of folk painting in India. The themes of Madhubani paintings are mostly scenes from nature like sun, moon, tulasi plants and scenes from mythology and Hindu deities like Krishna, Rama, Shiva, Durga, Lakshmi, Saraswati, etc. They also include Ardhanarishvara, court scenes, social events, and wedding scenes .(Pari 2022)

Patachitra or Pattachitra is a traditional, cloth scroll painting art form from the state of Odisha and West Bengal. The art form mainly depicts mythological and religious themes, epic, Hindu deities, etc. Thia Badhia – a depiction of the temple of Lord Jagannath, Krishna Lila – an enactment of Lord Jagannath as Lord Krishna displays his powers as a child, Dasabatara Patti – the ten incarnations of Lord Vishnu and Panchamukhi – Lord Ganesh's depiction as a five-headed deity are some of the popular themes that are represented by the Patachitra art form. The word 'Patachitra' is derived from patta meaning cloth and Chitra meaning picture. The colors used are natural and vibrant like white, yellow, and red, and black with bold and strong outlines and decorative borders. The art form is being practiced for over 3000 years and the artists behind this art form are known as Mohapatras. One of the most renowned Patachitra artists was

Raghunath Mohapatra, who was also awarded some of India's highest civilian awards.(Roshni 2016)

Phad painting is a religious scroll painting style and traditionally done on a long piece of cloth or canvas which is known as Phad. Phads depict the folk deities of Rajasthan, mainly Pabuji and Devnarayan. The Bhopas, priest-singers of the folk deities in Rajasthan carry and perform in front of a Phad using it as a portable temple. It is a narrative scroll painting tradition on which stories of their deities and heroes like Prithviraj Chauhan are painted in mostly red, yellow, and orange colors. Phad paintings depict battlefields, adventures, romance, etc. These paintings are very detailed and artists manage to accommodate many stories at once using every inch of the canvas. (Vivek 2022)

Tropical painting is a unique form of art that has been popular for centuries. This type of painting involves using fabric as the canvas and creating beautiful images of tropical landscapes, flora, and fauna. The use of bright colors and intricate details make these paintings stand out from other forms of art. One of the most notable features of fabric tropical painting is the use of different fabrics to create texture and depth in the artwork. Artists often use silk, cotton, or linen to create a layered effect that adds dimension to their paintings. The use of different fabrics also allows for a range of colors and patterns that can be used to create stunning works of art. Another important aspect of fabric tropical painting is the attention paid to detail. Artists spend hours carefully crafting each element in their paintings, from the individual leaves on a palm tree to the scales on a fish. This level of detail creates an immersive experience for viewers, transporting them into the lush world depicted in each piece. Overall, fabric tropical painting is a beautiful form of art that celebrates nature's beauty and diversity. Its unique style and attention to detail make it an enduring favorite among artists and collectors alike. (Jose 2021)

Tropical leaves are a symbol of the lush, vibrant beauty of the tropics. These leaves come in a variety of shapes and sizes, from the large and fan-like fronds of palm trees to the delicate, fern-like foliage of tropical flowers. They are often used in art and design to evoke a sense of exoticism and adventure. In addition to their aesthetic appeal, tropical leaves play an important role in the ecosystem. They provide shade for other plants and animals, help regulate temperature and humidity levels, and serve as food for many species. Unfortunately, many tropical forests are

being destroyed at an alarming rate due to deforestation for agriculture or logging. This destruction not only threatens the survival of countless plant and animal species but also contributes to climate change by releasing carbon dioxide into the atmosphere. It is important that we appreciate and protect these beautiful tropical leaves so that future generations can enjoy their beauty and benefits (Arika 2022)

Fabric painting and garment designing are two art forms that have been around for centuries. Fabric painting involves the use of various techniques to create designs on fabric, while garment designing is the process of creating clothing from scratch. The art of fabric painting has been practiced by many cultures throughout history. From the intricate batik designs of Indonesia to the bold block prints of India, fabric painting has been used to create beautiful and unique textiles. Today, artists continue to experiment with new techniques and materials to push the boundaries of what can be achieved through fabric painting. Garment designing, on the other hand, requires a deep understanding of fashion design principles and sewing techniques.(Semolina 2016)

A designer must not only be able to envision a garment but also bring it to life through careful pattern-making and construction. Both fabric painting and garment designing require creativity, skill, and patience. They offer endless possibilities for self-expression and allow individuals to showcase their unique style. Whether creating a one-of-a-kind piece or designing an entire collection, these art forms continue to inspire and captivate people around the world. (Manesntails 2017)

Since only few studies have been carried out on tropical design on garment designing the investigator decided to study on. Design and application of hand painted tropical designs on styling the garment following objective

- Conducted a survey on the selection of tropical designs for hand painting on garments.
- Styling the tropical design on the garment.
- selection of the fabric.
- Implementing tropical designs through hand painting on fabric.
- Construction of selected garments for hand-painted garments.

REVIEW OF LITERATURE

2. REVIEW OF LITERATURE

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2.7 TISSUE SILK FABRIC

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2.8.1 Classification Of Garments

2.9 STYLE

2.9.1 Different Types Of Style Of Garment

2.1 Design

All the design components, such as color, texture, space, lines, pattern silhouette, shape, proportion, balance, emphasis or focal point, rhythm, and harmony are combined to create design. Each of these enhances the garment's aesthetic appeal and psychological comfort. To enhance the wearer's figure, designers can use principles of illusion. (Reid 2022)

2.1.1 Principles of Design

The principles of design are a set of rules that design can follow when creating a composition to create visually pleasing work. The purpose of these rules is to deliver a message in the most organized functional way. (Meller *et.al*, 2002).

2.1.2 Types of principles of design

- Balance
- Unity
- Contrast
- Emphasis
- Pattern
- Rhythm
- Proportion
- Harmony

2.1.2.1 Balance

Design is easier to balance but can also boring. Asymmetrical design has different sides but equal visual weight. Being able to achieve balance in asymmetry can result in visually interesting design that has movement. Lack of balance would make design feel heavy on one side and empty on the opposite. Balance is the visual weight in design. Based on a central dividing line, Balance makes the right and left side of a garment appear to be equal. A garment must be balanced to be visually pleasing. (Wilson, 2004)

2.1.2.2 Unity

Unity is the harmony produced by all the elements in a design piece. For instance, using similar colors that match and integrate elements organically makes it appear as if they belong together and are not just put on a page. One example of unity design in garment is the classic Breton stripe shirt. The shirt features horizontal stripes in navy blue and white, with a boat neckline and three-quarter length sleeves. The stripes are consistent in width and spacing throughout the shirt, creating a sense of balance and harmony. (Laura, 2022)

2.1.2.3 Contrast

Contrast refers to the level of difference between design elements in order to create visual hierarchies. The variation makes certain elements stand out more than others. Contrast can be applied by using colors, texture, sizes and shapes. Example was the use of contrasting textures. A garment made from different fabrics with varying textures can create an interesting contrast that adds depth and dimension to the outfit. (David, 2016)

2.1.2.4 Emphasis

Emphasis is a strategy to get the viewer's attention to a specific design element. This can be in any form: a button, a website, or an image. The purpose is to create something that will stand out from the rest of the pages. The different elements can be used to highlight a specific part of design like lines, color, positive/negative relationships, and many more. Emphasis can be created by contrast and with elements of color. (Davis, 2015)

2.1.2.5 Pattern

Pattern is the repetition of more than one design element. While repetition focuses on a signal element being repeated, pattern refers to multiple elements repeated, pattern refers to multiple elements repeated throughout design (e.g., wallpapers and backgrounds). A seamless pattern is a repeated set of elements that flow without a flow to create a unit. Seamless patterns can be seen predominantly in interior design when using tiles. The use of pattern can enhance the viewer's experience and the look of a final design. The use of pleats in skirts or dresses. Pleats are created by folding fabric in a specific way to add volume and movement to the garment.

They can be used to create an A-line shape or add texture and interest to a plain fabric. (Shelley, 2020)

2.1.2.6 Rhythm

The spaces between repeating elements can cause a sense of rhythm to form, similar to the way the space between notes in a musical composition create a rhythm. There are five basic types of visual rhythm that designers can create: random, regular, alternating, flowing, and progressive. Random rhythms have no discernable pattern. Regular rhythms follow the same spacing between each element with no variation. Alternating rhythms follow a set pattern that repeats, but there is variation between the actual elements (such as a 1-2-3-1-2-3 pattern). Flowing rhythms follow bends and curves, similar to the way sand dunes undulate or waves flow. Progressive rhythms change as they go along, with each change adding to the previous iterations. An example layering different textures or fabrics to create a sense of depth and dimensionality. This can be achieved by pairing a chunky knit sweater with a silk skirt or adding a leather jacket over a flow dress. (Cameron, 2020)

2.1.2.7 Proportion

Proportion is the sense of unity created when all the elements in a composition relate well with each other. Proportion is mostly about scale and size when two elements are compared. For instance, in art and drawing, proportion is important for the elements to look realistic. Proportion doesn't necessarily refer to the size of one element but to the relationship of two or more elements. In the layout periphery, the proportion of the headline compared to the photo caption needs to be larger as the headline is the most important element. Smaller elements have less importance. A good sense of proportion in a composition, can add harmony and balance. One example of proportion in dress is the classic A-line skirt. This style has a fitted waistline that flares out gradually towards the hem, creating a balanced silhouette that accentuates the waist while skimming over hips and thighs. The length of an A-line skirt should hit at or just above the knee to maintain its proportion (Sumathi, 2002)

2.1.2.8 Harmony

Harmony is the sense of cohesiveness between the elements in a composition. The elements shouldn't be exactly the same or completely different but related in some way. Color palettes or similar textures can create harmony because they will seem related. Not enough or too much harmony can make a design dull; there needs to be some kind of variety for it to be visually interesting. One example of harmony in dress is wearing a monochromatic outfit. This means wearing different shades and tones of the same color from head to toe. For instance, pairing a light blue shirt with navy blue pants and finishing off with dark blue shoes creates a harmonious look. (Colussy *et.al.* 2007)

2.1.3 Elements of design

2.1.3.1 Introduction

Design process involves the combining of design components in varied ways to create new fabric. Elements of design are those components which the designers employ in all the form of art design. The design is those components which the designers employ in all form of art design, to the design of garment. Understanding of these elements and using them in different ways enables the designer to produce different art visual and effects (Sodhia, 2004)

2.1.3.2 Types of elements of design

- **Line**
- **Shape**
- **Texture**
- **Space**

2.1.3.2.1 Lines

Line is the most basic element of design, and is very important element of design. It is also defined as linear marks that can describe a shape. They are vertical, horizontal, or diagonal. (Darstaru, 2021). Line has different aspects including direction, thickness, sharpness of edge and length. It provides the visual dimensions of length and width. (Jacchi, 2021) **Figure -I**

2.1.3.2.2 Shape

Shape can also draw attention. Using a group of similar shapes and breaking the group with a different shape will create tension and draw the eyes. (Nedira, 2017) The two-dimensional line encloses an area and it is the element shape which is geometric or organic. Boundaries including lines and color ultimately define shapes and can also emphasize. (Morales, 2020)

Figure -II

2.1.3.2.3 Texture

Texture can be seen in materials to enhance the tactile features. For instance, a business card can have an emboss or relief on a logo to emphasize it. Digitally texture can be applied as a drop shadow on a button to appear three-dimensional. Texture is one of the elements of design that is used to represent how an object appears or feels. Tactile texture is a physical sense of touch, whether it's rough, smooth, or ribbed. Visual texture, on the other hand, refers to the imagined feel of the illustrated texture, which can create more visual interest and a heightened sensory experience. (Keung, 2022) **Figure -3**

2.1.3.2.4 Space

Space is also an option to emphasize certain elements in your design. Enough white space around an object can prioritize the focus on signal element. For instance, apple has a clean and direct idea of emphasizing products (Sodhia, 2004). The two-dimensional line encloses an area and it is the element shape which is geometric or organic. Boundaries including lines and color ultimately define shapes and can also emphasize. (Morales, 2020) **Figure-IV**



Figure-I

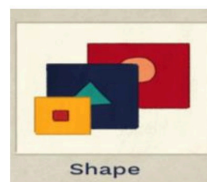


Figure-II

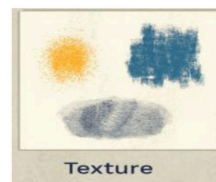


Figure-III

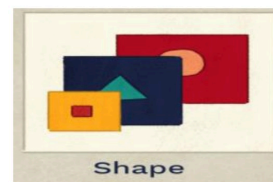


Figure-IV

2.1.4 Color

2.1.4.1 Introduction

A color wheel also referred to as a color circle is a visual representation of colors arranged according to their chromatic relationship. Begin a color wheel by positioning primary hues equidistant from one another, then create a bridge between primaries using secondary and tertiary color. (Narang, 2006) **Figure – V**

2.1.4.2 Primary colors

Red, yellow, and blue color at its basic essence; those colors that cannot be created by mixing others. The primary color is the foundation of the color wheel. They are called the primary colors because their true color pigments cannot be created by mixing any other combination of color and all the other colors in the color wheel are derived from these three hues. When painting it is important to have a true red, blue, and yellow to help you mix a variety of other colors. (Gorden, 2002) **Figure – VI**

2.1.4.3 Secondary colors

Violet, orange, and green colors achieved by a mixture of two primaries. Secondary colors are created by mixing equal parts of two primary colors together. (slhallman, 2008) **FIGURE – VII**

Red + Blue = violet

Red + yellow = orange

Blue + yellow = green

2.1.4.4 Tertiary color:

Blue-Violet, Red-Orange, Yellow-orange, Yellow-Green, and Blue-Green. Those colors achieved by a mixture of primary and secondary hues. In total, there are six tertiary colors. Tertiary colors are created by mixing equal parts of primary and secondary color together. (Parsons 2017)

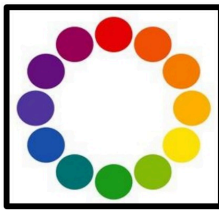


Figure –V

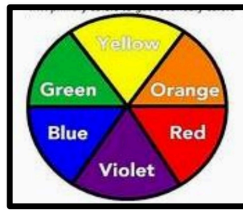


Figure –VI

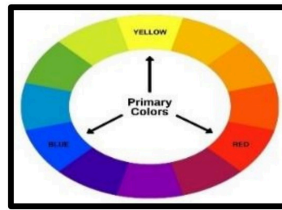


Figure – VII

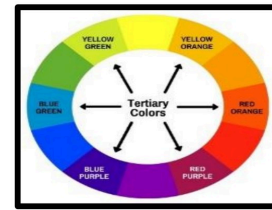


Figure –VIII

2.1.5 Classification of design

2.1.5.1 Structural Design

Structural design which includes the all over design of a garment. A specific size of dress is expressed by some lines. Each clothes has a specific size and measurement for express the design. Form, shape, color, texture and line involved in assembling the sections of the garment such as dart manipulation techniques, pleats, tucks, layers, yokes, plackets, pockets frills, flounces, gathers, bows, fasteners etc. Structural design details in a dress include collar, sleeves, yokes, pockets, skirts, position of seam lines etc. In weaving, different kinds of weave design is use as an example of structural design. The designers in the buying house do these designs.

- Silhouette (Straight, Bell, Bustle Silhouette)
- Lines (Straight and Curved Lines)
- Colors (Warm and Cold Colors)
- Textures (Smooth, Stiff, Rough and Shiny)

In present day different structural fashion design styles were more popular in the world. Most of the famous fashion designers started to create new structural fashion style for runway to show their creativity. (Mazharul 2021)

2.1.5.2 Decorative Design

Decorative design refers to the surface enrichment of structural design. For the purpose of adding a richer quality, any line, color of materials that has been applied on structural design is called decorative design. Decorative design is drawn by the beginner fashion designer as well as the boutique designers. These drawn will be draped over it. When the design is accepted by the management or senior designer, then they will select the garment that is designed. For these

designs the fabric style and color combinations are selected and a sample for approval is made. It is the design and outfit made for an individual customer. Structural designs are more permanent better quality and expensive; and more durable than decorative designs. (Jahanara, 2020)

2.1.5.3 Types of Decorative Design

There are 5 types of decorative design.

- 1.** Naturalistic
- 2.** Conventional
- 3.** Abstract
- 4.** Historic
- 5.** Geometric

2.1.6 CAD

Computer-aided design (CAD) is defined as the process of digitally creating design simulations of real-world goods and products in 2D or 3D, complete with scale, precision, and physics properties, to optimize and perfect the design – often in a collaborative manner – before manufacturing. This article explains how CAD works, its types, software, and use cases. (Chiradeep, 2022)

2.1.6.1 CAD Software/Tools

A number of CAD tools exist to assist designers and engineers. Some CAD tools are tailored to fit specific use cases and industries, such as industrial design or architecture. Other CAD software tools can be used to support a variety of industries and project types. Some widely-used CAD tools are

- Micro Station
- Auto CAD
- Corel CAD
- Iron CAD
- CAD Talk
- Solid Works

- On shape
- Catia
- LibreCAD
- Opens CAD
- Vector works
- Solid Edge
- Altium Designer (Wesley 2020)

2.1.6.2 Flat Sketch

A flat sketch is a two-dimensional technical drawing that illustrates a garment with basic solid lines. It's like a "blueprint" of your fashion design much like an architect's blueprint for a house before they can begin to construct it. A flat sketch, also called flat drawing and technical flat in the fashion industry, is a technical drawing of a garment as if it were laid flat to show the design details like seams and stitching. It is a black and white CAD (or computer-aided design) drawing that serves as a guide for drafting the pattern design, and is prepared at the beginning of the development stage. (Sayam, 2021)

2.1.6.3 Fashion Illustrations

In general terms, fashion illustration is defined as the art of drawing clothing (or maybe accessories, like handbags or shoes), either on its own or on a figure. Some fashion illustrators use digital compositions, while others follow traditional mediums, such as pencil, pen, watercolor, or marker. However, within that definition, fashion art illustrations can be seen very different from artist to artist, based on persons interests or skills. Fashion Illustrators are professionals who expertise in the art of sketching and drawing fashion ideas, concepts, designs, which helps to visualization of a garment. Fashion industry is very huge but specializing as a fashion illustrator is a rare and unique combination which will have more value when added with graduations and expertise certificates. In simple words, fashion sketching is an art via which fashion and design can be explained, demonstrated, and communicated. (Shubham, 2022)

2.1.6.4 Difference between fashion flat sketches and fashion illustration

A fashion illustration is an interpretation of your idea that captures the mood, proportion, and color of your design. The technical sketch, on the other hand, aids in translating the garment into something "universal" that a whole team of people can understand and work on. Fashion flats must include technical design details like stitching, while fashion illustration doesn't have to include any. Very often, the fashion illustration is drawn by a fashion designer. Then, a technical designer draws a technical fashion flat based on the illustration. (Oleksandra, 2022)

2.2 TROPICAL DESIGN

The tropical evergreen forest in India is essential to the wildlife ecosystem, which is known for providing natural habitat to many species of birds, animals, and insects, particularly endangered species such as owls, hawks, cardinals, and mammals such as possums, raccoons, deer, and others. There are also several trees and medicinal herbs found only in the tropical evergreen forest. The tropical evergreen forests of India can be found along the Western Ghats, the greater Assam region in the northeast, the Andaman and Nicobar Islands, and the peninsular Indian coastline. The tropical evergreen forests of India, their characteristics, the animal and plant species found in these forests. (Manishsi, 2022)

2.2.1 Tropical Seasonal Forests

A tropical seasonal forest is found in areas with a long dry season. During the dry season, there is some defoliation, the extent of which is determined by the severity of the moisture shortage. The forest's structure is also simpler than that of the rainforest, with fewer tree strata and fewer luxuriant climbing and herbaceous plant growths. Only some tree species drop some or all of their leaves during the dry season, which is a distinguishing feature of seasonal tropical forests. Moist deciduous, semi-evergreen seasonal, tropical mixed, or monsoon forests are other names for them. (Patil, 2023)

2.2.2 History of Tropical Forest

Tropical rainforests represent the oldest major vegetation type still present on the terrestrial Earth. Like all vegetation, however, that of the rainforest continues to evolve and

change, so modern tropical rainforests are not identical with rainforests of the geologic past. The vegetation types that evolved were the first tropical rainforests, which blanketed most of Earth's land surfaces at that time. Only later during the middle of the Paleogene Period, about 40 million years ago did cooler, drier climates develop, leading to the development across large areas of other vegetation types. (Jeremy, 2023)

2.2.3 Tropical leaves

Tropical leaves are a symbol of the lush and vibrant beauty of the tropics. These leaves come in a variety of shapes, sizes, and colors, each with its unique characteristics that make them stand out from other plants. From the large and majestic banana leaf to the delicate fronds of ferns, tropical leaves have captured the imagination of artists, poets, and nature lovers for centuries. The tropical climate provides an ideal environment for these plants to thrive. The warm temperatures and high humidity levels allow them to grow to their full potential, producing large and healthy leaves that provide shade and shelter for other creatures. Tropical leaves also have many practical uses beyond their aesthetic appeal. They are used in traditional medicine as natural remedies for various ailments. They can also be used as food wrappers or plates in some cultures. (Max, 2021)

2.2.3.1 Types Of Tropical Leaves

- Split Leaf Philodendron
- Banana Leaf
- Areca Palm
- Fancy-leafed caladium
- Bird of Paradise Leaf
- Fan Palm
- Royal Fern
- Chinese Evergreens
- Dwarf Schefflera
- Plumeria Leaf
- Rubber Fig Tree Leaf

2.2.4 Tropical Birds

Tropical birds are a fascinating group of animals that have captured the imagination of people for centuries. These birds are known for their bright colors, unique shapes, and beautiful songs. They can be found in a variety of habitats including rainforests, savannas, and coastal regions. One of the most iconic tropical birds is the toucan. With its large bill and colorful feathers, it is instantly recognizable. Toucans are important seed dispersers in their native habitats and play an important role in maintaining the health of these ecosystems. Another popular tropical bird is the parrot. These intelligent birds are known for their ability to mimic human speech and have become popular pets around the world. However, many species of parrots are endangered due to habitat loss and illegal trade. Overall, tropical birds are an important part of our natural world and deserve our protection. By preserving their habitats and reducing illegal trade, one can ensure that future generations will be able to enjoy these beautiful creatures for years to come. (Lex 2022) **Figure – IX**



Figure - IX

2.2.5 Tropical flowers:

When it comes to tropical flowers, they are the native plants, blooms, and species of the tropics. Because of their breathtaking smells in addition to their fascinating beauty and charm, they take an important place in the heart of people who love flowers and take care of them. Tropical flowers are so healthy; according to a scientific study, those plants help people to concentrate at home and at the workplace too; they filter the ambient air, reduce the level of

stress, and even absorb noises. Some doctors advise their patients to spend a few hours interacting with tropical flowers because it is so good for memory performance and attention spans. They are also beneficial for mental anguish and fatigue. (Thursd, 2023)

2.2.5.1 Types of Tropical Flowers

- Giant Water Lily, *Victoria Amazonica*.
- Heliconia, *Heliconia latispatha*.
- Cacao, *Theobroma cacao*.
- Passion flower, *Passiflora edulis*.
- Coffee Plant, *Coffea arabica*.
- Monkey Brush Vines, *Combretum rotundifolium*.
- Orchid, *Orchidaceae*.

2.3 Paintings

2.3.1 Introduction

Painting, the expression of ideas and emotions, with the creation of certain aesthetic qualities, in a two-dimensional visual language. The elements of this language its shapes, lines, colours, tones, and textures are used in various ways to produce sensations of volume, space, movement, and light on a flat surface. These elements are combined into expressive patterns in order to represent real or supernatural phenomena, to interpret a narrative theme, or to create wholly abstract visual relationships. An artist's decision to use a particular medium, such as tempera, fresco, oil, acrylic, water color or other water-based paints, ink, gouache, encaustic, or casein, as well as the choice of a particular form, such as mural, easel, panel, miniature, manuscript illumination, scroll, screen or fan, panorama, or any of a variety of modern forms, is based on the sensuous qualities and the expressive possibilities and limitations of those options. The choices of the medium and the form, as well as the artist's own technique, combine to realize a unique visual image. (Peter, 2015)

2.3.2 History of Painting

Paintings of the olden times are believed to be made by primitive people, mostly cave dwellers in the prehistoric era. These people would sculpt and paint on the walls, making symbols that were used to represent the language of those times, and this is how they would communicate with each other. It is believed that our early African ancestors began painting to communicate among themselves and leave a sign for future generations. Due to these enhancements in humans, it is said that this ability was the greatest innovation among humans and not tools and weapons. The first humans would blast charcoal dust onto their own hands that were placed on the cave walls using tubes made out of wood. This created a revelation among the early humans and ignited the cognitive abilities of painting among them, due to which they began to paint even more complicated variations of animals and human activities. Among these paintings, the most common was the painting of huge animals like mammoths and bison, or activities like farming and hunting of these animals. (Pathak, 2022)

2.3.3 Types of painting

- Realism
- Photorealism
- Expressionism
- Abstract
- Surrealism
- Pop art
- Impressionism

2.3.4 TYPES OF PAINTING MEDIUMS

2.3.4. Oil

Oil paintings are one of the oldest forms of painting and remain one of the most popular painting medium types to this day. When painting in oils it's easy to blend colours, but can be difficult to erase mistakes meaning it can be a difficult medium to master. Some of the world's most famous paintings were painted in oils, with portraits being a particular speciality of many artists who work in this medium. (Teresa, 2003)

2.3.4.2 Water colour

Water color paints tend to be inexpensive to purchase but, similar to oil paints, difficult to master. Paints are diluted with water meaning they can go a long way from a single tube, but once the paints are on the canvas there is little that can be done to correct mistakes. Water color paintings work beautifully with light and are often used to paint landscapes. (Anthony, 2022)

2.3.4.3 Acrylic

Acrylic is a relatively new painting medium dating back to 1940. It dries quickly, is versatile, and can be very durable. If one make a mistake using acrylic paints it can even be scraped off if done quickly. Many pop artists used acrylic in their works. (Ivana, 2018)

2.3.4.4 Gouache

Gouache is a form of water color which has been modified to be opaque which differentiates it from more traditional water color paints. As a painting medium, it dries quickly and dries to a slightly different color than when it was wet. Many commercial artists work in gouache, as it is vibrant and can block out colours quickly. (Frank, 2010)

2.3.4.5 Pastel

Pastels differ from many of the other types of painting art mediums in some key ways. Most pastels come in the form of a stick of powdered pigment which is then pressed onto the canvas to apply the color, with several different varieties available. When using pastels you'll get strong colours that are close to the natural pigmentation inside the pastel, and with few barriers to creating art, it's possible to get a canvas and some pastels and get creating quickly. (Margot, 2009)

2.3.4.6 Spray Paint

Spray paint, or aerosol paint, is a modern form of painting and has become associated with street art or graffiti. The paint is held in a sealed can and released in an aerosol spray, allowing smooth, even coats to be applied to a surface. This makes it ideal when speed is of the essence and allows large areas to be painted in one sitting. (Alan, 2012)

2.3.4.7 Digital

Lastly, the modern age has brought us a new medium of painting, in digital format. Using digital painting tools which include virtual brushes of different sizes and textures as well as a range of colours that would be difficult to procure in reality, digital artists are able to create paintings that can push the boundaries of their imagination. Digital painting has swiftly become a

painting medium all by it, as digital artists continue to explore what's possible with this new medium. (Nadia, 2022)

2.3.5 TYPES OF PAINTING SUBJECTS

2.3.5.1 History Painting

These focus on a representation of a particular historical, religious, or allegorical event. As such, a moral message is usually a key component of the painting. (Alexandra, 2018)

2.3.5.2 Portrait Art

Portrait art uses people as its subjects. The most commonly known type of portrait art focuses on a single person, but group or self-portraits are also classified under this type of painting subject. (Beth, 2019)

2.3.5.3 Genre Painting

A genre painting has an everyday scene as its subject. This differs from landscape painting as in genre painting it is the representation of life itself which is the subject. Examples may include workers going about their day or a banquet being held, what is important is the scene itself, not the individuals who make up the scene. (Patina, 2016)

2.3.5.4 Landscape Painting

Landscape paintings are one of the most popular and enduring types of subject, focusing on a natural scene. Most landscape paintings aim for a sense of realism, focusing on things like the light shining through clouds or reflecting off the water. (Syash, 2019)

2.3.5.5 Still Life Painting

A still life painting looks at every day or domestic objects and aims to accurately represent them. This can be used as a way to practice painting techniques, such as the way colours change as light and shadow drape across an object. (Claire, 2022)

2.4 Tools for painting

2.4.1 Brush

The art of painting is like a magic where one will be able to explore the world beyond imagination and get to play with colors you might have never even seen before. The painting brushes come in varying sizes and shapes with different bristles. Each of these is used for

different purposes and gives details to the painting in their own unique ways. Choosing the painting brush depends upon what kind of details and strokes one want in painting. (Shilpi, 2022)

2.4.1.1 Various kinds of Paint Brushes

- **Round Brushes** are the most adaptable kind of brush because one can do so many things with them! This type of brush is great for washes, covering large areas quickly, and lines of all sizes.
- **Liner Brushes** are best friend when it comes to fine details and small areas! These have smaller and longer bristles for small, crisp lines.
- **Fan Brushes** are great for unique textures and special effects, making it easy to create multiple lines or dots at once.
- **Angled Brushes** are best used for making clean lines. If it is have an edge that's close to another object or if one want a crisp, straight line, they can use this kind of brush
- **Needle pointed brush** It is a new kind on the block and quite quirky looking as well, characterized by a round body with a long liner, which extends through the end.
- **Liner brush** The thin and sleek nature of liner brushes is what makes them perfect for thin strokes, for lettering art, detailing, and delicate strokes that are continuous and it acts as the perfect tool for adding words, signatures, numbers, and for adding fine details to a piece of artwork
- **Round brushes** are the ones that are characterized by a round ferrule, where the hair tips are rounded or, in some cases, have a pointed tip. These brushes are usually much smaller than the angled and flat brushes and have a soft, rounded edge.(Trupti, 2022)

2.4.2 Pencil

A pencil (also called: graphite pencil) is a writing utensil with a graphite lead embedded in a wooden shaft. It is mainly used for artistic sketching and drawing, for stenography or notes. Its benefits are the simple usage as well as being able to remove what have been drawn with an eraser.(Silka,2016)

2.4.3 Paint

Paint is a mixture of a binder, solvent, and pigment that is applied to surfaces to protect them, add color or texture, and provide a decorative finish. (Bhushan, 2016)

2.5 Hand painting

Hand painting is an art form that has been around for centuries. It involves using a brush or other tool to apply paint directly onto a surface, such as canvas, paper, or even walls. This technique allows the artist to create unique and intricate designs that cannot be replicated by any other means. One of the most notable aspects of hand painting is the level of detail that can be achieved. Unlike other forms of art, such as photography or digital design, hand painting requires a great deal of patience and skill to produce a finished product.

The artist must carefully consider every stroke and color choice in order to create a cohesive and visually appealing piece. Another benefit of hand painting is its versatility. It can be used to create everything from realistic portraits to abstract landscapes, making it an ideal medium for artists who want to explore different styles and techniques. Overall, hand painting remains a popular art form today because of its beauty, complexity, and ability to capture the imagination of both artists and viewers alike. (Bernard, 2022)

2.5.1 History of Hand Painting

Human being the incredibly expressive and creative species, it is no surprise that have been creating art for as long as we have known how to, or at least for as long as we have had the resources to actually create art. Fabric painting, both as an art form as a type of symbolism, showing various messages, giving status to royals and people of power, etc., has been around since at least 3000 B.C, the earliest date at which printing blocks have been discovered in various parts of the ancient world. Using these blocks, weavers and artisans used minerals and colours created from plants and animals to leave printed patterns and symbols on fabrics, which were then sold or given as gifts to elders and affluent members of society. By 300 B.C, painted fabrics were common among even regular people in India, and would soon become popular around the world. One of the most common uses of fabric paint was for the creation of house flags which

were carried into battle to show which families were being represented. The patterns and colours used were personalized to each family or city, and were later used to brand clothing and all kinds of possessions, and even weapon sheathes and homes.

By around 1000 B.C, a form of fabric painting called Kalamkari, literally meaning ‘pen work’ was developed in India, and made use of brushes made from animal hair, sticks and bamboo shoots to draw patterns on cloths. While cotton sheets were most commonly used, as they allow the paint to be absorbed easier, later examples of silk painting has been found, obviously from after the artists found ways of making it hold the paint properly. By around 200 A.D, as painted fabrics were traded and sold to other societies as the world started to expand and explorers began discovering new worlds, different techniques started forming in countries such as China and Japan, who commonly used stencils and resists in order to create even more detailed patterns in a shorter time than it would take if done completely by hand. These techniques, while they have obviously changed over the last 19 centuries, remain commonly used to this day. We make use of much more advanced tools and paints, which allow us to both, make fabric art that lasts a long time, while increasing the variety of colours we are able to make use of in painting. (Wesley 2014)

2.5.2 Classification of Hand Painting

2.5.2.1 Freehand painting

Freehand fabric painting is a great way to make borders – some simple vines drawn freehand added with flowers interspersed in between make a good border design. Simple know-how of shading techniques can give your design some depth. Dark shades first. Back ground images first. Light shades where the light falls. Follow some of these basic rules in shading with fabric painting Layer the design with more and lighter shading giving the picture some detailing and dimension. (Yaohua 2014) **Figure – X**

2.5.2.2 Dot painting

Dot art is a style of painting created by the dotting of paint, rather than brush strokes. The dots are traditionally applied with a stick, but various instruments can be used to create this form

of art. This technique crafts an image that seems to leap off the page and come to life, forming an optical illusion. Artists have adapted their own signature styles, ranging from the traditional form of individual dots through to connecting dots for a dabbed effect. (Linda 2022) **Figure – XI**

2.5.2.3 Madhubani Art

The origin of Madhubani painting is Mithila, a small village in the state of Bihar. The fabric designs made using this style of painting are very colourful and detailed. There are many tools used in Madhubani like fingers, nib-pens, brushes, twigs and matchsticks. This painting style uses pigments and natural dyes as its components. The one factor which sets Madhubani painting apart from all others is the geometrical shapes used in its creation. In Mithila village, even today this art form is passed from one generation to another like a tradition. This art form is not only about creation of clothes but is also used to make wall hangings and other decorative items for homes. In Madhubani paintings, no part of the canvas is left empty. Also, the shapes and designs used are said to have been existing since the time of ‘Ramayana’. (Misha 2021)

Figure – XII

2.5.2.4 Kalamkari Hand Painting

The history of Kalamkari hand paintings is 300 years old. This is why it is considered to be an ancient block-painted and hand-painted technique. This art form originated in the South Indian states of Andhra Pradesh and Telangana. Apart from India, another city in Iran known as Isfahan was the originator of Kalamkari painting. The foundation of Kalamkari painting is derived from Srikalahasti style. In this style, a ‘kalam’ or pen is used to draw designs with a free-hand. There are many steps involved in the making of Kalamkari fabric design before getting the final output like hand printing and resist-dyeing among others.

To create a beautiful Kalamkari painting, the art form is done using a gold brocade and it is worked on woven fabric. When Raja Shivaji and Raja Serfoji ruled their kingdoms, dhotis and sarees were made using Kalamkari painting art form for the royal family. Using this style of Indian hand painting, one can create many types of clothes like skirts, peplum tops, jeans, shrugs, short dresses for adults and many other customized garments for kids. Accessories like jewellery

and sling bags can be created using this hand painting technique. Kalamkari painting, can be used in cushion covers and tablemate. (Bibhudutta et.al.2018) **Figure – XIII**

2.5.2.5 Warli Art

Warli is an art form which was started by the tribal people living in the North Sahyadri Range of Maharashtra. The range consists of many towns from Palghar district like Jahwar, Talasari, Mokhada, Vikramgad and Dahanu. It is a tribal style of painting which shows the culture, traditions and lives of their own people on a daily basis. This Maharashtrian folk art is being loved a lot lately because of its local essence. In the beginning, the colour used to create Warli paintings was a mix of rice water and gum. This form of art was usually done to create wall paintings using a brown background.

Today, not only wall paintings but Warli art is used to make jewellery, garments, bags and many other accessories. The most loved and popular fabric design among all Warli patterns is a chain of people around one motif. It was basically to show the unity of their people, especially during festivals and special occasions. Using this art form, now one can create many kinds of designs on garments like skirt, bandana, kurta and dupatta. Apart from garments, you can design a stationery pouch, tunic for kids and wall hangings too. (Kala, 2021) **Figure – XIV**

2.5.2.6 Gond Painting

Mapping lineage is the most problematic area in folk and tribal arts because of limited availability of archival resources or objects, the inherent impermanence of the materials and methods involved in the creative process. The historical evolution of ‘Gond’, or Pardhan painting or ‘Jangarh kalam,’ has to be understood in this background. A community of around four million people spread all over central India, Gonds have a recorded history of 1400 years. The word ‘Gond’ comes from the Dravidian expression ‘Kond’ which means ‘green mountain’. Pictorial art on walls and floors has been part of the domestic life of Gonds, especially among Pardhans since it is done with the construction and re- construction of each and every house, with local colors and materials like charcoal, coloured soil, plant sap, leaves, cow dung, lime stone powder, etc. The images are tattoos or minimalist human and animal forms. In course of time, the diminution of agricultural life and social patronage has tended to reduce the Pardhans to a state of manual labor. (Lalit, 2021) **Figure – XV**

2.5.2.7 Pithoro Painting

Painted by Rathva Bhils of the Panchmahal region in Gujarat and Jhabua in the neighbouring State of Madhya Pradesh, these paintings are done on the walls of houses to mark special or thanksgiving occasions. These are large wall paintings, representing rows of numerous and magnificently coloured deities depicted as horse riders. The rows of horse rider deities represent the cosmography of the Rathvas. The uppermost section with riders represents the world of gods, heavenly bodies and mythical creatures. An ornate wavy line separates this section from the lower region, where the wedding procession of Pithoro is depicted with minor deities, kings, goddess of destiny, an archetypal farmer, domestic animals, and so on, which represent the earth. Pata painting Done on fabric, palm leaf or paper, scroll painting is another example of art form practised in different parts of the country, especially, Gujarat and Rajasthan in the West and Odisha and West Bengal in East. It is also known as Pata, Pachedi, Phad, etc.

Bengal patas comprise the practice of painting on cloth (pata) and storytelling in regions of West Bengal. It is the most receptive oral tradition, constantly seeking new themes and formulating novel responses to major incidents in the world. The vertically painted pata becomes a prop used by a patua (performer) for performance. Patuas, also called chitrakars, belong to communities largely settled around Midnapore, Birbhum and Bankura regions of West Bengal, parts of Bihar and Jharkhand. Handling the pata is their hereditary profession. They travel around villages, displaying the paintings and singing the narratives that are painted. Performances happen in common spaces of the village. The patua narrates three to four stories each time. After the performance, the patua is given alms or gift in cash or kind. Puri patas or paintings evidently acquire their claim to recognition from the temple city of Puri in Odisha. It largely comprises the pata (initially, done on palm leaf and cloth but now done on paper as well. (Misha,2021) **Figure – XVI**

2.5.2.8 Phads of Rajasthan

Phad painting or Phad art form is an Indian folk painting art form practiced mainly in the state of Rajasthan in India. This art style is a religious scroll painting style. It got its name from the long piece of cloth or scroll it is painted on .This long piece of scroll is called a Phad. This art form is over 700 years old. It was originated by the Joshi family in Shahpura, near Bhilwara

district in Rajasthan. These paintings have been passed on for generations in their family. They are the traditional artists of this art form. These Phads most popularly portray and depict the tales of local gods or folk deities of Rajasthan, Pabuji (folk deity), and Devnarayan (folk deity; an incarnation of Vishnu). The Phad style of painting is a mix of Rajput as well as Mughal style of painting. The lengths of the phads of Pabuji are around 15 feet and of the phads of Devnarayan are around 30 feet. These Phads were used as traveling and portable temples of the local and Hindu folk deities. They were carried along by the Bhopas, the priest-singers of the Rebari tribe in Rajasthan. They are traditionally kept rolled while in transit. The Bhopas carry them and perform in front of them in villages or towns and public places. They use it as a mobile temple and perform especially during times of illness and misfortune. The Bhopas would unfold the Phad paintings after sunset and narrate the stories of the epics and the deities throughout the night in the jagarans. The performance would come to an end only in the early morning. (Pari, 2018) **Figure – XVII**



Figure – X

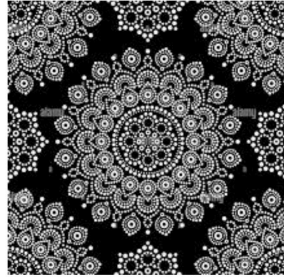


Figure – XI



Figure – XII



Figure – XIII



Figure – XIV



Figure – XV

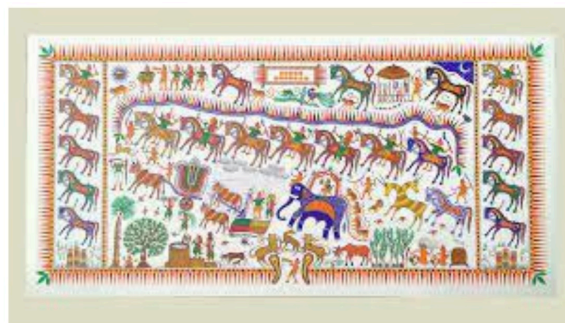


Figure – XVI



Figure – XVII

2.6 Cotton Fabric

The people of ancient china. Egypt, India, used Cotton cloths. The naturally colored cotton were used extensively because it had the properties such as pleasing appearance, comfort, easy care, moderate cost and durability. It is used for the manufacture of garments like warm-weather apparel, active wear. work clothes, upholstery, draperies, rugs, towels and bedding. It is also a major component for the blended fabric

2.6.1 History of cotton

The word cotton is derived from 'quton', which means a plant that grown in a conquered land. Mexico found bits of cotton balls and pieces of cotton cloth that proved to be at least 7000 years old (Sekhri 2016) In the Indus River Valley. cotton was grown, spun and woven into cloth 3000 years BC. At the same time, the Egypt's Nile valley were making and wearing cotton cloth. The Greeks and Arabs were not familiar with cotton until the wars of the alexander the great. Arab merchants brought cotton cloth to Europe about 800 AD by 1500 AD to cotton were known generally in the world. t is generally believed that the cottonseeds are planted in Florida in 1556 and in Virginia in 1607. In the Indian sub-continent, it is actually referred as the 'tree cotton', gossypium arboretum. (Fuller, 2008)

Cotton was first pun by machinery in England in 1730.The industrial revolution in the England and the invention of the coton gin in U.S paved the way for the important place cotton holds in the world today. Eli Whitney, a native of Massachusetts secured a patent on the cotton gin in 1793; though the first cotton gin had been built by a mechanist named Noah Homes. The gin made it possible to supply large quantities of cotton fiber to the fast growing textile industry. Today cotton fields extend across the to southern United States

2.6.2 Importance of cotton

- Cotton is a part of our daily lives .Toady, the world uses more cotton than any other fiber, and cotton is a leading cash crop in the U.S.at the farm level alone, the a production of each year's crop. which involves the purchase of more than 5.3 billion worth of suppliers and services. This stimulates business activities for factories and enterprises throughout the country process and handling of cotton after it leaves the farm generates even more business activity.(Maxwell, 2018)

- Cotton has hundreds of uses, from soft cotton towel in the morning to bed sheets at night. All parts of cotton plant are useful. The most important is the fiber or lint, which is used for making the cotton cloth. The linters are used in the production of padding mattress, furniture and automobile cushions. The cottonseed is crushed into here products like oil, meal, and hulls. The oil was used for the cooking purpose and salad dressing. The meals and hulls are used in livestock, poultry, fish feed, and fertilizer. The stalks and leaves of the cotton plant are used to enrich the soil. (Thomas, 2006)

2.6.3 Types of cotton

There are different types of cotton, which are grown in in various part of the world. It has small variations in their characteristics it is due to the factors like growing conditions like climate, soil, fertilizers and pests. The quality of the cotton depends upon the color (degree of whiteness), length, fineness and strength. The commercially grown species of cotton are:

- **Gossypium hirsutum**

Upland cotton, native to Central America, Mexico, the Caribbean, and south Florida
(90% of world production)

- **Gossypium barbadense**

It is known as extra-long staple cotton, native to tropical South America (8% of world to production).

- **Gossypium arboretum**

Tree cotton, native to India and Pakistan (less than 2%).

- **Gossypium herbaceum**

Levant cotton, native to southern Africa and the Arabian Peninsula (less than 2%).(Naik.2013).

2.6.4 Characteristics of Cotton

Cotton has a number of distinguishing characteristics that make it such a popular fiber in the textile industry.

- **Softness.** The cotton plant is soft and fluffy and results in a fabric often retains that soft feel.
- **Durability.** The cotton plant's cellular structure is strong, creating a tough and wear-and-tear resistant fabric.
- **Absorbency.** Cotton fabric is very absorbent fabric because there is a lot of space between the cotton fibers.
- **Holds dye well.** Due to its absorbent nature, cotton takes dye very easily and can be made into a wide variety of colors.
- **Breathability.** The fiber structure of cotton makes it more breathable than synthetic fibers.
- **No static cling.** Cotton does not conduct electricity, therefore static is not an issue with cotton. (Mazharul, 2016)

2.6.5 Physical properties of cotton fiber

- **Length and width**

Cotton is the shortest natural fiber used in commercially in the textile industry ranging from 0.5-2.5 inches in length. The width of typical cotton fiber may vary between 12 to 20 microns.

- **Shape**

A typical matured raw cotton fiber looks like a flattened tube and the cross section are oval or kidney shape.

- **Strength**

Cotton is a moderately strong fiber. Tenacity of cotton fiber is 26.5-44 CN/Text and extension at break is about 8-10%.

- **Elasticity**

Cotton is relatively less elastic fiber. At 2% extension it has an elastic recovery of 74% at 5% extension the elastic recovery is only 45%.

- **Porosity**

Cotton fiber is somewhat porous and consequently it absorbs moisture readily.

- **Moisture regains**

Cotton has a moisture regain of 8.5%. At 100% humidity, cotton has an absorbency of 25-27%.

- **Color**

Normally the color of cotton is creamy white.

- **Handle**

Cotton is naturally very soft and comfortable that is why it is particularly favored for garments that get close to the skin.

- **Luster**

Cotton fibers have a natural luster which is due to the natural polish on the surface and it's nearly circular cross sectional shape. (Mohammadh 2013)

2.6.6 Chemical Properties

- **Effects of alkalis**

These fibres are resistant to alkalis and are comparatively unaffected by normal laundering. The resistance is because of the lack of attraction between the cotton polymers and alkalis.

- **Effect of Acids**

Cotton fibres are weakened and destroyed by acids. Acids hydrolyze the cotton polymer at the glycosidic oxygen atom which connects the two glucose units to form the cellobiose unit. Mineral acids being stronger than organic acids will hydrolyse the cotton polymer more quickly.

- **Effect of Bleaches**

The most common bleaches used on cotton textile materials are sodium hypochlorite and sodium perborate. They are: oxidizing bleaches and bleach because of the oxygen liberated from them.

- **Effect of Sunlight and weather**

The ultra-violet rays of sunlight provide photo chemical energy whilst the infra-red rays provide heat energy essential to degrade the cotton polymers in the presence of atmospheric oxygen, moisture and air pollutants. The breakdown of polymers takes place through diverse hydrolysis reactions. The beginning degradation is noticed as a slight fibre discoloration. Fading of colored cotton textile is partially because the breakdown of the dye molecules in the fibre's polymer system.

- **Color Fastness**

Cotton is easy to dye and print. The classes of dye which may be used to color cotton are azoic, direct, reactive, sulphur and vat dyes. The polar polymer system easily attracts any polar dye molecules into the polar system. Therefore, dye molecules which can be dispersed in water will be absorbed by the polymer system of cotton.

- **Mildew**

Cotton is damaged by fungi. Heat and dampness support the growth of mildew. The fungi produce a chemical compound which has the power of changing cellulose to glucose. The fungi feed on the molecules of sugar: Cotton treated with acrylo nitrite is resistant to mildew.

- **Insects**

Moths and beetles do not change cotton. Silver fish will eat cotton cellulose especially if heavily starched. (Gupta, 2005)

2.6.7 Uses Of Cotton

- Cotton has high value due to aesthetics and it has pleasant texture and different look. maximum comfort under extreme heat and consumers humidity.
- It offers comfort, good heat and electrical conductivity prefer due to its It has non-allergic properties so is suitable for sensitive skin.
- It is very important for interior designing because of its versatility. natural comfort, and easy finishing and dyeing (Wegier, 2016)
- Approximately 50% of cotton is used in apparel industry and 6% for is furnishings and 9% for the industrial products
- Cotton upholstery fabric is more attractive and durable, comfortable easy to spot clean and retain their appearance well
- Technical uses which include abrasives, book bindings, luggage and handbags, shoes and slippers, tobacco cloth, and woven wiping cloths
- It is widely used in hospitals for making medical, surgical and sanitary products because of its high absorbency, wash ability, and low static buildup. (Kadolph, 2013)

2.7 Tissue Silk Fabric

Silk or man-made fibers are used to create the delicate fabric known as "tissue fabric." They are distinguished by the use of golden or silver threads in the weaving process. Katan Silk, Cotton, or Kora Silk are the three types of warp that are most often used. The final combinations have a gloss on the cloth, but each one has a very different feel to it. It is made in many bright colors, and the finished products are used to make sarees and other clothes for women. Kota tissue and Uppada tissue are the forms of tissue fabric that are the most well-known.(Rayn 2021)

2.7.1 Characteristics of tissue silk fabric

1. Thin and airy fabric
2. Very soft and light
3. Translucent and gossamer
4. It has a rich and coarse texture
5. It gives a cool comfort feeling
6. It is light and easy to wear (Shikha 2022)

2.8 Garment

A Garment is a piece of clothing, made of fabrics or textiles for wearing the human body and for human beautified reasons. Fabrics are cut in a pattern as per human body shape and then sew parts by part. After sewing, a few labeling, ironing, and other decorative process make a complete garment. Garments are the plural form of garment word, its synonym is "*Apparel*" also used in many countries, especially in America. Garments are also known as Clothing; so Apparel, Garments, and clothing meaning are almost similar. If you ask me, what does it mean by garment, I will tell you a garment is what you wear. A garments manufacturing industry that has all sections of cutting, sewing, and finishing. These 3 sections are key to producing garments though there are also a few other supporting sections or departments. The definition of garments/ Apparel or clothing is, anything we wear to beautify, protect or wrap our human body. In one word, a garment is what we wear. Examples of Garments are shirts, pants, T-shirts, jackets, etc. (Kiron 2021)

2.8.1 Classification of Garments

2.8.1.1 Woven Woven garments are made from woven fabric. Woven Garments Example: Shirt, pants, blazer, etc.

2.8.1.2 Knit: Knit garments are made from Knit fabric. Knit Garments are Knitted sweaters, T-shirts, Polo shirts, jerseys, pullovers, Polo, cardigans, trousers, etc.

2.8.1.3 Non-woven: Non-woven garments are made from non-woven fabric. Nonwoven garments Example: Diapers, Floor Duster Cloths, Carpet/carpet backings, Household cleaning wipes, Baby bibs, tea bags, Feminine Napkins, Medical textiles, Face Mask, Sanitary materials, Silica gel bags, etc. (Anil 2020)

2.9 Style

Style is something that is unique to everyone. Style is the person's own choice in clothes, accessories, and others. Style is not totally dependent on clothing; it can be related to anything that makes the person look stylish. In another view, style is the extension of fashion which does not change like fashion. (Laharee, 2021)

2.9.1 Different types of style of garment

2.9.1.1 Wearing In Events:

- a. Party (fashion wear)
- b. Active (regular wear)
- c. Evening gown (outfit)
- d. Night (soft fit)

2.9.1.2 As Per Application Purpose

- a. Formal (collar shirt)
- b. Swimwear (bikini, encompass ups)
- c. Sportswear (trouser)
- d. Lingerie (innerwear, slumber wear)

2.9.1.3 Method of manufacture

- a. Readymade (complete)
- b. Tailored (measurement)
- c. Furnishing (automated). (Kyle, 2021)

METHODOLOGY

3. Methodology

3.1 SURVEY TO SELECT THE DESIGNS

3.1.1 Survey

3.1.2 Selection of Method for Questionnaire

3.1.3 Questionnaire

3.2 COLLECTION OF DESIGN

3.3 SELECTION OF STYLE OF GARMENT

3.4 SELECTION OF FABRIC

3.4.1 Cotton

3.4.2 Tissue Silk

3.5 IMPLEMENTING THE DESIGN ON FABRIC

3.5.1 Design Marking

3.5.2 Hand Painting

3.6 PATTERN MAKING

3.6.1 Princess Blouse

3.6.2 Maxi

3.6.3 Salwar & Kameez

3.7 GARMENT CONSTRUCTION

3.8 PORTFOLIO

3.8.1 Theme Board

3.8.2 Mood Board

3.8.3 Color Board

3.8.4 Flat Sketch

3.8.5 Final Presentation

3.1 Survey to Select the Designs

3.1 Survey

A survey is a research technique used to collect data from a predetermined sample of respondents in order to gain information and insights on a variety of topics of interest. They can serve a variety of objectives, and researchers can conduct them in a variety of ways based on the methodology used and the objective of the study. In a variety of disciplines, surveys are used to collect data. They are a good option for determining the qualities, preferences, views, and beliefs of a group of individuals.(Ashesh,2022).This survey is all about understanding the opinion towards tropical designs for designing the garment.

3.1.2 Selection of method for collection of questionnaire

An online questionnaire is a series of questions specifically structured to gather information about a target audience or group of people conducted online. The interviewees will answer the form easily, accessing it through an internet connection. This type of questionnaire is a tool that allows us to get feedback about a product or service and collect data for research, thanks to an online survey platform. (Bhatt, 2020).

3.1.3 Questionnaire

A questionnaire is a list of questions or items used to gather data from respondents about their attitudes, experiences, or opinions. Questionnaires can be used to collect quantitative and/or qualitative information. (Pritha,2021). The questions were about the selection of tropical designs, the preferences for the fabric to use and to choose the styles of the garment to implement in the selected design. Among the 120 respondents who participated in the survey, it was ideal for all ages. Close-ended questions are used in this survey, and the questions are understandable. The questionnaire is given in appendix

3.2 Selection of Design

This study was done to gather information from people to analyze the tropical designs, styles of garments, and hand-painted garments. Lots of input was taken from books, internet resources, and websites to carry out the tropical designs.

Hand painting on fabric is an ancient art form that has been practiced for centuries. This technique involves using brushes and paint to create designs and patterns on various types of fabrics. The process of hand painting on fabric requires patience, skill, and creativity. One of the advantages of hand painting on fabric is that it allows artists to create unique and personalized

designs. Unlike mass-produced fabrics, hand-painted fabrics have a one-of-a-kind quality that cannot be replicated.

Hand-painted fabrics can be used in a variety of applications such as clothing, home decor, and accessories. The process of hand painting on fabric begins with selecting the appropriate type of fabric and preparing it for painting. Once the fabric is prepared, the artist can begin sketching out their design using pencil or chalk before applying paint with a brush. After the paint has dried, the fabric may need to be heat-set to ensure that the design remains vibrant and durable. Overall, hand painting on fabric is a beautiful art form that requires skillful execution and creativity. It offers endless possibilities for creating unique designs that can be enjoyed for years to come. (Kumar, 2022)

Tropical painting is a genre of art that captures the vibrant and colorful essence of tropical landscapes. It is characterized by its use of bright, bold colors, lush vegetation, and exotic wildlife. The paintings often depict scenes of palm trees swaying in the breeze, and the beautiful giant flower with vivid color and tropical birds soaring through the sky. Tropical painting has a rich history dating back to the 19th century when artists began to explore the beauty of exotic locales. Today, tropical painting continues to be popular among artists and collectors alike. It offers a glimpse into a world that is both serene and exciting, where nature reigns supreme and life moves at a slower pace. Tropical painting is an important genre in art history that captures the beauty and allure of tropical landscapes. Its vibrant colors and lush imagery continue to inspire artists today as they seek to capture the essence of these magical places on fabric (Madrid, 2021)

Hence tropical designs representing tropical leaves, birds, and flowers were selected as theme.

3.3 Selection of Style Of Garment

Garment is any type of clothing that is manufactured from cloth or fabrics or any other textile materials intended for use on the human body. Garment products are made attractive to people by adding various types of crafts, designs or patterns on these clothes. In more simple words, garments are clothes that are worn after being made from different types of fabric. (Jahanara, 2013)

For this study, we have used three different types of garments based on the survey results. Implemented the hand-painted tropical designs on three various styles: ethnic wear, party wear, and casual wear, and it is for women of all age groups.

3.4 Selection of Fabric

3.4.1 Cotton Fabric

Cotton fabric has been a popular choice for painting for centuries. Its versatility and durability make it an ideal canvas for artists of all levels. The smooth texture of cotton allows paint to glide on effortlessly, creating vibrant and detailed works of art. One of the greatest advantages of using cotton fabric for painting is its ability to absorb paint without bleeding or smudging. This makes it perfect for creating intricate designs and patterns, as well as bold and expressive brush strokes. Overall, cotton fabric is a classic choice for painting to create beautiful and lasting works of art. Its versatility, durability, and eco-friendliness make it a timeless favorite among everywhere. Hence cotton fabric was selected. (Bugao, 2023)

3.4.2 Tissue Fabric

Tissue fabric for painting is a popular choice among artists due to its unique texture and versatility. This type of fabric is thin and lightweight, making it easy to manipulate and perfect for creating delicate details in paintings. One of the benefits of tissue fabric is that it can be used with a variety of mediums, including watercolors, acrylics, and oils. The fabric's absorbent nature allows for the paint to blend seamlessly into the fibers, resulting in a soft and natural-looking finish. Additionally, tissue fabric can be easily stretched over a canvas or board, providing an alternative surface for painting. Its delicate texture and versatility make it an excellent choice for painting. Hence tissue fabric was selected. **Plate-1**

3.5 Implementing the Design on Fabric

3.5.1 Pencil on Design

Painting a design onto or fabric, a pencil to draw it out first. This will help to avoid mistakes .when painting with permanent fabric paint later on. Painting. Pencil on Design on fabric is a step in the process of creating a garment. It involves transferring the design onto the fabric to ensure that all the designs are cut accurately and fit together perfectly. There are several methods of. Pencil on Design, including using tailor's chalk, tracing paper, white pencils or even a water-soluble pen. The design is drawn onto the fabric using the white pencil, which allows for precise

lines and easy visibility. Then design are drawn on free hand method marking on fabric is essential for creating garments that fit well and look great. **Plate -2**

3.5.2 Hand painting

Hand painting requires more patience to work on the fabric. After the pencil on design was done. The fabric was painted with different colors according to the design needed .Then the acrylic pain were used with different paintbrush to add the stroke lines to enhance the design. Started at the top and worked on the way down section by section to minimize the risk of accidentally smudging wet paint in handed while worked. Started with a thin, even layer of paint just enough to covered the area or complete the design. If it desires deeper colors, we could always add another coat. Paint in long, even brushed stroked in the same direction as the fabric texture. Continued painting in this same direction until all the fabric was coated evenly. **Plate- 3**

3.6 Pattern making

Pattern making is the process of creating a blueprint of your garment. A pattern is used as a template to cut out fabric that matches the required specifications to sew a garment. It factors in the type of fabric, the intended fit on the wearer, and any trims that will be used.(Steph 2023),

Plate -4, Plate-5, Plate-6

3.6.1 Princess Blouse.

3.6.1.1 Front

0-1 = $1/8^{\text{th}}$ Chest Plus $2\frac{1}{2}$

2-0 = Full Length

3-0 = One Eight Chest

5-0 = Shoulder Plus $1/4$ "

7-5 = $3/4$ " Join 3-7

9-1 = $1/4^{\text{th}}$ Chesst Plus $1\frac{1}{2}$ "

Square Down 9-10

2-12 = 4" Plus $2\frac{1}{2}$ "

2 Shape 12 To 6

10-11 = Add Extra 2"

3.6.1.2 Back

13-0 = $2\frac{1}{2}$ " Or To Taste

Shape Neck 17-3

Shape Scye 7-18-9

Keep 3/4" Outside 11-9

19-9 For Front

3.6.1.3: Sleeve

1-0 = $\frac{1}{8}$ th Chest Plus 2 $\frac{1}{2}$ "

2-0 = Sleeve Length"

3-2 = Same As 1-0

4-1 = $\frac{1}{8}$ " Chest

5-0 = 1", Join 4-5, 6 Is Midway 4 to 5

7-6 = $\frac{3}{4}$ "

8-4 = 2"

10-2 = Half Sleeve Round Plus $\frac{1}{4}$

3.6.2 Maxi

3.6.2.1 Top

0-1 = $\frac{1}{8}$ th Chest Plus 2 $\frac{1}{2}$ "

0-2 = Full Length

3-0 = $\frac{1}{2}$ th Chest Plus 1 $\frac{1}{2}$ "

4-0 = $\frac{1}{8}$ th Chest

5-0 = Shoulder Plus 1cm

Shape Down From 5-6

7-5 = $\frac{3}{4}$ " Join 3-7

8-6 = 1"

9-1 = $\frac{1}{4}$ th Chest Plus 1 $\frac{1}{2}$ "

Shape Scye 9-8-6

Square Down Form 9-10

10-11 = $\frac{3}{4}$ ", Join 9-11

Shape Bottom 13-12

17-0 = 2 $\frac{1}{2}$ "

Shape Neck 17-3

Shape Scye 17-18-9

3.6.2.2 Bottom

According To Waist Measurement Take As Double Measurement.

0-1 = Bottom Length Plus 1 ½”

0-2 = Circumference Plus 2 ½”

3-0 = ¼th chest Plus ½”

4-2 Same As 3-0 Join 3-4

5-3 = 1 ¼” Join and Shape 1-5

7-5 = Same As 2-1

3.6.2.3 Sleeve

1-0 = ⅛th Chest Plus 2 ½”

2-0 = Sleeve Length”

3-2 = Same As 1-0

4-1 = ⅛” Chest

5-0 = 1”, Join 4-5, 6 Is Midway 4to 5

7-6 = ¾”

8-4 = 2”

10-2 = Half Sleeve Round Plus ¼”

3.6.3 Salwar

3.6.3.1 Front Bodice

1-0 = ⅛th Chest Plus 2 ½”

2-0 = Waist Length Plus ¾”

3-2 = 7” For Seat Line

4-0 = Full Length Plus ¾”

5-0 = 1/12th Chest Plus ¼”

6-0 = ⅛th Chest,

Shape Neck 6-5

7-0 Shoulder Pus ¼”Square

9-7 = 1” Join 5-9

10-8 = Nearly 1”

11-1 = ¼Th Chest Plus 1 ½”

13-2 = ¾Th Chest

14-3 = $\frac{1}{4}$ th Seat Plus 1 $\frac{1}{2}$ "

15-4 = $\frac{1}{4}$ th Seat Plus 2"

Shape Seam 11-13-14-15

3.6.3.2 Back

1-0 = $\frac{1}{8}$ th Chest plus 2 $\frac{1}{2}$ "

2-0 = Waist Length

3-2 = 7" For Seat Line

4-0 = Full Length

5-0 = Same as Front

6-0 = 1 To 1 $\frac{1}{2}$ "

Shape Neck Line 6-5

Shape Syce 9-10-11

3.6.3.3 Sleeve:

1-0 = $\frac{1}{8}$ th Chest Plus 2 $\frac{1}{2}$ "

2-0 = Sleeve Length"

3-2 = Same As 1-0

4-1 = $\frac{1}{8}$ " Chest

5-0 = 1", Join 4-5,6 Is Midway 4to 5

7-6 = $\frac{3}{4}$ "

8-4 = 2"

10-2 = Half Sleeve Round Plus $\frac{1}{4}$ "

3.6.4 Kameez

3.6.4.1 Front

1-0 = $\frac{1}{4}$ th Seat Plus 3"

2-0 = Full Length Plus $\frac{1}{2}$ "

3-1 = $\frac{1}{4}$ th Seat Plus 2 $\frac{1}{2}$ "

4-0 = Same as 3-1, Join 3-4

5-3 = $\frac{1}{12}$ th Seat

6-3 = $\frac{1}{6}$ th Seat

7-3 = Half of 5-3

8-2 = Same As 5-1

9-5 = $\frac{3}{4}$ ", Join 9-8

3.6.4.2 Back

11-0 = $\frac{1}{4}$ Th Seat Plus 4cm, Join 9-11

13-15 = 1 $\frac{1}{2}$ "

15-18 = 1"

Shape Inseam 13-15

Keep 1 $\frac{1}{2}$ " Above 0-4 and 0-12

3.7 Garment construction

Stitching is the process whereby fabric is fashioned into a finished product by means of different sewing techniques. The stitching stage holds extreme significance to ensure that the product takes its shape according to requirements. In itself a highly specialized field, stitching requires care and precision. (Ahmed 2022) **Plate-7**

3.7.1 Blouse

- After cutting all the piece of blouse
- Started with attaching lining and main fabric together.
- First princess seam and front bodice was stitched.
- Then the front & back bodice seam was attached.
- The shoulder was joined and the sleeve was attached.
- Finish all the raw edge of side seam with neat finish.

3.7.2 Maxi

- After cutting all the parts stitching was done.
- First all the main fabric with lining fabric was attached.
- Front and back bodice was attached and then sleeves.
- Then the top and bottom was attached.
- All the raw edge of side seam was finished with neat finish.

3.7.3 Salwar & kamez

- All patterns were cut and attached the lining part and the main fabric together.
- First the front neckline was finished and the back part then the side slit was finished.
- The pant part was stitched to attach side seam.
- After attaching sewn the inside leg seam.
- All the raw edge of side seam was finished with neat finish.

3.8 Portfolio

The collection of all the samples made and designed by a fashion designer is known as fashion portfolio. It is a way to showcase the collection of works and designs before a potential client. A fashion portfolio is very necessary for fashion designer and consists of several important components. It is suggested that, the introduction to a portfolio must not be a deep introduction of the designer, but it should highlights the inspiration and purpose of the collection. Although, it should be clear and understandable what type of designs the client can expect to find in the portfolio. A good fashion design portfolio consists of many aspects such as fashion illustrations, an inspiration or mood board with textile swatches, flat sketches; “floats”, and CADs. (Mazharul, 2023). **Plate – (8-14)**

3.8.1 Theme Board



Plate -8

3.8.2 Mood Board

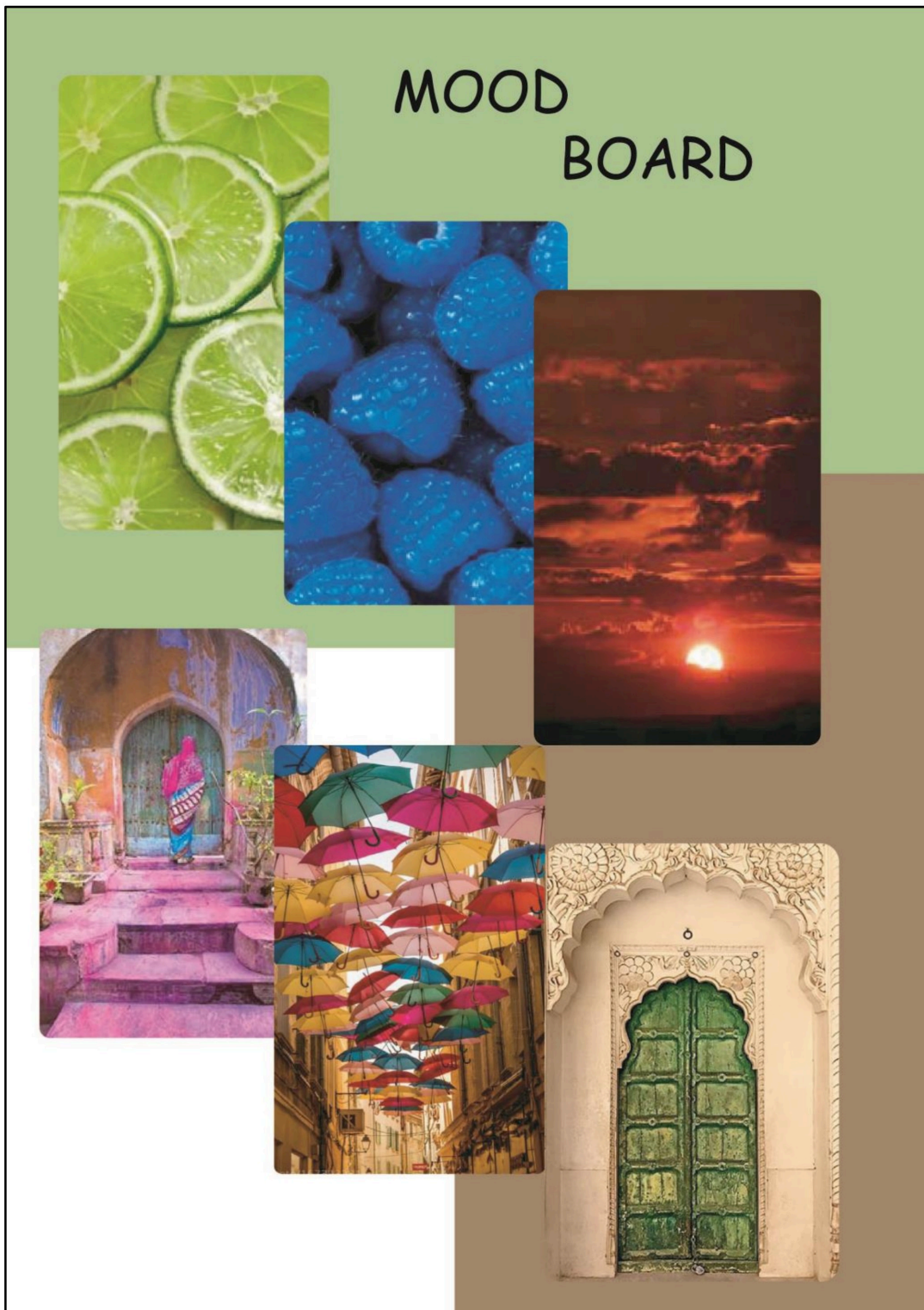


Plate-9

3.8.3 Color Board



Plate -10

3.8.4 Flat Sketch



Plate -11

3.8.5 Final Presentation

BLUISH FLOWERY SILK



Plate -12

CASUAL MAXI WEAR



Plate-13

SAGE GREEN FLAMINGO SILK



Plate-14



Plate -1



Plate -2



Plate -3



Plate - 4



Plate - 5



Plate - 6

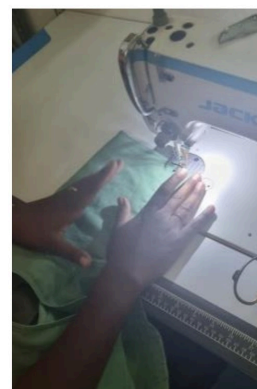


Plate - 7

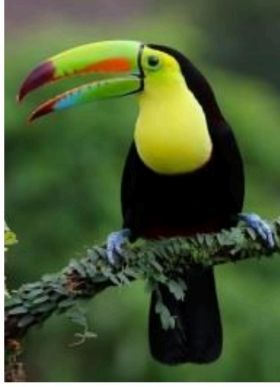


Figure -XVIII

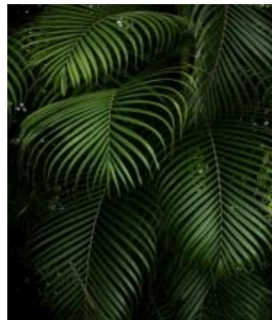


Figure -XIX



Figure - XX

RESULT AND DISCUSSIONS

4.Result And Discussion

4.1 Age group

The Table –I ,Figure XXI, shows that 81% of those who responded were between the ages of 18 and 25, 18.5 % were between the ages of 26 and 35, and 1.5 % were between the ages of 36 and 45.Hence 18-25 years were the highest percentage of age group.

TABLE –I

Age group

S.No	Age Group	Number Of People	Percentage
1	18-25 YEARS	88	81%
2	26-35 YEARS	20	18.5%
3	36-4 YEARSS	2	1.8%

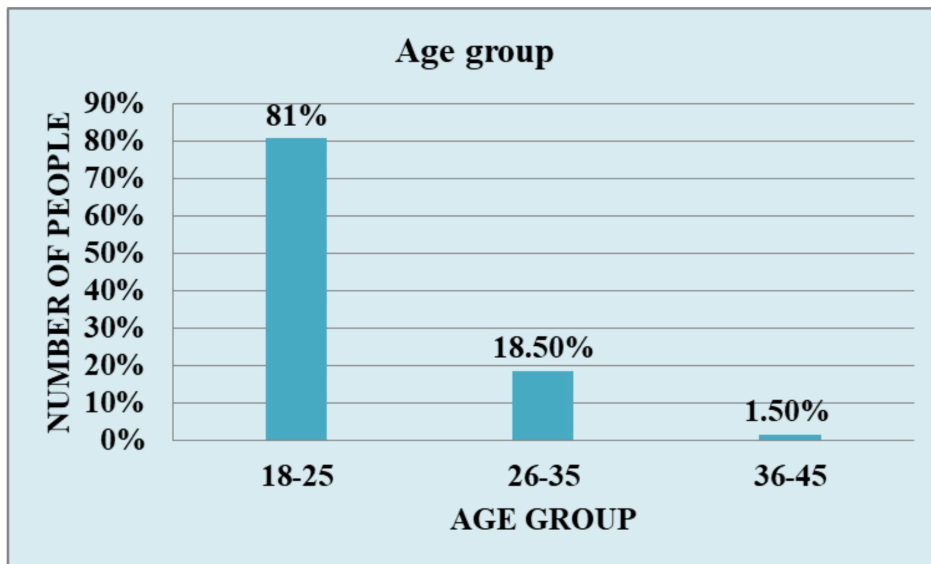


FIGURE –XXI

4.2 Qualification

According to the Table-II, Figure XXII, (53.7 %) were under graduate and the (46%) were post graduate who had responded to the survey. Hence it shows that under graduated showed more interest in survey compared to post graduate.

TABLE –II

Qualification

S.No	Qualification	Number Of People	Percentage
1	Under graduate	58	53.7%
2	Post graduate	50	46%

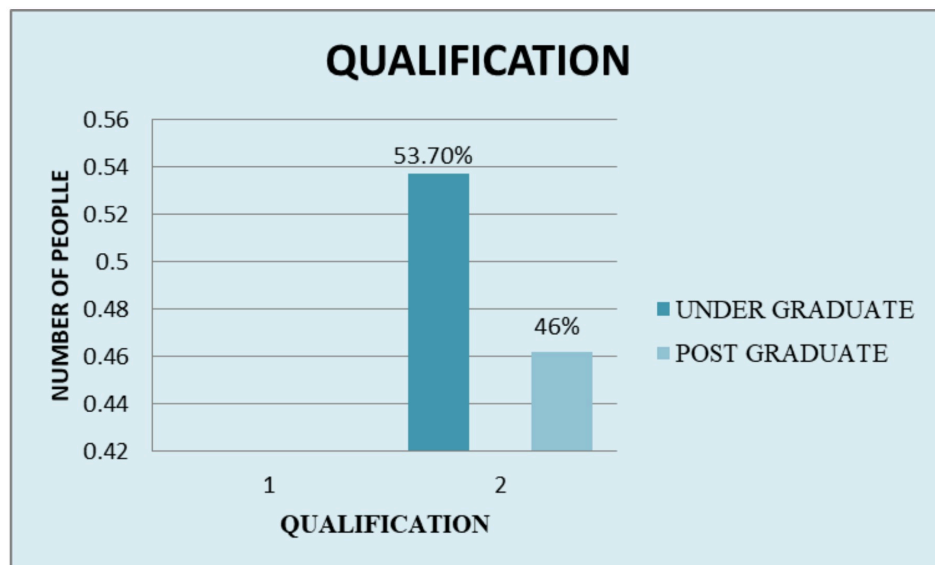


FIGURE - XXII

4.3 Availability of Hand Painted Garment In Market

According to Table-III the Figure-XXIII only (84%) of the people knew about the availability of hand-painted garments, and (24%) didn't know about the product.

TABLE-III

Availability of Hand Painted Garment In Market

S.No	Availability Of Hand Painted Garment In Market	Number Of People	Percentage
1	Yes	84	77.7%
2	No	24	22.2%

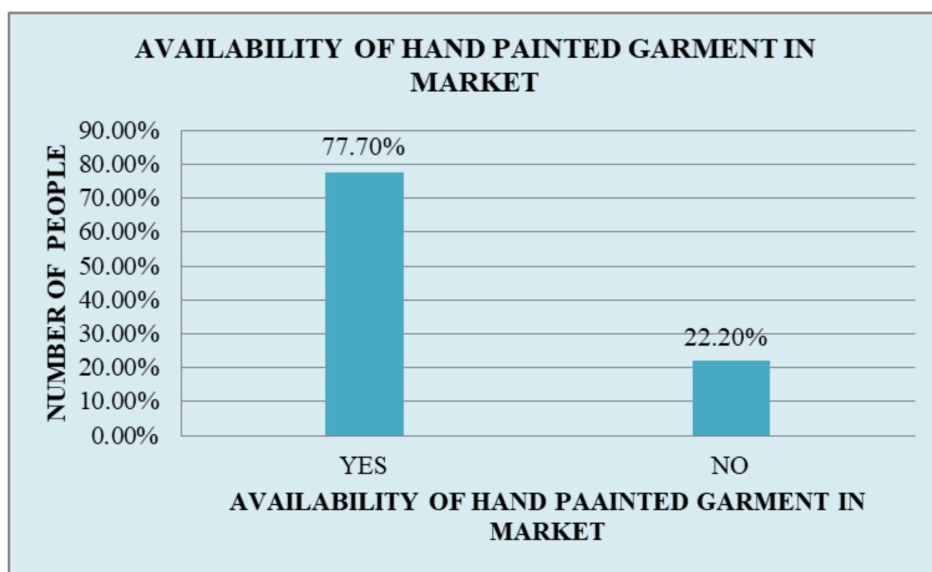


FIGURE-XIII

4.4 Material Preference

From the Table-VIII Figure-XXIV, the bar graph below represents the variation in the kind of material preference. Hence the majority of people have chosen tissue silk (37%) and cotton (33.3%) the most.

TABLE-IV

Material Preference

S.No	Material Preference	Number Of People	Percentage
1	Synthetic	15	13.8%
2	Cotton	36	33.3%
3	Tissue silk	40	37%
4	Organza	17	15.7%

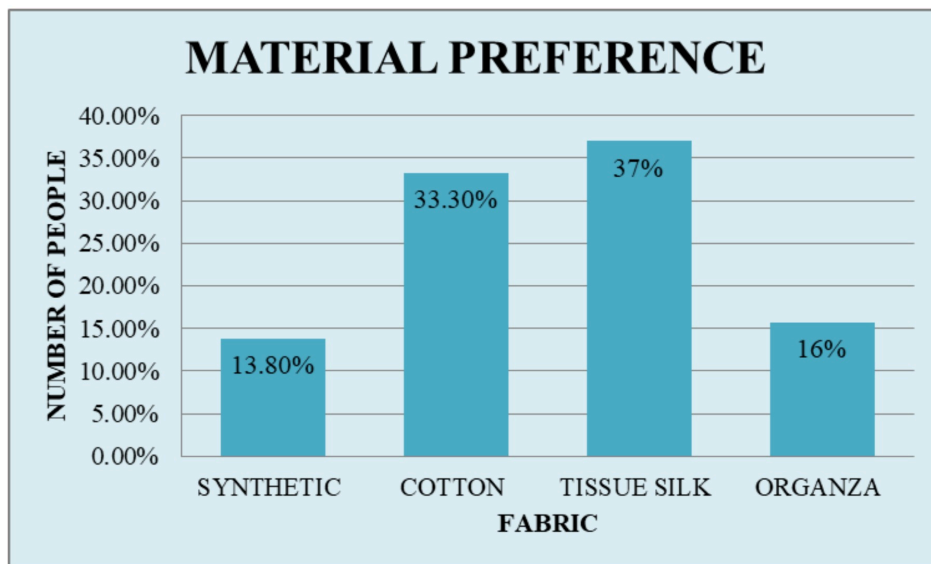


FIGURE-XXIV

4.5 Preferred Designs

From the Table -V Figure- XXV shows that Tropical leaves (21.3%), Birds with tropical leaves (32.4%), Giant flowers (20.4%), Flamingo with tropical design (13.9%), Leaves and flowers (12%) were preferred. Hence it shows that the most of the people preferred birds with tropical leaves.

TABLE-V
Preferred Designs

S.No	Designs	Number Of People	Percentage
1	Tropial leaves	23	21.3%
2	Birds with tropical leaves	35	32.4%
3	Gaint flowers	22	20.4%
4	Flamingo with tropical design	14	13.9%
5	Leaves and flowers	13	12%

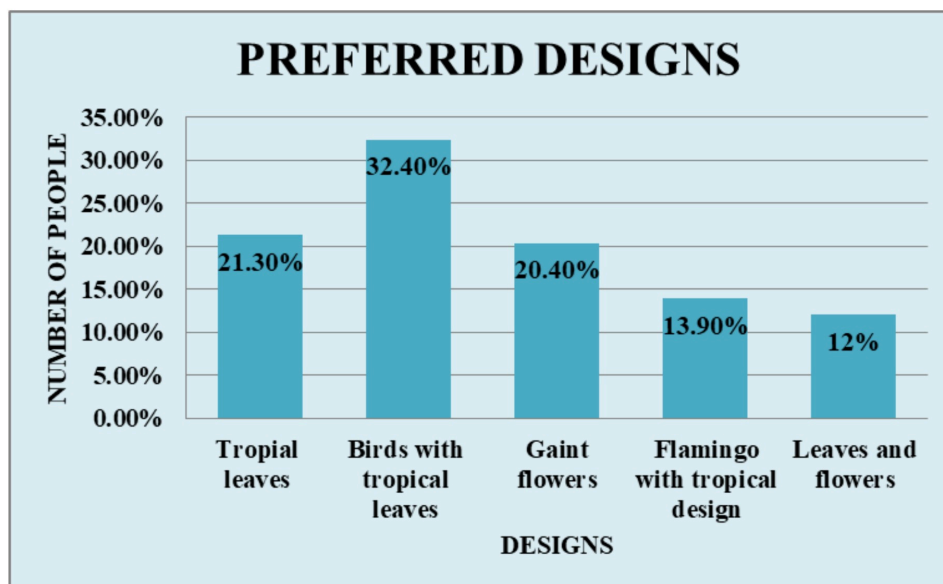


FIGURE-XXV

4.6 Interested In Buying Hand Painted Garment

As per the Table-VI , Figure XXVI shows that people were interested in buying hand-painted garments (63.9%), may be (30.5%) , and were not at all interested in buying(5.6%). Hence it shows that most of the people were interested in buying hand painted garments.

TABLE-VI
Interested In Buying Hand Painted Garment

S.No	Interested In Buying Hand Painted Garment	Number Of People	Percentage
1	Yes	69	63.9%
2	No	6	5.6%
3	May be	33	30.6%

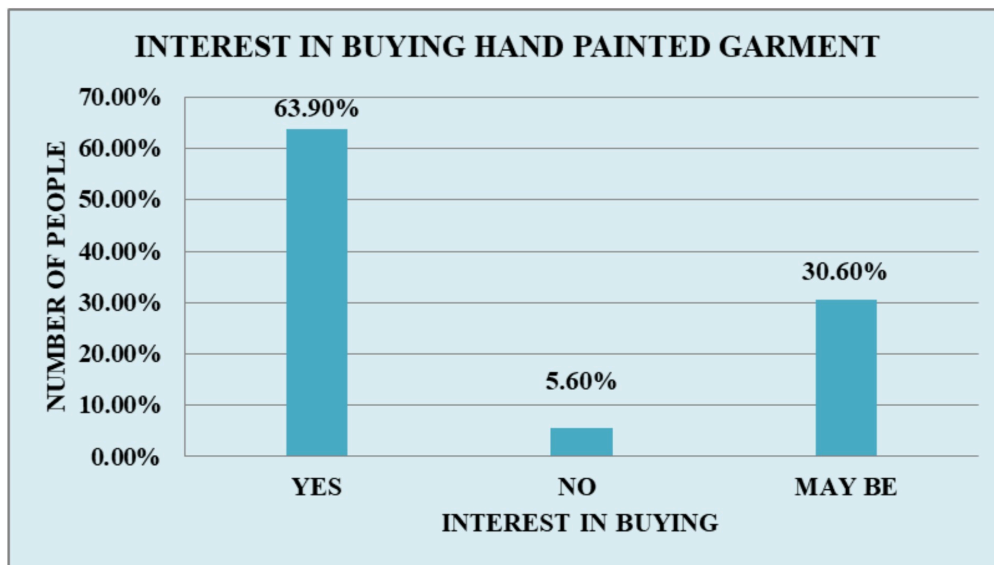


FIGURE-XXVI

4.7 Feedback Survey

In this Table VII, figure XXVIII customer satisfaction was judged by for all the preferences: the design was very good with (86%) and hand painting was very good with (100%), and the style of the garment was very good (83%) and overall appearance was very good with (100%). As it can be concluded, all the rated percentages were good, which means that customers were very delighted. All of the rated percentages were great.

TABLE –VII
Feedback Survey

	Very good	Good	Fair	Poor
Design	26	0	4	0
Hand painting	30	0	0	0
Style of garment	25	5	0	0
Overall appearance	30	0	0	0

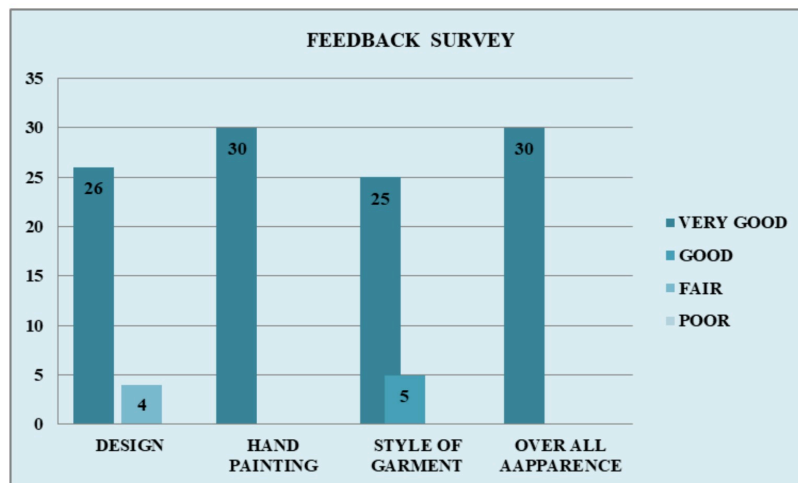


FIGURE – XXVIII

4.8 Statistical Analysis

4.8.1 Comparison Between People Awareness about The Tropic Design And Their Occupation

TABLE -VIII

Comparison between people know about the tropic design and their occupation

Groups	Count	Sum	Average
Occupation	75	113	1.5066667
Knowing About Tropic Design	33	60	1.8181818

TABLE –VIII (a)

Source Of Variation	SS	df	MS	F	P-value
Between Groups	2.2238721	1	2.2238721	4.2355086	0.0420399
Within Groups	55.655758	106	0.5250543		
Total	57.87963	107			

From the Table, – VIII, it is clear that out of 100 responses, (55%) were students, (30%) were employed, and 15% were unemployed. Of these people (69 %) knew about tropical design and the rest (31%) don't know. The P-value is less than the alpha, then there is a statistically significant difference between groups. In this case the P-value of 0.04203 is less than 0.05. Therefore, this test indicates that there is statistically significant difference between people knowing about tropical design and their occupation.

4.8.2 Comparison Between preference for Hand Painted Garment And type of Garment Preference

TABLE –IX

Comparison Between preference for Hand Painted Garment And type of Garment Preference

Groups	Count	Sum	Average	Variance
Yes	103	238	2.3106796	2.5888064
No	4	6	1.5	0.3333333

TABLE –IX (a)

Source Of Variation	SS	df	MS	F	P-value
Between Groups	2.5305326	1	2.5305326	1.0024435	0.3190218
Within Groups	265.05825	105	2.5243643		
Total	267.58879				

From Table IX, It is evident that out of 100 responses (96%) liked hand painting and (4%) were not interested in hand painting and for the garment preference saree & blouse (35%), Maxi (31%) ,Salwar and kameez (34%). The P-value is less than the alpha, then there is a statistically significant difference between groups. In this case the P-value of 0.319021 is Greater than 0.05. Therefore, this test indicates that there is statistically significant difference between people preference for hand painted garment and In which garment do you prefer hand painting.

4.8.3 Comparison Between Design Preference On Which Type Of Garment Do They Prefer For Hand Painting

TABLE –X

Comparison Between Design Preference on Which Type of Garment Do They Prefer For Hand Painting

Groups	Count	Sum	Average	Variance
Only Tropical Design	35	71	2.0285714	2.2638655
Flamingo With Tropical Leaves	28	61	2.1785714	2.1521164
Gaint Flower With Tropical Leaves	45	113	2.5111111	2.9373737

TABLE -X (a)

Source Of Variation	SS	df	MS	F	P-Value
Between Groups	4.8899471	2	2.4449735	0.9712443	0.3819866
Within Groups	264.32302	105	2.5173621		
Total	269.21296	107			

From Table-X ,it is clear that out of 100 responses on garment preference saree & blouse (35%) ,Maxi (31%) ,Salwar and kameez (34%). And for desinging , Only Tropical Design (35 %), Flamingo With Tropical Leaves (28%), Gaint Flower (45%). The P-value is less than the alpha, then there is a statistically significant difference between groups. In this case the P-value of 0.381986 is Greater than 0.05. Therefore, this test indicates that there is no significant difference between design preference on which type of garment do they prefer for hand painting

4.8.4 Comparison Between Interested In Buying The Hand Painted Garment and the cost

TABLE –XI

Comparison Between Interested In Buying The Hand Painted Garment And the cost

Groups	Sum	Average	Variance
Interested In Buying The Hand Painted Garment	180	1.6666667	0.841121495
[1000-1500 rs]	281	2.6018519	2.223174109
[1500 - 2000rs]	299	2.7685185	1.861803392
[2000 - 2500rs]	304	2.8148148	2.22706819

TABLE –XI (a)

Source of Variation	SS	df	MS	F	P-value
Between Groups	100.2481481	4	25.062037	13.3507076	2.23554E-10
Within Groups	1004.305556	535	1.8772066		
Total	1104.553704	539			

From the Table XI ,it is clear that out of 100 responses (75%) are interested in buying hand painted garment and (25%) are not interested. The P-value is less than the alpha, then there is a statistically significant difference between groups. In this case the P-value of 8.84776 is Greater than 0.05. Therefore, this test indicates that it does not have a statistically significant difference buying hand painted garment and the cost.

SUMMARY AND CONCLUSION

5. Summary and conclusion

In recent years, there has been a growing movement towards sustainable fashion as people become more aware of the environmental impact of fast fashion. This trend emphasizes ethical production methods and materials that are eco-friendly. Ultimately, fashion style is a reflection of our individuality and creativity. Whether we choose to follow current trends or create our own unique look, it is an important aspect of how we present ourselves to the world. (Tania 2007)

Hand painting is a traditional art form that has been practiced for centuries. It involves the use of brushes and paint to create intricate designs on various surfaces such as canvas, paper, wood, and even walls. The beauty of hand painting lies in its uniqueness and personal touch. Each stroke of the brush is carefully crafted by the artist, making each piece one-of-a-kind. Hand painting has been used to depict various themes such as landscapes, portraits, still life, and abstract art. It requires patience, skill, and creativity to produce a masterpiece that captures the essence of the subject matter. Hand painting also allows artists to experiment with different techniques and styles to create their own signature look. In today's digital age where everything is mass-produced and easily replicated, hand painting remains a valuable art form that celebrates individuality and craftsmanship. It reminds us of our human connection to art and the importance of preserving traditional techniques for future generations to appreciate. (Sandhya 2016)

Tropical painting is a unique form of art that has been popular for centuries. This type of painting involves using fabric as the canvas and creating beautiful images of tropical landscapes, flora, and fauna. The use of bright colors and intricate details make these paintings stand out from other forms of art. One of the most notable features of fabric tropical painting is the use of different fabrics to create texture and depth in the artwork. Artists often use silk, cotton, or linen to create a layered effect that adds dimension to their paintings. The use of different fabrics also allows for a range of colors and patterns that can be used to create stunning works of art. Another important aspect of fabric tropical painting is the attention paid to detail. Artists spend hours carefully crafting each element in their paintings, from the individual leaves on a palm tree to the scales on a fish. This level of detail creates an immersive experience for viewers, transporting them into the lush world depicted in each piece. (Jose 2021)

Fabric painting and garment designing are two art forms that have been around for centuries. Fabric painting involves the use of various techniques to create designs on fabric, while garment designing is the process of creating clothing from scratch. The art of fabric painting has been practiced by many cultures throughout history. From the intricate batik designs of Indonesia to the bold block prints of India, fabric painting has been used to create beautiful and unique textiles. Today, artists continue to experiment with new techniques and materials to push the boundaries of what can be achieved through fabric painting. Garment designing, on the other hand, requires a deep understanding of fashion design principles and sewing techniques.(Semolina 2016)

Objective

- Conducted a survey on the selection of tropical designs for hand painting on garments.
- Styling the tropical design on the garment.
- Selection of the fabric.
- Implementing tropical designs through hand painting on fabric.
- Construction of selected garments for hand-painted garments.

Finding of the study

- This study was done to gather information from people to analyze the tropical designs, styles of garments, and hand-painted garments.
- Tropical designs were used for three different types of garments based on the survey results.
- And implemented the hand-painted tropical designs on three various styles: ethnic wear, party wear, and casual wear, and it is for women of all age groups.
- Adobe illustrator software was used to create and develop clothing illustration. And digital fashion portfolio was created as a simple visual manner to display a group of works digitally.
- Theme boards, mood boards, colour boards, flat presentation, and final presentation board are included in the digital fashion portfolio. Finally, three garments were constructed with cotton and tissue fabric.

- The garments were stitched using measurements based on the pattern of design developed by manually.
- After the garments were finished, they were photographed.
- The subject was chosen based on the standardized body measurement. Thirty people consisting of Textiles and Clothing Department: Avinashilingam Institute for postgraduate students the at Home Science and Higher Education for Women in Coimbatore were requested to rate the designed clothes using visual inspection. Details such as design, hand painting, style of garment, overall appearance were evaluated and recorded

Conclusion

Hand painting on tropical designs is a beautiful and unique art form that requires patience, skill, and creativity. It allows artists to express their love for nature and the vibrant colors of the tropics in a way that cannot be replicated by any other medium. The process of creating a hand-painted tropical design involves careful planning, sketching, and layering of colors to achieve the desired effect. Hand painting on tropical designs can be used to create stunning pieces of art. It is also a popular choice for fashion designers who want to incorporate bold tropical prints into their clothing lines. Despite the popularity of digital printing techniques, there is still a demand for hand-painted tropical designs because they offer a level of authenticity and uniqueness that cannot be matched by mass-produced prints. Hand-painting allows artists to infuse their own personal style into each piece they create. Overall, hand painting on tropical designs is an art form that will continue to captivate audiences with its beauty and intricacy for years to come.

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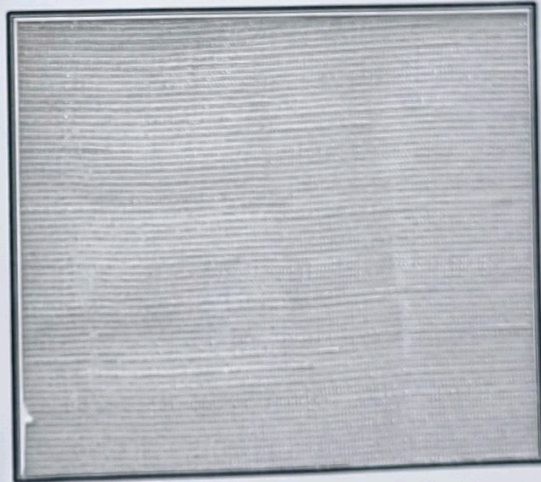
APPENDICES

APPENDIX - I

SAMPLE OF FABRICS



COTTON FABRIC



TISSUE SILK

APPENDIX – II

SAMPLE OF PAINTED FABRICS



PAINTED COTTON FABRIC



PAINTED TISSUE SILK

APPENDIX – III
QUESTIONNAIRE

1.Email _____

2.Name _____

3.Age

- a) 18-24 years
- b) 25-34 years
- c) 35-44 years

4.Education qualification

- a) post graduate
- b) Graduate
- c) Under graduate

5.Present occupation

- a) Student
- b) Employed
- c) Unemployed

6.Have you herd about the tropical designs

- a) yes
- b) No

7.Do you know about the availability of hna paintedd gaarment in the market?

- a) yes
- b) No

8. Do you like hand painted garments?

- a) yes
- b) No

9. In which garment do you prefer?

- a) Saree & Blouse
- b) Crop top & Skirt
- c) Palazzo & Top
- d) Maxi
- e) Salwar
- f) Shrug

10. Which material do you prefer?

- a) Synthetic
- b) Organza
- c) Shinned cotton
- d) Tusser silk

11. Which design would you prefer in garment?

- a) Only tropical design
- b) Flamingo with tropical leaves
- c) Giant flower with tropical leaves

12. Which design you admire the most?



13. Are you interested in buying the hand painted gramment?

- a) yes
- b) No
- c) Maybe

14. How much do you prefer to pay for this product?

a) 1000-1500 rs

b) 1500-2000 rs

c) 2000-2500 rs

d) 3000rs

15. Any other suggestion.