DEVELOPMENT OF TEXTILE DESIGNS FOR GENTS SHIRTING

Thesis

Submitted to the Punjab Agricultural University
in partial fulfilment of the requirements
for the degree of

MASTER OF SCIENCE
in
CLOTHING AND TEXTILES
(Minor Subject : Sociology)

By

Depika Toor
(L-98-HSc.-256-M)

Department of Clothing and Textiles
College of Home Science
PUNJAB AGRICULTURAL UNIVERSITY
LUDHIANA - 141 004

2000

DEVELOPMENT OF TEXTILE DESIGNS FOR GENTS SHIRTING

Thesis

Submitted to the Punjab Agricultural University
in partial fulfilment of the requirements
for the degree of

MASTER OF SCIENCE
in
CLOTHING AND TEXTILES
(Minor Subject : Sociology)

By

Depika Toor
(L-98-HSc.-256-M)

Department of Clothing and Textiles
College of Home Science
PUNJAB AGRICULTURAL UNIVERSITY
LUDHIANA - 141 004

2000

CERTIFICATE-I

This is to certify that the thesis entitled, **"Development of textile designs for gents shirting"** submitted for the degree of M.Sc., in the subject of Clothing and Textiles (Minor Subject : Sociology) of the Punjab Agricultural University, Ludhiana, is a bonafide research work carried out by Depika Toor (L-98-HSc-256-M) under my supervision and that no part of this thesis has been submitted for any other degree.

The assistance and help received during the course of investigation have been fully acknowledged.

21.7.2K

(Mrs. Raminder Kaur)
Major Advisor
Assistant Professor
Department of Clothing & Textiles
Punjab Agricultural University
Ludhiana - 141004

CERTIFICATE - II

This is to certify that the thesis entitled, **"Development of textile designs for gents shirting"** submitted by **Depika Toor** (L-98-HSc-256-M) to the Punjab Agricultural University, Ludhiana, in partial fulfillment of the requirements for the degree of M.Sc., in the subject of Clothing and Textiles (Minor subject : Sociology) has been approved by the Student's Advisory Committee after an oral examination on the same, in collaboration with an External Examiner.

Major Advisor
(Mrs. Raminder Kaur)

Kmarriya
10/11/2K

External Examiner

Mrs. Kavita Marriya
Senior Lecturer
Deptt. of Clothing & Textiles
Govt. Home Science College
Chandigarh.

10.11.2K

Head of the Department
Dr. O. P. Singh

K-S-Sa 18/12/2K

Dean Post graduate studies
Dr. K.S. Sekhon

ACKNOWLEDGEMENTS

I am indebted to God, Almighty, with whose kindness I have been able to make another remarkable achievement in my life.

It is my proud privilege to express deep sense of gratitude and indebtedness to my Major Advisor, Mrs. Raminder Kaur, Assistant Professor, Department of Clothing and Textiles, Punjab Agricultural University, Ludhiana for enriching my understanding of research procedures. My accomplishment has been the result of her painstaking efforts, inspiring supervision, constructive criticism, valuable guidance and constant encouragement.

I am also grateful to Dr. O.P. Singh for suggesting the present investigation and for guiding me through every stage of my work.

Grateful thanks are also extended to other members of my advisory committee, Dr. Harnek Singh., Assoc. Prof. , Department of Economics and Sociology, Dr. (Mrs.) Neelam Grewal, Assoc. Prof., Department of Clothing and Textiles, Mrs. S. Dhillon, Asstt. Prof., Department of Clothing and Textiles and Dr. J.P. Gupta, Professor, Department of Mathematics and Statistics for their helpful suggestions and encouragement.

My affectionate gratitude is due to my dear parents, Guddi Massi, Chachaji, Sisters- Gola, Mini and Shiru for their constant inspiration, good wishes and co-operation during the course of this work.

Profound thanks are also due to my friends Giku, Kunwar, Ajminder, Avinash, Anjali and Pooja who encouraged me from time to time during the study.

Mr. T.P.S. Sandhu deserves my appreciation for doing a good job of photography.

In the end, I express my thanks to Mr. Deepak Kumar Verma and Mr. Beer Bahadur for accepting parts of the manuscript at odd hours and taking meticulous care in typing the same.

Depika Toor

(DEPIKA TOOR)

Title of the Thesis	:	"Development of textile designs for gents shirting"
Name of the student and Admission no.	:	Depika Toor L-98-H.Sc.-256-M
Major subject	:	Clothing and Textiles
Minor subject	:	Sociology
Name and designation of Major Advisor	:	Mrs. Raminder Kaur Assistant Professor Department of Clothing and Textiles Punjab Agricultural University, Ludhiana-141004
Degree to be awarded	:	Master of Science
Year of award of degree	:	2000
Total pages in Thesis	:	51 + III
Name of University	:	Punjab Agricultural University, Ludhiana - 141 004

ABSTRACT

The present study was undertaken to investigate the prevalent textile designs for clothing material of gents shirting and to develop new textile designs for gents shirting.

The results of the study indicated that in the textile designs for gents shirting, the most prevalent type of dominant motif was check (41 per cent), size of dominant motif was mostly medium (47.5 per cent) and area covered by dominant motif was generally all over (81 per cent). The most prevalent dominant colour in the textile designs was brown (25 per cent) whereas the most prevalent background colour was white (31 per cent). Majority of the textile designs consisted of two colours (37 per cent) and the number of tones of colours used were mostly two (46.5 per cent). The most prevalent nature of colour scheme was neutral (40 per cent).

The most prevalent fabric for gents shirting was blended (43 per cent). Then fifty new textile designs were developed for gents shirting. Evaluation of these developed designs for gents shirting was made by a panel of seven judges.

21.7.2K

Signature of Major Advisor

Depika Toor 21.7.2K

Signature of the Student

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF SAMPLES

Sample No.	Title
	Prevalent fabric designs
	Check designs
S.I	Prevalent fabric design with check motif
S.II	Prevalent fabric design with check motif
S.III	Prevalent fabric design with check motif
S.IV	Prevalent fabric design with check motif
S.V	Prevalent fabric design with check motif
S.VI	Prevalent fabric design with check motif
S.VII	Prevalent fabric design with check motif
S.VIII	Prevalent fabric design with check motif
S.IX	Prevalent fabric design with check motif
S.X	Prevalent fabric design with check motif
S.XI	Prevalent fabric design with check motif
S.XII	Prevalent fabric design with check motif
S.XIII	Prevalent fabric design with check motif
S.XIV	Prevalent fabric design with check motif
S.XV	Prevalent fabric design with check motif
	Stylized check designs
S.XVI	Prevalent fabric design with stylized check (hound's tooth) motif
	Stripe designs
S.XVII	Prevalent fabric design with stripe design

S. XVIII	Prevalent fabric design with stripe design
S. XIX	Prevalent fabric design with stripe design
S. XX	Prevalent fabric design with stripe design
S. XXI	Prevalent fabric design with stripe design
S. XXII	Prevalent fabric design with stripe design
S. XXIII	Prevalent fabric design with stripe design
S. XXIV	Prevalent fabric design with stripe design
S. XXV	Prevalent fabric design with stripe design
S. XXVI	Prevalent fabric design with stripe design
	Stylized stripe designs
S. XXVII	Prevalent fabric design with stylized stripe design
S. XXVIII	Prevalent fabric design with stylized stripe design
	Geometrical designs
S. XXIX	Prevalent fabric design with geometric motif
S. XXX	Prevalent fabric design with geometric motif
S. XXXI	Prevalent fabric design with geometric motif
S. XXXII	Prevalent fabric design with geometric motif
S. XXXIII	Prevalent fabric design with geometric motif
S. XXXIV	Prevalent fabric design with geometric motif
	Abstract designs
S. XXXV	Prevalent fabric design with abstract motif
S. XXXVI	Prevalent fabric design with abstract motif
S. XXXVII	Prevalent fabric design with abstract motif
S. XXXVIII	Prevalent fabric design with abstract motif

LIST OF PLATES

Chapter-I

INTRODUCTION

Textiles occupy a very important place in our present day society since they satisfy one of the essential necessities of mankind. Clothing is considered as one of the prime necessities of life and basic trimvirates of man's existence alongwith food and shelter. By selection of an appropriate design, texture and colour in clothes an individual can dress to his advantage and accentuate pleasing features of the personality. One feels happy, cheerful and confident when one is properly dressed up. It gives a feeling of self confidence and a sense of well being (Radder and Shailaja, 1995).

Man's urge for decoration of immediate surroundings has remained constant and has enchanted him through ages. It is like a magic wand that transforms nothing into something, fills blankness with substance and emptiness with meaningfulness. The history of decorating the different fabrics worn by man follows very closely the history of man from the time he first sheltered his family in caves. He has always tried with success to decorate his body, caves, utensils, weapons and his clothing. The mental satisfaction which he derived from channelising the creative instinct made his life more beautiful and dignified than other animals.

The word 'designing' refers to the total composition of lines, forms, colours, shapes and textures in a decorative manner (Mitra, 1987). These are often referred as the fundamental and plastic elements. Variation in the qualities of each of these elements contributes to the overall effect of the total design. A good design shows

thoughtful arrangement of materials used to produce desired effects (Kefgen and Specht, 1971). It may have a feeling of dignity, pleasantness, speed, restlessness or whatever quality the able designer wishes to have.

Textile designs have been made for at least 2000 years now. The history of textile designing includes many methods used from the earliest times in applying colour designs to the surface of cloth. Design in fabric is achieved by a great variety of techniques. It may be created as the fabric is made, or it may be applied to the finished goods. eg : weaving, dyeing, printing, painting, applique, embroidery, etc.

Colour is differently related to textile effects from weave and form. The primary function of colour in textile fabric is to impart brightness of tone and improve the qualities of textile design (Joshi, 1981). The application of colour may actually predate the use of clothing. Colour was applied to the skin of many primitive peoples. Daubs of colour were usually applied to the skin as a part of the observance of ceremonials as well as for man's enjoyment (Labarthe, 1964).

The mother nature has created this beautiful world by filling up pretty colours in it which have inspired every civilization from remote ages to the present day, to apply colour in its each and every object created by man. Colour assumes great importance when one deals with textiles (Radhakrishnan, 1980 and Rao, 1980). It is the soul of textiles. It is always the right colour that sells even the inferior fabric as colour has the hypnotising power to weaken one's reasoning powers by an emotional feeling of like or dislike for the textile product at the first sight (Ward, 1973 and Ghosh, 1995). A good and thoughtful colour scheme can compensate an uninteresting and faulty design

whilst a good design can be made useless and worthless by the bad choice of colours. Each season a colour theme emerges, occasionally spontaneously, often imposed by designers or enterpreneurs of the fashion world.

Texture is also a dominant feature in the fashion. The texture, handle and surface qualities of fabrics play a great part in achieving the total effect of the moment. Changing texture designs and scales of pattern increase the complexities and challenges of dress design (Joshi, 1984).

Man has observed nature and has tried to study how nature has decorated various units in order to get a homogenous effect in the whole of the universe. After studying and analysing the laws of nature he tried to apply the principles to decorate his clothings and other articles of use.

Designing textiles has been an ancient art in India. It is perhaps the most ancient craft of India. In fact, in no other field of applied arts, the genius of India's ancient craftsmen has been stamped in more fascinating forms. The traditional Indian motifs which have provided inspiration to decorate Indian fabrics of different times are lotus, shrubs, tree of life, mango, peacocks, birds, elephants, hunters, dancing figures, etc.

In the textile industry, with the introduction of new fibres, machineries, processes and with ever increasing demand for new aesthetic designs, the art of textile designing has become more challenging than ever before. Designing has become more of an intellectual endeavour over a period of time. Advancement in technology has facilitated production of designs through permutations and combinations.

An increased level of dress consciousness of individuals, over time, has

contributed to the development of innovative designs. Through clothing design, we can attune our eyes to subtle variations of line or colour, which in turn helps heighten our awareness of similar elements in other artistic forms. The colours and designs in textiles keep on changing according to the tastes as well as fashion as man's aesthetic sense motivates him to introduce more exquisiteness in his textiles and clothing which in turn lead to newer decorative designs through graceful forms and colours. Thus the designs and colour add to the value of any product.

The growing complexities of a highly industrialised society contribute to the revolution in lifestyles. The consumer is becoming more selective and fashion conscious due to the wider exposure. It leads to the development of new designs and styles as they play vital role in consumer's clothing selection. Clothing is an ideal medium through which many people may fulfill creative needs and express individually. The designer, as well as the person who selects and organises the components of costume, may communicate moods, feelings, emotions and ideas through the pervasive effect of applying the organising principles of design to the elements of art. Expressiveness in dress is the quality of appearance that is intensifying and summarising.

Today, possibly than ever before, both men and women consciously choose their clothing to create and substantiate the image they wish to present to the public. With the recent interest by males in their attire and their revolt against wearing the gray "flannel suit", men — particularly young men and women have become sensitized similarly to the communicative aspect of clothing. (Johnson, 1977). Hence there is a dire need to develop new designs for gents suiting and shirting, as it can

contribute to the depth of our art understanding and increase appreciation of the visual richness of our surrounding physical environment.

This study, therefore, was undertaken to develop new designs in gents shirting with the following objectives :

1. To study the prevalent fabric designs for gents shirting in the market.
2. To develop suitable fabric designs for gents shirting.
3. To evaluate the developed designs in respect of their suitability through a panel of judges.

Chapter-II

REVIEW OF LITERATURE

The following chapter accounts for the relevant literature collected for this study. The literature has been given under the following headings as per the objectives of the study :

2.1 History of textile designing.

2.2 Research studies related to the development of designs.

2.3 Research studies related to clothing preferences.

2.1 HISTORY OF TEXTILE DESIGNING

The history of textile designing is the story of many methods used from the earliest times in applying colour designs to the surface of cloth. Designing textiles has been an ancient art in India. Since colours are destroyed with time, few actual samples and historic textile prints and fabrics have been discovered. It is well known, however, that the art of textile designing had developed to a great extent in ancient India from early times (Joshi, 1982).

A fragment of a madder-dyed cotton cloth has been found at Mohenjo-Daro, establishing knowledge of cotton weaving and of the fabulous process of mordant dyeing five thousand years ago (Upadhyay, 1957). Antiquity of textile designing of the fabric is also proved by Vedas (1500 B.C.), ancient Sanskrit treatise, the Artha Sastra also proves the fact that designed textiles were produced under the Mauryan kings in third century B.C. (Bhavnani, 1969). The Selevcid envoy in Magasthenes (302-298 BC) at the

court of Chandragupta (Sandrocottus) in his account of India, mentions the finely woven flowered muslins worn by ruling Indian classes. Buddhist sculptures and Ajanta frescoes of sixth century AD depict patterned clothing (Chattopadhya, 1975; Mehta, 1960).

During the 16th century, the Mughal emperors brought Persian influences. The woollen and silken 'paisley' shawls from Kashmir and the growth of hand crafted block-printed cotton textiles have made a contribution of richness and colour to the current of textile design. Paisley prints, Madras and Calicos with small, often stylized design motifs were among the important Indian patterns of 17th and 18th century (Encyclopedia of Textiles, 1960).

2.2 RESEARCH STUDIES RELATED TO THE DEVELOPMENT OF DESIGNS

Pandit and Bhargava (1980) studied kota sarees of Rajasthan and reported that in some places, zari was used to make 'chokadi' (square) designs on the field of the saree and at other places it was also used for borders. The designs used were 'keri' (mango), 'phool patti' (flower and leaves), 'moar' (peacock) 'chokadi' (square) and other geometrical designs. Generally, light shades of colours such as green, blue, pink and yellow were used for the ground of saree and red, orange and violet were used for the design. Black was never used since it bleached when washed.

Patel and Bargohain (1983) collected samples and photographs of motifs and designs of Assamese hand woven textiles. The study revealed that Assamese hand woven textiles had delicate and simple motifs with soothing colour combinations. The dainty curves and flows were mixed with geometrical forms, a combination of Assamese

and tribal motifs. Flowers, plants, creepers, fruits, animals, birds etc. were some of the motifs observed. The colours of yarn mostly used were shiny brown, off-white, beige, etc. Sometimes yarns of cotton, mercerized cotton, pat silk, muga silk, eri silk, etc. were also used in natural colours.

Phadke and Sharma (1983) conducted a study on Bagru printing and stated that motifs of the Bagru textiles were known by their traditional names. The 'butis' were small motifs, while 'butas' were larger motifs. 'Jals' were network of flowers, leaves or an all over geometrical design. 'Bels' and borders were continuous motifs. 'Faradh' were small motifs scattered on dress material. 'Gol border' design consisted of 3-4 round borders on bedspread. Bagru textiles were characterised by their red and black colours used against cream background. These fabrics were exclusively block printed.

Singh and Karwa (1983) in their study of Sanganer prints and printers of Rajasthan reported that mostly cotton was used for printing. The blocks were made out of sycomore wood. Screens were also used for printing. The types of motifs mostly used were flowers such as 'dhatura', gulab', 'gainda', kamal', nargis', 'dakh' and 'kapas', leaves such as 'latken' and 'dhania', and fruits such as 'kachnar', 'elaichi', 'kharbuja' and 'keri'. Various shades and tints of all the colours were used according to the prevailing fashion and demand from the buyers. The dyes used were both vegetable and synthetic dyes. Direct style of printing was used.

Thomas and Pant (1983) conducted a comparative study on kalamkari of Kalahasti and Masulipatnam. They reported that there was a similarity in the colouring process of kalamkari fabrics of Masulipatnam and kalahasti as in both of them only pure

vegetable dyes were applied by means of a 'kalam'. However, the two processes varied fundamentally in one regard that in Masulipatnam kalamkari the design was block printed and then the colours were painted with kalam, whereas in the case of Kalahasti kalamkari, the entire work including the drawing of design was done with kalam. Thus, the Kalahasti kalamkari was truer kalamkari. The designs in Kalahasti kalamkari were Indianized whereas those in Masulipatnam kalamkari were Persianised.

Bansal and Phadke (1984) conducted a survey to study hand woven sarees of Maharashtra. The results showed that the motifs used for 'paithani sari' included 'kuyari'. 'gokarnbal', 'assavali', 'aakruthi', 'moarbagdi', 'totamaina', 'asharphi', 'jiparighari', 'ajanta lotus', 'baheshti parinda', 'huma parinda' and 'anar bela'. Poona sarees were found to be famous for superior quality of fabric construction, new designs and reasonable ranges. Vegetable dyes were used for dyeing cotton and silk sarees of Sholapur and Ahmednagar. Sarees from Nagpur were woven generally with plain dark red border. Sometimes in varied colours and intricate patterns. The common motifs of sarees of Maharashtra were 'gomebudgi', 'welbugdi', 'ruiful', 'kamal', 'rudraksha', 'swastika', 'kangra', 'kuyari karveti', 'lahri', 'pinjara', 'nagmani', 'khawale', and 'surya'. Geometrical motifs were also woven. Colours used were green, yellow, purple, blue, red, maroon, black, pink and orange.

Thomas and Sanghavi (1984) conducted a survey of Sanganeri printing to analyse the origin and development up to the present practices of Sanganeri printing and the traditional designs used for printing. They conducted a survey of 25 units and found out that printing was done by hand block and hand screen printing. The colours used

were red, maroon, grey, black in vegetable dyes and other wider range of colours in synthetic dyes according to fashion trends.

Majumdar and Chaulkar (1984) conducted a study on printed textile design and the development of designs by hand block printing using different materials for block like linoleum, dotted rubber and U foam and the application of their printing effects through transfer printing techniques. The transfer printing on cotton polyester fabrics were studied by using synthetic polymer emulsions as a finish, in the printing paste and in combinations of finish/paste. The synthetic polymer emulsions used were acrylic, polyvinyl acetate and polyvinyl alcohol, the printing paste was prepared with disperse dye, dissolved in ethyl alcohol, sodium alginate as thickener and with/without the synthetic polymer emulsion. Tone/shaded effect was obtained by using linoleum, flocked and unflocked surfaces in the design, dotted rubber gave the tie-dye effect and U-foam gave the effect of speckled/granulated texture.

Kosuge and Kobayashi (1990) studied the image factors of 50 kinds of polka dot patterns (25 light ground, 25 dark ground) and were identified by three factors of clearness, simplicity and profoundness. Clearness is related to dot size, simplicity is related to the interval between dots, profoundness is related to the black and white colour of the ground textile.

Kosuge and Kobayashi (1990) studied the images received from striped pattern with two different colours and were analysed by factor analysis. Striped patterns were made by using coloured paper showing 132 kinds of stripes (horizontal and vertical) each of which had a different form, width and colour.

Yoshioka (1990) investigated the interaction between pattern and colour in clothing, an analysis was made of the image effect of two-colour striped patterns in different colours, different directions and thicknesses. The appearance of the garments was assessed subjectively using fashion image terms in addition to basic image adjective pairs.

Bao (1992) examined the influence of Chinese textile motifs on the Japanese traditional textile motifs. He found that there was a great influence during Tang dynasty (618-906 A.D.) and remained strong until the Ming dynasty (1368-1644 A.D.) after which a Japanese style gradually emerged. Traditional Japanese textile style mirrored the Japanese sense of aesthetics and nationality especially as regards the use of colour. The Japanese are shown to have been better at printing motifs, whereas the Chinese were better at weaving.

Ziberna and Duprouski (1994) studied the effects of colour composition or seven colour contrasts (colour-colour contrast, light-dark contrast, warm-cool contrast, complimentary contrast etc.) which make a starting point for colour compositions. The advantages of colour composing using CAD systems which offer a systematic arrangements of desired coloured threads into a so called colour atlas are described with different ways of inserting colour values. However, the system had a deficiency, i.e. colour deviations between screen simulations and their presentation on output devices. By using the two dimensional CAD system-TWEED, the possibility of quick simulation colour harmony and disharmony of a sample was shown.

Dhir (1997) created motifs inspired from Madhubani paintings to develop

border design, central design, corner design and all over design by combining selected motifs. The selected designs were painted on khadder casement and twenty motifs in each category were made. Only five colours were used i.e. red, magenta, yellow, green and ultramarine blue. These designs were then evaluated by judges and selected designs were painted with fabric colours on khadder casement with the same colour scheme.

Kaur (1999) conducted a study to investigate the prevalent textile designs for ladies suiting and prevalent styles for ladies suits and developed new textile designs and styles for them. She found that in textile designs for ladies suiting, the most prevalent type of dominant motif was flower (50.7 percent), size of dominant motif was mostly medium (56 per cent) and area covered by dominant motif was mostly all over (46 percent). The most prevalent dominant colour in textile designs was brown (13.3 percent) whereas in the background it was white (19.0 percent). Most of the textile designs consisted of two colours (35 percent), the most prevalent colour scheme was neutral (18 percent) and the most prevalent fabric was cotton (36 percent). The most prevalent combination in ladies suits was 'kameez'- 'salwar' (56 percent). For ladies suiting forty new textile designs and for ladies suits forty new styles were developed.

2.3 RESEARCH STUDIES RELATED TO CLOTHING PREFERENCES

Nayyer (1980) conducted a comparative study of the clothing interests between married and unmarried men which revealed that unmarried men had greater degree of interest in clothing than married men. Lecturers among married and engineers amongst unmarried were more interested in clothing than other men belonging to different professions. Doctors in both the categories i.e. married and unmarried were

least interested in clothing and following latest fashion trends. Among the married respondents, those belonging to 30-35 yrs. age group were more interested in clothing than those belonging to 25-30 yrs. age group. But on the contrary it was found that unmarried respondents belonging to 25-30 yrs. of age had more interest in clothing than those belonging to 30-35 yrs. age group.

Duggal (1982) compared the impact of textile advertisements on young unmarried and married men falling in the age group of 16-25 yrs. and 28-37 yrs. respectively. She concluded that the percentage of married men was more who were influenced by textile advertisements. They read these advertisements for information and their purchase was not impulsive, there being not much difference between the percentage of the married and young unmarried respondents. It may be because of less difference between their age groups. Moreover, these days most of the married and unmarried young men have started dressing in a similar way and usually prefer comfortable and casual clothes.

Bala (1983) studied the consumer preferences for woven dress materials from their trade pattern at the retailers level in Ludhiana and found that as regards men's preference for designs, checks were preferred for suits, stripes for shirts and night wear and plain design for trousers. The most preferred designs among women consumers were floral for suits and night wear while plain designs for dupatta and blouse. Consumers' preference of colours revealed that men preferred medium and single colour for suits, trousers and night wear while for shirts light and multi colours were preferred. Women preferred multicolours and light colours for suits; medium and single colour for dupatta,

blouse and night wear.

Sandhu (1986) conducted a survey of prevalent textile designs for different clothing materials and household textiles which revealed that most preferred dominant motifs were flower/foliage for furnishing (59.43 percent), saree (54.32 percent), dupatta (53.22 percent), table linen (51.64 percent) and gents shirting (23.90 percent). Cool colours were more preferred than warm colours in the design whereas white and yellow were more preferred as dominant colours in the background of the design. In most of the designs, number of colours was found to be more than the number of tones, the number of colours being mostly three. The most preferred colour scheme was warm-cool-neutral for furnishings (47.71 percent), ladies suiting (45.56 percent), gents shirting (44.66 percent) and table linen (41.53 percent), followed by warm-neutral for dupatta (33.38 percent) and cool-neutral for bed linen (30.47 percent). A total of 43 new designs were developed experimentally by using different non-conventional printing techniques.

Rogers and Hillikar (1989) designed a study to measure the extent to which apparel retailers had incorporated colour analysis into their apparel merchandising business. A survey was made by distributing questionnaires to 100 of departmental stores and specialty stores out of which five stores offered in store classes on colour analysis for customers at the cost of $ 10-19 per hour. Also, group session of 15-60 minutes was provided at no cost to customers. Colour analysis is also used as basis for arrangement and display of apparel in market place. Colour represents an important factor in the total aesthetic experience and is significant to observe as well as create. Survey respondents tend to agree with the literature, which indicates that colour analysis had advantages and

disadvantages to both stores and customers.

Jacob (1992) studied the attitudes of adolescent boys towards fashion adoption, their preference and awareness about the types of fabric available in the market. The boys were divided on the basis of socio-economic status. It was found that 61 per cent respondents from lower income group, 81 per cent from middle income group and 86 per cent in higher income group showed awareness regarding latest trends in clothing. Further findings revealed that design and style of dress were the most governing factors for the selection of fabric and garments. From the content analysis of data it was found that blended fabrics were the most selling fabrics for suiting and shirtings.

Rebecca (1993) conducted a survey of one hundred and fifty consumers and twenty one manufacturers of ready-made shirts (RMS) to study their buying behaviour and marketing strategies respectively. It was seen that exclusive and department/multi-brand shops were the outlets most favoured by the consumers, while boutiques and pavement shops were the least popular. Shop patronage depended mainly upon the variety of shirts in stock, outlets having a greater assortment appear to draw more customers. Advertisements, especially those appearing in magazines had a profound influence in that they played a major role in convincing potential patrons to try a particular brand. Further it was observed that the manufacturers introduced new designs at quarterly intervals, depended mainly on fashion magazines for ideas, segmented their shirts according to party, office and casual wear and sold their products mostly through department/multi-brand shops.

Saggu and Gandotra (1994-95) conducted a study on men's preferences for

readymade shirts in Ludhiana. This study revealed that majority of the men (68 percent) preferred polyester blends in winter and cotton blends (90 percent) for summer in ready-made shirts. Majority of the respondents (78 percent) preferred stripes in shirts followed by plain shirts (66 percent), checks (50 percent), self design (44 percent), prints (22 percent), woven design (20 percent) and acid wash (4 percent). Most of the men (92 percent) preferred to wear light coloured shirts in summer whereas in winter, the colour that goes with many dresses (64 percent) was the most preferred. Majority of the respondents (68 percent) preferred to spend upto Rs. 300 on a single shirt. High prices of the shirts and insufficient variety of designs and colours available were major reported shortcomings.

Bharad and Kulkarni (1995) conducted a comparative study of costume preference between rural and urban boys which revealed that rural boys preferred coarse (9 per cent), limpy (15 per cent) and lustrous (21 per cent) fixture while urban boys liked smooth texture (46 per cent). As far as choice of colour was concerned, it was observed that rural boys liked blue (11 per cent), black (13 per cent), dark (11 per cent), bright (26 per cent) and dull (8 per cent) colours as against urban boys who had inclination towards red (15 per cent), orange (14 per cent), green (11 per cent), violet (13 per cent), white (32 per cent) and light (7 per cent) colours. Further it was reported that 35 per cent rurals preferred natural dress material as against 30 per cent urbans and 28 per cent rurals preferred synthetic as against 20 per cent urbans.

Chandrakala and Shailaja (1995) interviewed a group of 160 adolescent boys studying in degree colleges of Dharwad city to find out the factors affecting the

selection of men's wear. It was found that majority of the respondents gave greater importance to quantity of the material to be purchased (66.25 per cent), followed by brand name (63.75 per cent) and amount to be spent (49.37 per cent). Further it was observed that majority of the respondents preferred to purchase cloth materials i.e. synthetics (41.46 per cent), cottons (86.58 per cent) and woollens (82.93 per cent) during rainy, summer and winter seasons respectively. It was also seen that most of the respondents preferred spun (65 per cent) and pure cotton (63.12 per cent) materials for their shirts and terrycot (60.62 per cent) materials for pants.

Srivastava *et al* (1995) in their study on consumer tastes and preferences for suiting and shirting in Delhi market made an integrated effort to correlate different important factors which influence the consumer buying behaviour and provide higher value satisfaction to the textile consumers. It was reported that consumers buying preferences among the brands are significantly effected by the age group of consumers as their priorities change in terms of colour, design, quality and brand perceptions. In case of shirting woven plain and checks/stripes are most preferred.

Kaur (1996) interviewed contemporary dress designers in Delhi city to find out the traditional motifs being used by them, their symbolic significance, their adaptation and incorporation on different woven, embroidered and printed fabrics. It was found that large variety of traditional motifs were used by the contemporary dress designers, the most common being the 'tree of life' motif and the 'paisley' motif. Mostly ethnic outfit for female were designed by both male and female dress designers which included : 'salwar'- 'kameez', 'lehenga-choli', 'sari-blouses' and 'kurtas'. Also the use

of traditional motifs was more on ethnic outfits as compared to western.

After critically analysing the above reviews it can be concluded that textiles occupy an important place in our daily life. Today, men have become more selective and fashion conscious about their clothing due to the wider exposure. Hence, there is a need to develop new textile designs for gents wear.

Chapter-III

MATERIALS AND METHODS

The present study was undertaken to investigate the prevalent textile designs for gents shirting and to develop new textile designs for the clothing material of gents shirting. The following account elaborates the methods used for the achievement of the formulated objectives.

3.1 Research design.

3.2 Locale of the study.

3.3 Sampling design.

3.4 Construction of research instrument.

3.5 Collection of data.

3.6 Analysis of data.

3.7 Development of textile designs.

3.8 Evaluation of develop fabric designs.

3.1 RESEARCH DESIGN

The prevalent textile designs for gents shirting were studied through a survey method, which was supplemented by simple observation.

3.2 LOCALE OF THE STUDY

The sample for present study was drawn from different markets of Ludhiana city in the state of Punjab (India).

3.3 SAMPLING DESIGN

3.3.1 Sampling procedure

The sampling procedure was two phased. The first phase dealt with the selection of markets. The markets were purposively selected from different areas of Ludhiana city so as to cover all the economic sections of the society. The second phase dealt with the selection of shops. The shops were randomly selected from these markets.

3.3.2 Sample size

The samples of prevalent textile designs used for gents shirting were collected from 50 shops in different markets of Ludhiana city. The data regarding the number of shops selected from different markets of Ludhiana and the samples of textile designs collected from them is given in Table 3.1 The total number of samples of textile designs collected was restricted to 200 only because majority of the shops had same design in four or five colour schemes and only one sample of the same design was collected, followed by repetition of same design in different shops and refusal by shopkeepers to give more than three to four samples.

Table 3.1 Distribution of shops and samples of textile designs collected from different markets of Ludhiana City

Name of the markets	Total no. of shops	No. of shops selected	No. of samples collected
Chaura Bazar	48	26	80
Ghumar Mandi	8	5	25
Gujjarmal Road	16	8	40
Karim Pura	10	5	25
Jail Road	8	4	20
Model Town	4	2	10
Total	**94**	**50**	**200**

3.4 CONSTRUCTION OF RESEARCH INSTRUMENT

An observation sheet (Annexure-I) was prepared to gather the required information from the collected samples of different printed textile materials for gents shirts. The observation sheet contained the information regarding the dominant motifs including their type, nature and size of motifs, dominant colour in the design and background, value and intensity of dominant colour, nature of colour scheme etc.

The observation sheet was pretested by studying a few samples of printed textile materials used for gents shirting. Pre-tested samples were not included in the final study. On the basis of pre-testing results necessary changes were made in the observation sheet.

3.5 COLLECTION OF DATA

The observation sheet was filled by examining these samples one by one and observations so obtained were noted regarding the motifs including their type, nature, size and area covered by them, dominant colour in the design and background, value and intensity of dominant colour, nature of colour scheme and type of fabric.

3.6 STATISTICAL ANALYSIS OF DATA

To determine the distribution of different types of designs and colours for gents shirting material, simple percentage method was used for the analysis of data.

3.7 DEVELOPMENT OF TEXTILE DESIGNS

The new designs were developed based on prevalent fashion (revealed colour forecast for the year 2000' (website)
from the study) and original ideas. The materials required were as follows :

Hand made sheets, tracing papers, lead pencil, eraser, graph pencil,

sharpener, scale, round brushes of numbers 000,00,0, 1, 2, 3, 4, 5, 10, flat brushes of numbers 1 and 10, poster colours and rough cloth. The following poster colours were used :

(i) Black (ii) White (iii) Burnt sienna (iv) Yellow ochre (v) Lemon yellow (vi) Poster green (vii) Olive green (viii) Cobalt blue (ix) Cerulean blue (x) Red (xi) Orange (xii) Mauve (xiii) Silver.

To develop the textile designs, first the type, arrangement and frequency of repetition of motifs were decided. A handmade sheet was used because of good absorbency of colour and its fabric like texture. It was cut into pieces of 6"x6". The background was coloured, (white, brown, blue, etc.) if needed, with the help of brush number 10. The design was drawn with a lead pencil on the cut pieces of handmade sheet The poster colours were then applied in the design with the help of different brushes of number 000,00,0, 1,2, etc. Different tints and shades of colours, if required, were made by mixing white and black colours respectively. Some mixed colours were also produced by combining two or three colours. After the designs were developed, they were photographed for display in the thesis.

3.8 EVALUATION OF DEVELOPED FABRIC DESIGNS

Seventy-five new fabric designs were developed out of which fifty suitable designs were selected by a panel of seven judges. Fifty selected fabric designs were then evaluated by them. All the developed designs were displayed before them and they were asked to select and rank ten designs of their choice. Then the design which was selected by the maximum number of judges was ranked the first and the design which was selected by the next maximum number of judges was ranked second and so on.

Chapter-IV

RESULTS AND DISCUSSION

The present study was undertaken to study the prevalent textile designs of gents shirting and to develop new textile designs for gents shirting. The results of this study are discussed under the following headings :

4.1 Prevalent textile designs for gents shirting.

4.2 Development of textile designs for gents shirting.

4.3 Evaluation of developed designs.

4.1 Prevalent textile designs for gents shirting.

4.1.1 Prevalent motifs .

i. Type of dominant motif

Most of the textile designs had only one dominant motif on the basis of its size or the area covered by it.

Table 4.1 Distribution of prevalent textile designs of gents shirting according to the type of dominant motif.

Type of dominant motif	No. of designs	Percentage
Stripes	63	31.5
Checks	82	41
Geometric	23	11.5
Abstract	18	9
Paisley	2	1
Self	2	1
Floral	10	5
Total	**200**	**100**

It is apparent from table 4.1 that the majority (41 percent) of the textile designs consisted of checks, followed by stripes (31.5 percent) and geometric motif (11.5 percent). Thus the most prevalent motif was check. The least prevalent motifs were paisley and self (1 percent each). Animal and human motifs were not seen in gents shirting.

In their study on consumers' preferences for designs and colours in textiles in Bombay, Parikh *et al* (1977) also reported that consumers preferred checks (72 per cent), stripes (52 per cent), followed by geometrical (50 per cent) and floral (38 per cent) designs for gents shirting.

ii. Nature (natural/stylized) of dominant motif

Table 4.2 Distribution of prevalent designs of gents shirting according to the nature of dominant motif.

Dominant motif	Natural		Stylized	
	No. of samples	Percentage	No. of samples	Percentage
Stripes	39	19.5	24	12
Checks	79	39.5	3	1.5
Geometric	23	11.5	0	0
Abstract	0	0	18	9
Paisley	0	0	2	1
Self	2	1	0	0
Floral	0	0	10	5
Total	**143**	**71.5**	**57**	**28.5**

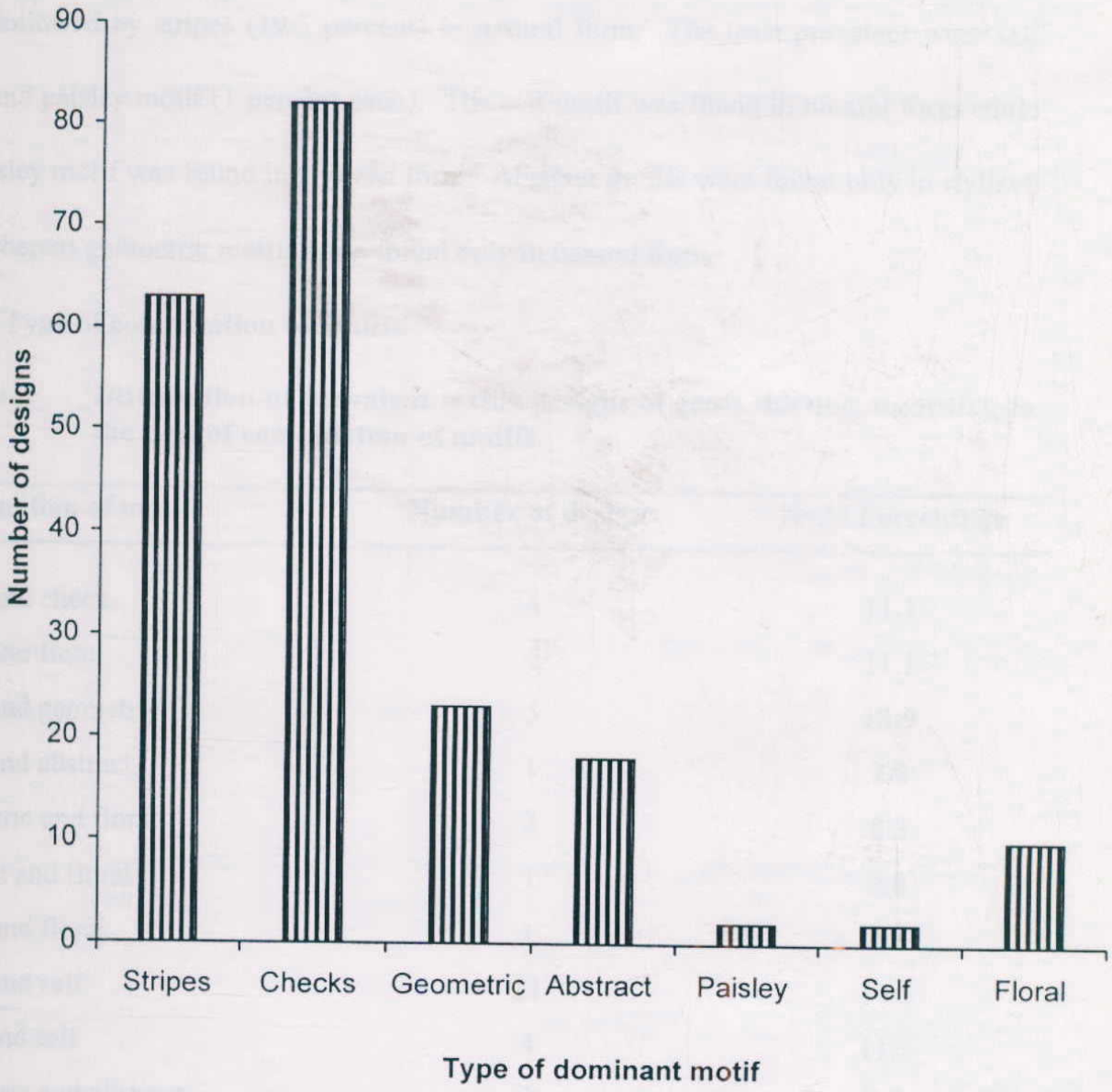


Fig. 1 Distribution of prevalent textile designs of gents shirting according to the type of dominant motif

Data given in table 4.2 indicates that the majority (71.5 percent) of textile designs consisted of natural motifs, followed by stylized motifs (28.5 percent). The table also shows that most of the (39.5 percent) textile designs consisted of checks in natural form, followed by stripes (19.5 percent) in natural form. The least prevalent were self motif and paisley motif (1 percent each). The self motif was found in natural form while the paisley motif was found in stylized form. Abstract motifs were found only in stylized form whereas geometric motifs were found only in natural form.

iii. Type of combination of motifs

Table 4.3 Distribution of prevalent textile designs of gents shirting according to the type of combination of motifs.

Combination of motifs	Number of designs	N=36 Percentage
Stripe and check	4	11.1
Stripe and floral	4	11.1
Stripe and geometric	5	13.9
Stripe and abstract	1	2.8
Geometric and floral	3	8.3
Abstract and floral	1	2.8
Check and floral	1	2.8
Check and self	11	30.5
Stripe and self	4	11.1
Geometric and abstract	2	5.6
Total	**36**	**100**

It is evident from table 4.3 that the majority (30.5 per cent) of textile designs consisted of a combination of check and self motifs, followed by combination of

stripe and geometric (13.9 per cent). The least prevalent combinations were that of stripe and abstract, floral and abstract, and check and floral (2.8 per cent each).

iv. Size of motifs

Table 4.4 Distribution of prevalent textile designs of gents shirting according to the size of motifs.

Size of motifs	Number of designs	Percentage
Small (0 - 1 cm)	58	29
Medium (1 - 3 cm)	95	47.5
Big (More than 3 cm)	47	23.5
Total	**200**	**100**

The above table shows that majority (47.5 per cent) of the textile designs had medium size motifs, followed by small size motifs (29 per cent). The least prevalent size of motifs was big size (23.5 per cent).

v. Area covered by the motifs

Table 4.5 Distribution of prevalent textile designs of gents shirting according to the area covered by the motifs.

Area covered by the motifs	Number of designs	Percentage
All over	162	81
Medium	29	14.5
Very less	9	4.5
Total	**200**	**100**

It can be seen from table 4.5 that most of the (81 percent) textile designs consisted of all over area covered by the motifs, followed by medium area (14.5 percent). The least prevalent was the very less (4.5 percent) area covered by the motifs.

4.1.2 Prevalent colours

i. Dominant colour in the designs

Table 4.6 Distribution of prevalent textile designs of gents shirting according to the prevalent dominant colour

Dominant colour	Number of samples	Percentage
White	6	3
Black	18	9
Grey	19	9.5
Brown	50	25
Blue	45	22.5
Green	26	13
Cream	5	2.5
Maroon	4	2
Orange	9	4.5
Red	5	2.5
Yellow	7	3.5
Pink	6	3
Total	**200**	**100**

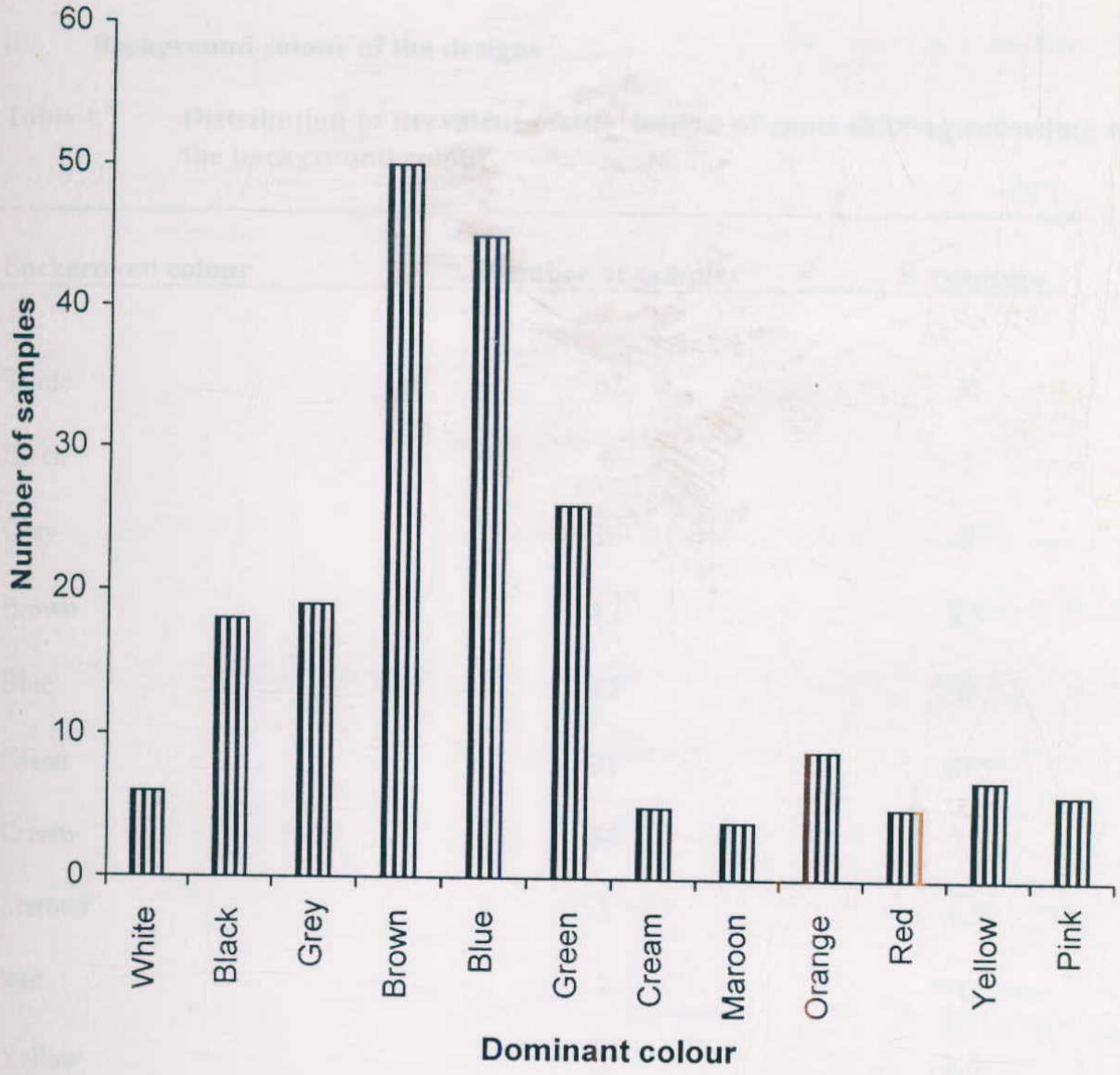


Fig. 2 Distribution of prevalent textile designs of gents shirting according to the dominant colour

It can be observed from table 4.6 that most of (25 percent) the textile designs consisted of brown colour as the dominant colour in the designs, followed by blue colour (22.5 per cent) and green colour (13 per cent) respectively. The least prevalent colour in the designs was maroon (2 per cent).

ii. Background colour of the designs

Table 4.7 Distribution of prevalent textile designs of gents shirting according to the background colour.

Background colour	Number of samples	Percentage
White	62	31
Black	6	3
Grey	16	8
Brown	17	8.5
Blue	12	6
Green	21	10.5
Cream	54	27
Maroon	3	1.5
Red	2	1
Yellow	5	2.5
Pink	6	1
Total	**200**	**100**

The above table shows that majority (31 percent) of the textile designs

consisted of white colour in the background of design, followed by cream (27 percent) and green (10.5 percent) respectively. The least prevalent colours for the background were red and pink (1 percent each).

iii. Value of dominant colour in the designs

Table 4.8 Distribution of prevalent textile designs of gents shirting according to the value of dominant colour.

Value of dominant colour	Number of designs	Percentage
High	45	22.5
Medium	117	58.5
Low	38	19
Total	**200**	**100**

It is clear from table 4.8 that the majority (58.5 percent) of the textile designs consisted of medium value of dominant colour in the designs, followed by high (22.5 percent) value. The least prevalent value of dominant colour was low (19 percent).

iv. Intensity of dominant colour in the designs

Table 4.9 Distribution of prevalent textile designs of gents shirting according to the intensity of dominant colour.

Intensity of dominant colour	Number of designs	Percentage
High	25	12.5
Medium	131	65.5
Low	44	22
Total	**200**	**100**

It can be seen from table 4.9 that the majority (65.5 percent) of the textile designs consisted of medium intensity of dominant colour, followed by low intensity (22 percent). The least prevalent was high intensity (12.5 percent).

v. Number of colours in the design

Table 4.10 Distribution of prevalent textile designs of gents shirting according to the number of colours.

Number of colours	Number of designs	Percentage
One	7	3.5
Two	74	37
Three	55	27.5
Four	42	21
Five	14	7
More than five	8	4
Total	**200**	**100**

It is evident from table 4.10 that majority (37 percent) of the textile designs consisted of two colours, followed by three (27.5 percent) and four (21 percent) colours respectively. The least prevalent number of colours in the textile designs was one (3.5 percent).

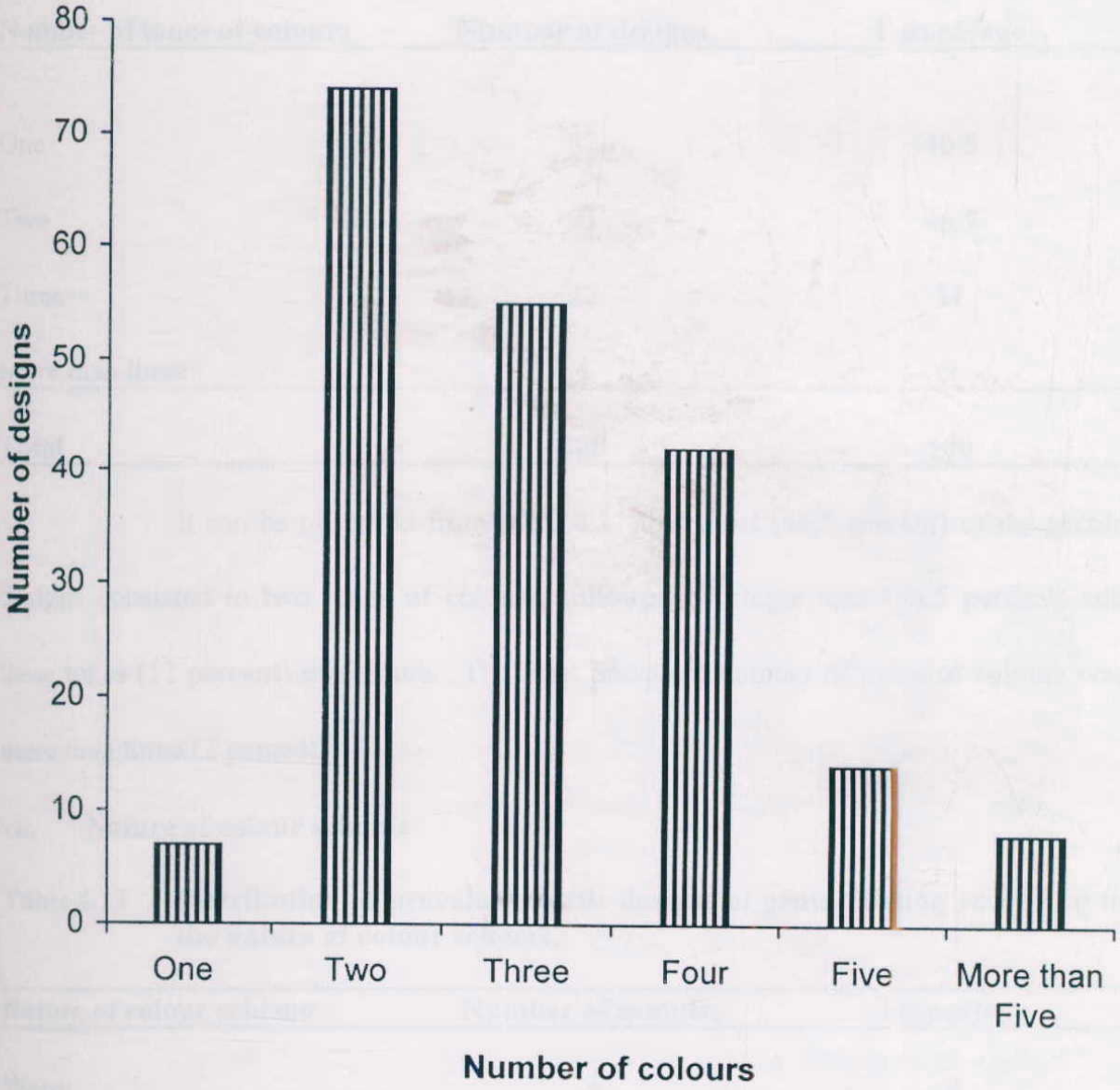


Fig. 3 Distribution of prevalent textile designs of gents shirting according to the number of colours

vi. **Number of tones (tints and shades) of colours in the designs**

Table 4.11 Distribution of prevalent textile designs of gents shirting according to the number of tones of colours.

Number of tones of colours	Number of designs	Percentage
One	81	40.5
Two	93	46.5
Three	22	11
More than three	4	2
Total	**200**	**100**

It can be observed from table 4.11 that most (46.5 percent) of the textile designs consisted to two tones of colours, followed by single tone (40.5 percent) and three tones (11 percent) of colours. The least prevalent number of tones of colours was more than three (2 percent).

vii. **Nature of colour scheme**

Table 4.12 Distribution of prevalent textile designs of gents shirting according to the nature of colour scheme.

Nature of colour scheme	Number of samples	Percentage
Warm	4	2
Cool	25	12.5
Neutral	80	40
Warm+cool	21	10.5
Warm+neutral	19	9.5
Cool+neutral	34	17
Warm+cool+neutral	17	8.5
Total	**200**	**100**

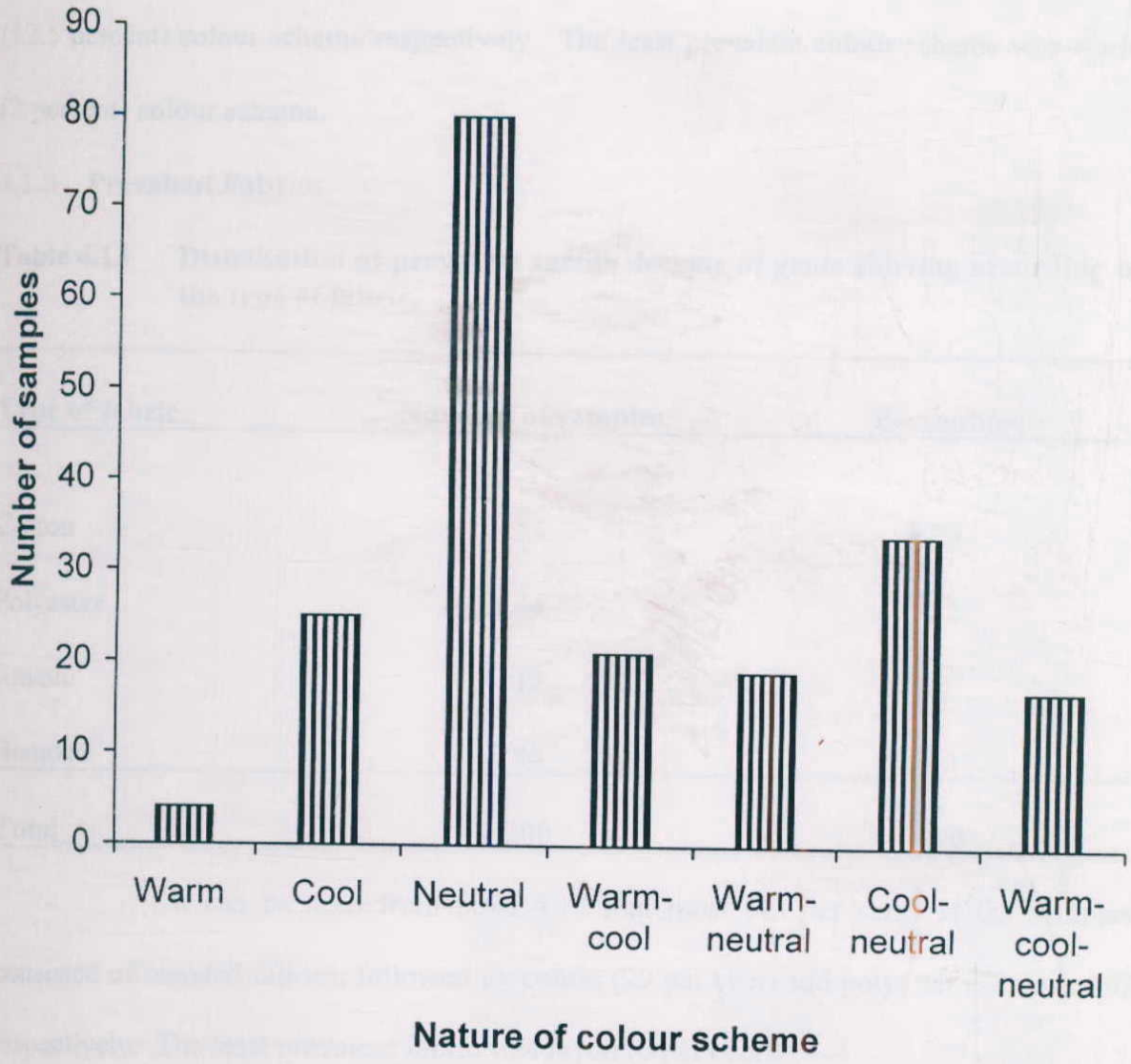


Fig. 4 Distribution of prevalent textile designs of gents shirting according to the nature of colour scheme

Table 4.12 shows that most (40 percent) of the textile designs consisted of neutral colour scheme, followed by cool-neutral (17 percent) colour scheme and cool (12.5 percent) colour scheme respectively. The least prevalent colour scheme was warm (2 percent) colour scheme.

4.1.3 Prevalent Fabrics

Table 4.13 Distribution of prevalent textile designs of gents shirting according to the type of fabric.

Type of fabric	Number of samples	Percentage
Cotton	58	29
Polyester	44	22
Rayon	12	6
Blended	86	43
Total	**200**	**100**

It can be seen from table 4.13 that most (43 per cent) of the samples consisted of blended fabrics, followed by cotton (29 per cent) and polyester (22 per cent) respectively. The least prevalent fabric was rayon (6 per cent).

The results were similar to those of Jacob (1992) who reported that blended fabrics were the most selling fabrics for suiting and shirting.

4.2 Development of textile designs for gents shirting

For gents shirting, seventy-five new textile designs were developed. Out of these fifty suitable designs were selected by a panel of seven judges which are discussed below :

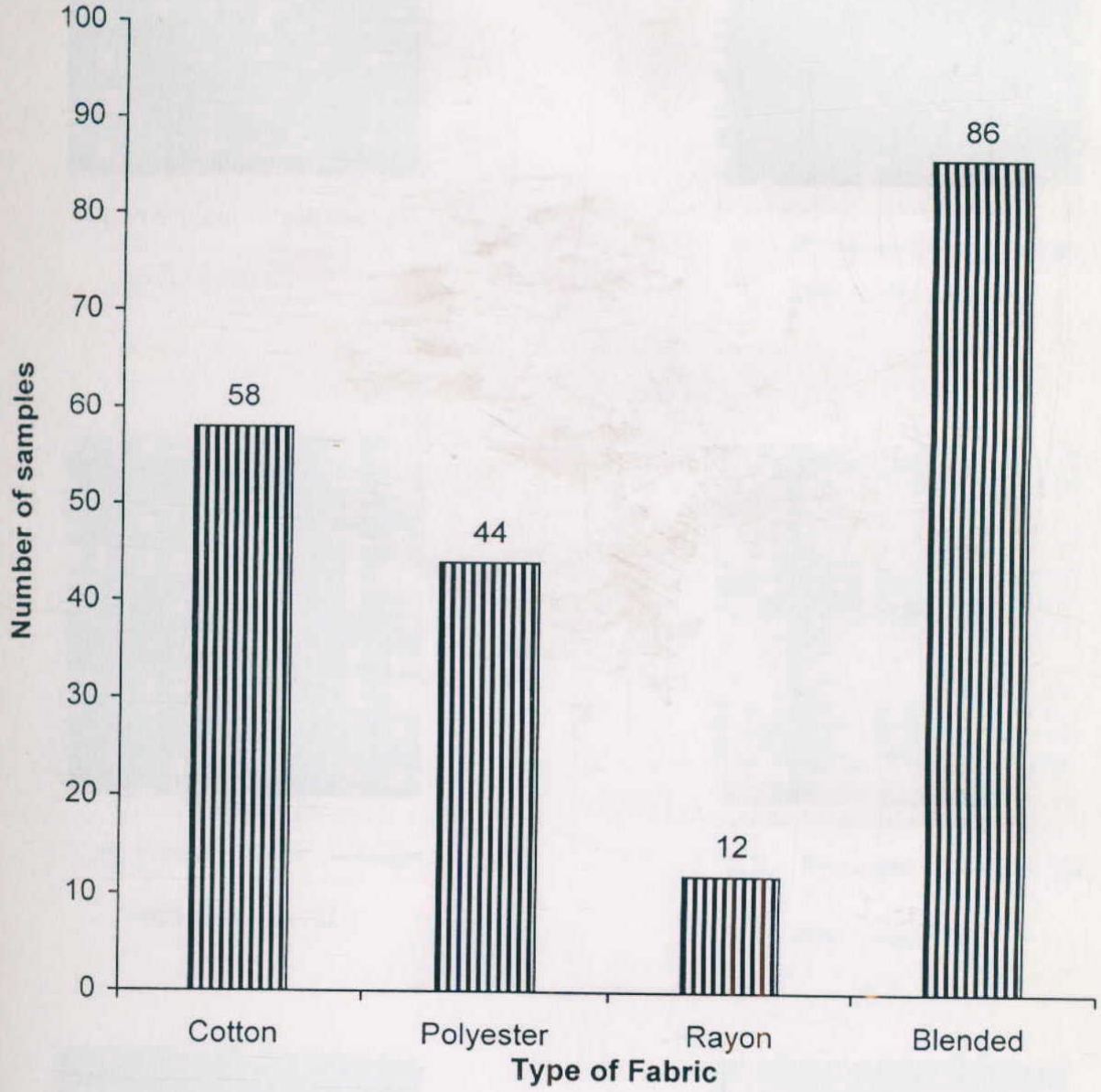


Fig. 5 Distribution of prevalent textile designs of gents shirting according to type of fabric

S.I Prevalent fabric design with check motif

S.II Prevalent fabric design with check motif

S.III Prevalent fabric design with check motif

S.IV Prevalent fabric design with check motif

S.V Prevalent fabric design with check motif

S.VI Prevalent fabric design with check motif

S.VII Prevalent fabric design with check motif

S.VIII Prevalent fabric design with check motif

S.IX Prevalent fabric design with check motif

S.X Prevalent fabric design with check motif

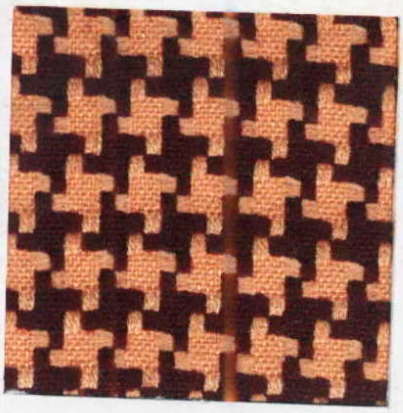
S.XI Prevalent fabric design with check motif

S.XII Prevalent fabric design with check motif

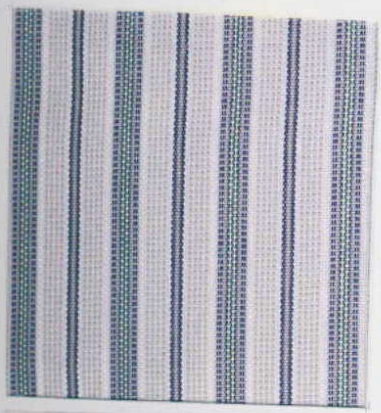
S.XIII Prevalent fabric design with check motif

S.XIV Prevalent fabric design with check motif

S.XV Prevalent fabric design with check motif



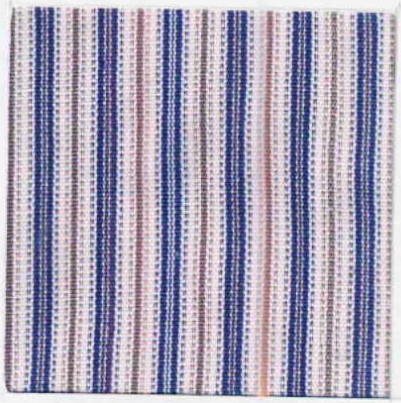
S.XVI Prevalent fabric design with stylized check (hound's tooth) motif



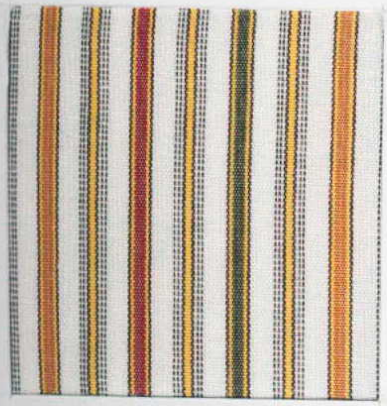
S.XVII Prevalent fabric design with stripe design

S. XVIII Prevalent fabric design with stripe design

S. XIX Prevalent fabric design with stripe design

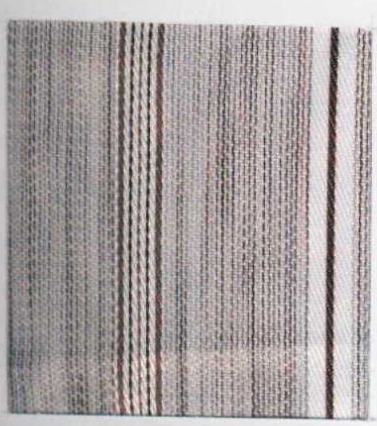


S. XX Prevalent fabric design with stripe design



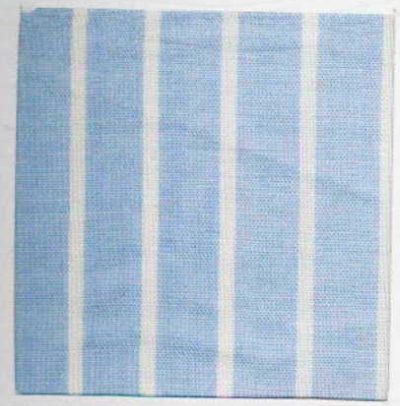
S. XXI Prevalent fabric design with stripe design

S. XXII Prevalent fabric design with stripe design



S. XXIII Prevalent fabric design with stripe design

S. XXIV Prevalent fabric design with stripe design



S. XXV Prevalent fabric design with stripe design

S. XXVI Prevalent fabric design with stripe design

S. XXVII Prevalent fabric design with stylized stripe design

S. XXVIII Prevalent fabric design with stylized stripe design

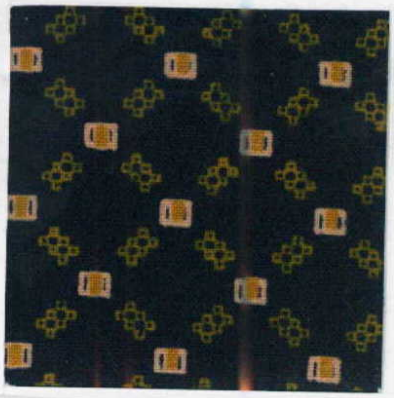
S. XXIX Prevalent fabric design with geometric motif

S. XXX Prevalent fabric design with geometric motif

S. XXXI Prevalent fabric design with geometric motif

S. XXXII Prevalent fabric design with geometric motif

S. XXXIII Prevalent fabric design with geometric motif



S. XXXIV Prevalent fabric design with geometric motif

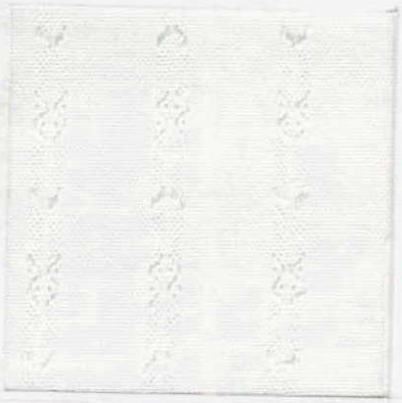
S. XXXV Prevalent fabric design with abstract motif

S. XXXVI Prevalent fabric design with abstract motif

S. XXXVII Prevalent fabric design with abstract motif

S. XXXVIII Prevalent fabric design with abstract motif

S. XXXIX Prevalent fabric design with abstract motif

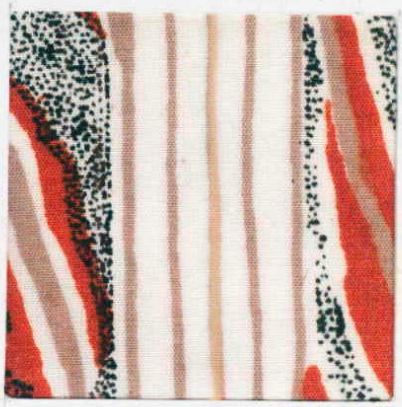


S. XL Prevalent fabric design with self motif

S. XLI Prevalent fabric design with stylized paisley motif

S. XLII Prevalent fabric design with stylized floral motif

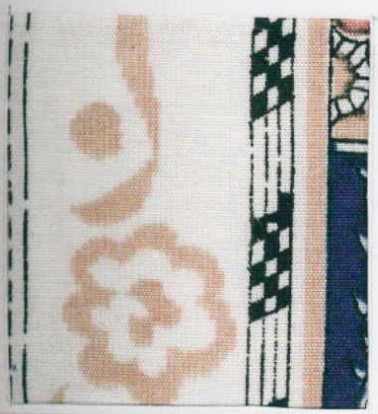
S. XLIII Prevalent fabric design with stylized floral motif



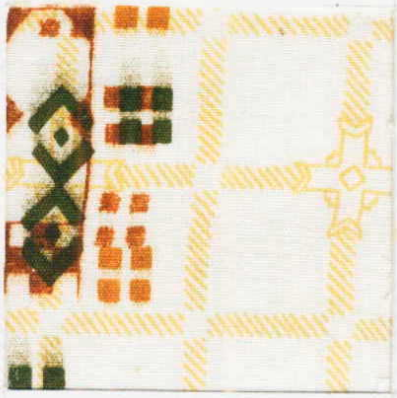
S. XLIV Prevalent fabric design with stripe and abstract motifs

S. XLV Prevalent fabric design with stripe and geometric motifs

S. XLVI Prevalent fabric design with check and floral motifs



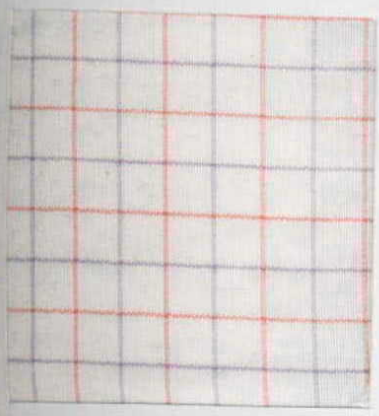
S. XLVII Prevalent fabric design with stripe and floral motifs



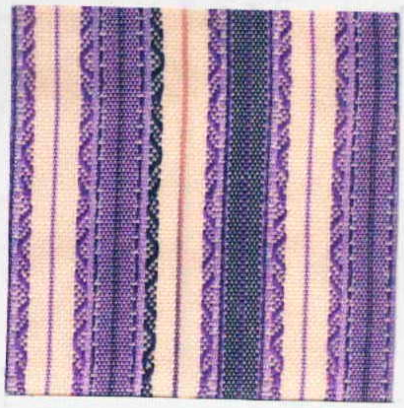
S. XLVIII Prevalent fabric design with geometric and abstract motifs

S. XLIX Prevalent fabric design with check and stripe motifs

S. L Prevalent fabric design with check and self motifs

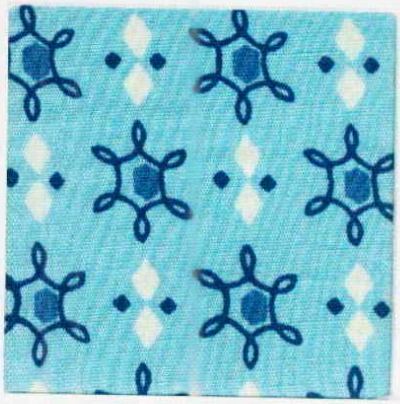


S. LI Prevalent fabric design with check and self motifs



S. LII Prevalent fabric design with stripe and self motifs

S. LIII Prevalent fabric design with stripe and self motifs



S. LIV Prevalent fabric design with geometric and floral motifs

Design 1 (Plate I) : The design consists of check motif. The size of motif is medium and all over area is covered by the motifs. The colour used in the motifs is black with blue background. Two single toned colours are used. The value of dominant colour is high and intensity is medium. The design has cool-neutral colour scheme.

Design 2 (Plate II) : The design consists of check motif. The size of motif is medium and all over area is covered by the motifs. The colours used in the motifs are blue, grey and mauve with white background. Four single toned colour are used. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 3 (Plate III) : The design consists of check motif. The size of motif is medium and all over area is covered by the motifs. The colour used in the motifs is black with white background. The number of colours used are two with single tone. The value of dominant colour is high and intensity is medium. The design has neutral colour scheme.

Design 4 (Plate IV) : The design consists of check motif. The size of motif is big and all over area is covered by the motifs. The colours used in the motifs are blue, orange and green with white background. The number of colours used are four with two tones. The value of dominant colour is medium and intensity is also medium. The design has cool colour scheme.

Design 5 (Plate V) : The design consists of stripe (vertical and horizontal) design. The size of motifs is medium and all over area is covered by the motifs. The colour used in the design is blue with white background. Two single toned colours are used in the design. The value of dominant colour is high and intensity is medium. The design has

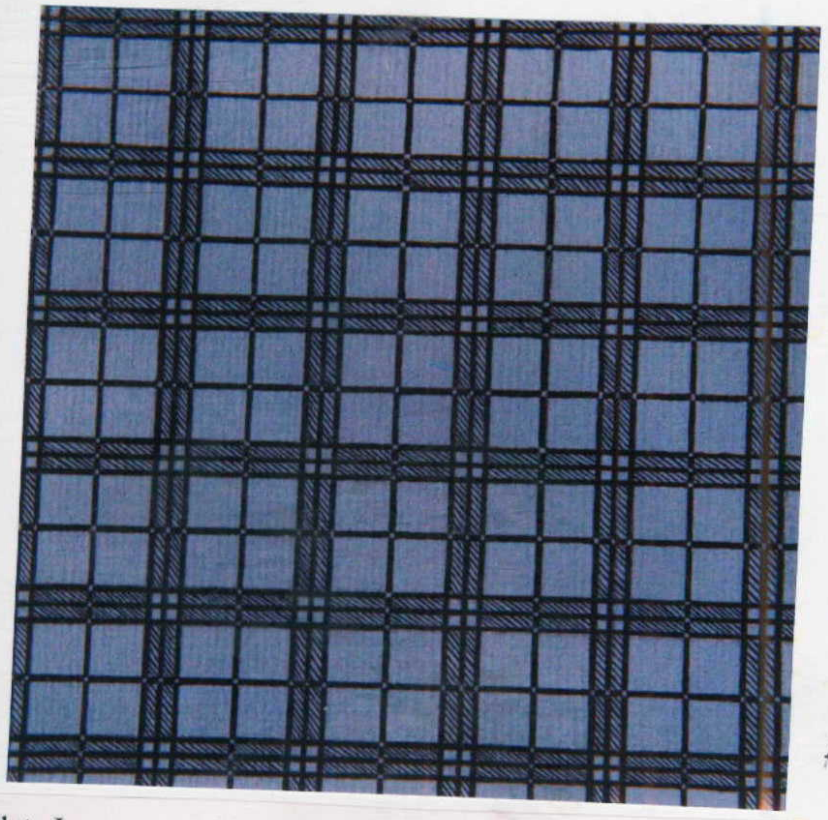
Design 1 (Plate I) : The design consists of check motif. The size of motif is medium and all over area is covered by the motifs. The colour used in the motifs is black with blue background. Two single toned colours are used. The value of dominant colour is high and intensity is medium. The design has cool-neutral colour scheme.

Design 2 (Plate II) : The design consists of check motif. The size of motif is medium and all over area is covered by the motifs. The colours used in the motifs are blue, grey and mauve with white background. Four single toned colour are used. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 3 (Plate III) : The design consists of check motif. The size of motif is medium and all over area is covered by the motifs. The colour used in the motifs is black with white background. The number of colours used are two with single tone. The value of dominant colour is high and intensity is medium. The design has neutral colour scheme.

Design 4 (Plate IV) : The design consists of check motif. The size of motif is big and all over area is covered by the motifs. The colours used in the motifs are blue, orange and green with white background. The number of colours used are four with two tones. The value of dominant colour is medium and intensity is also medium. The design has cool colour scheme.

Design 5 (Plate V) : The design consists of stripe (vertical and horizontal) design. The size of motifs is medium and all over area is covered by the motifs. The colour used in the design is blue with white background. Two single toned colours are used in the design. The value of dominant colour is high and intensity is medium. The design has



RANK I

Plate I Developed fabric design with check motif

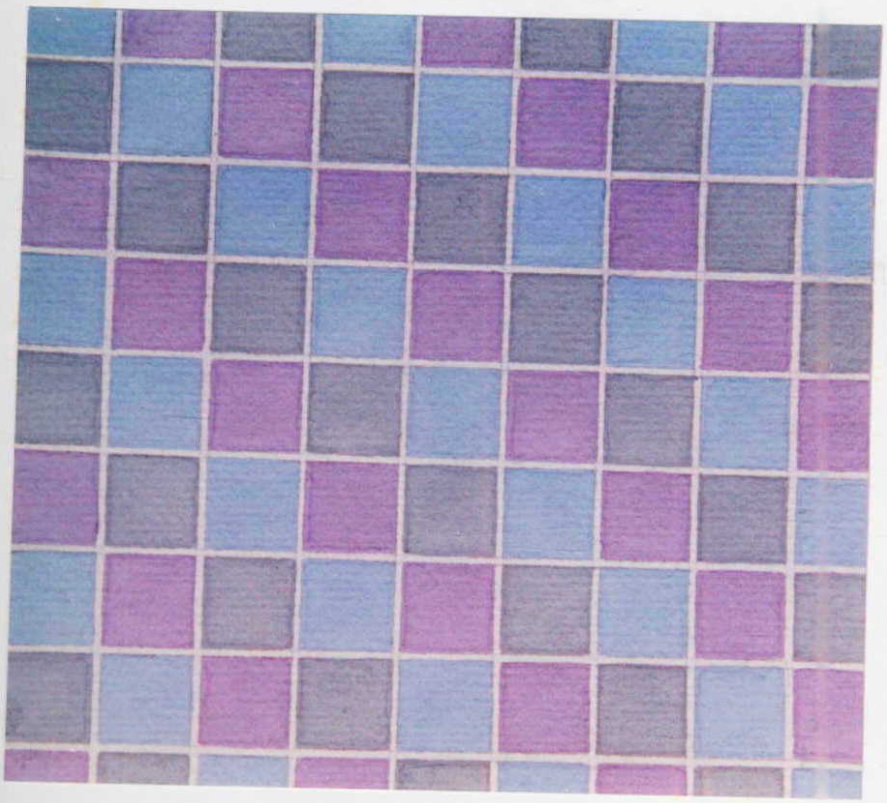


Plate II Developed fabric design with check motif

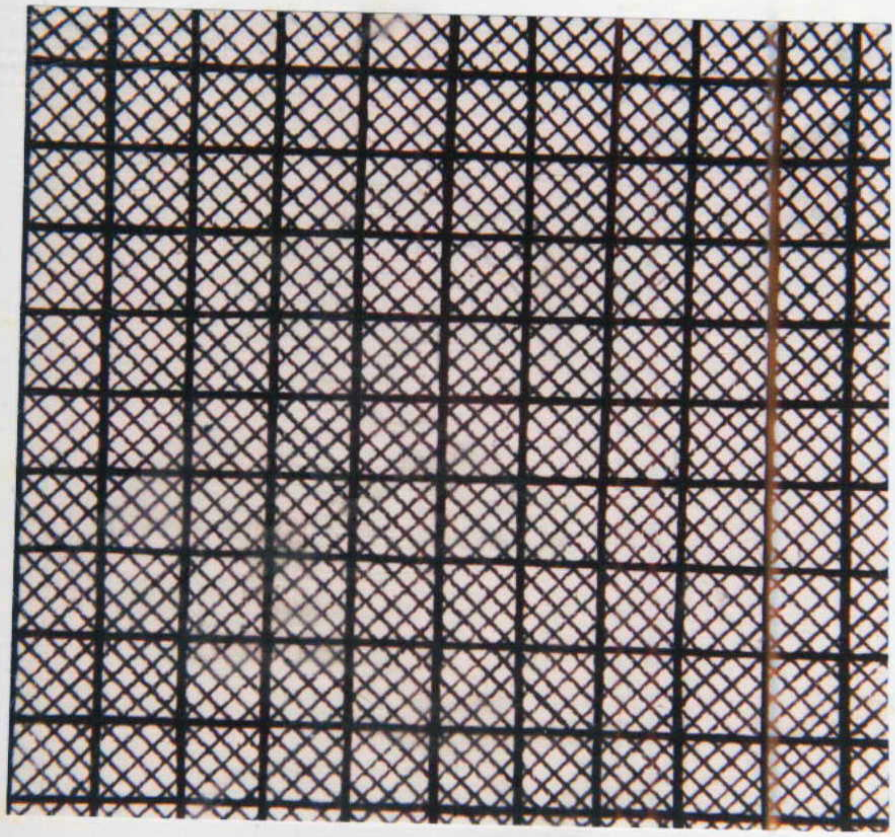
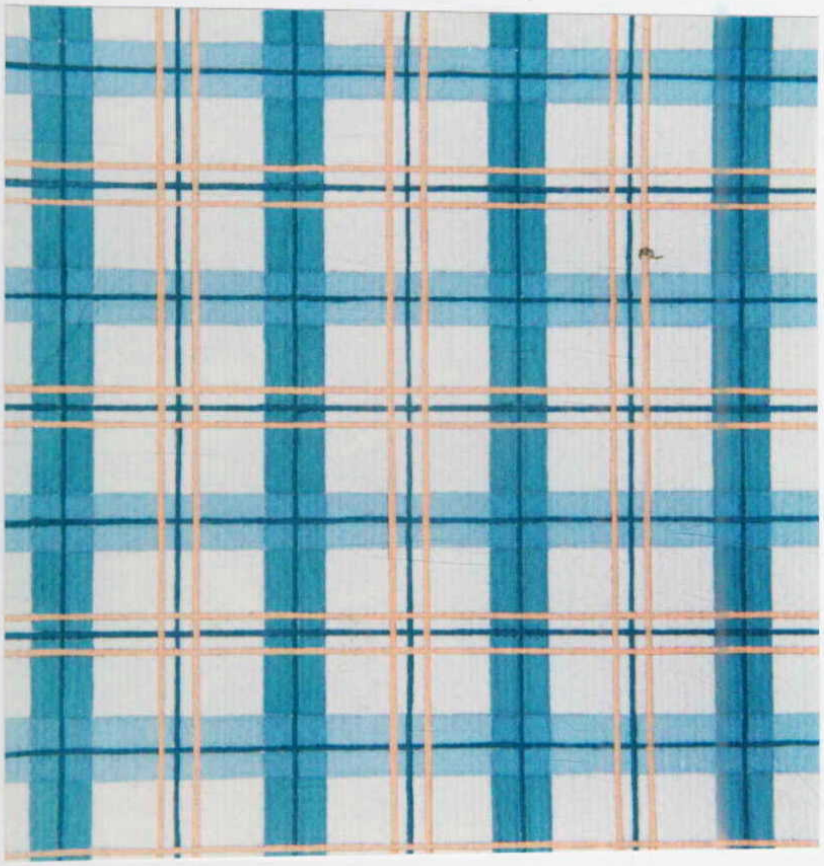


Plate III Developed fabric design with check motif



RANK III

Plate IV Developed fabric design with check motif

cool colour scheme.

Design 6 (Plate VI) : The design consists of stripe design. The size of motifs is medium and all over area is covered by the motifs. The colours used in the design are purple and blue with pink background. The number of colours used are three with two tones. The value of dominant colour is medium and intensity is high. The design has cool colour scheme.

Design 7 (Plate VII) : The design consists of stripe design in stylized form. The size of the motifs is medium and medium area is covered by the motifs. The colour used in the design is blue with white background. The number of colours used is one with two tones. The value of dominant colour is medium and intensity is also medium. The design has cool colour scheme.

Design 8 (Plate VIII) : The design consists of diagonal lines. The size of motifs is medium and all over area is covered by the motifs. The colour used in the design is violet with grey background. Two single toned colours are used. The value of dominant colour is medium and intensity is low. The design is made in cool-neutral colour scheme.

Design 9 (Plate IX): The design consists of broken lines. The size of the motifs is medium and medium area is covered by the motifs. The colours used in the design are green and brown with cream background. The number of colours used are three with single tone. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 10 (Plate X) : The design consists of stripe design. The size of motifs is medium and all over area is covered by the motifs. The colours used in the design are grey and

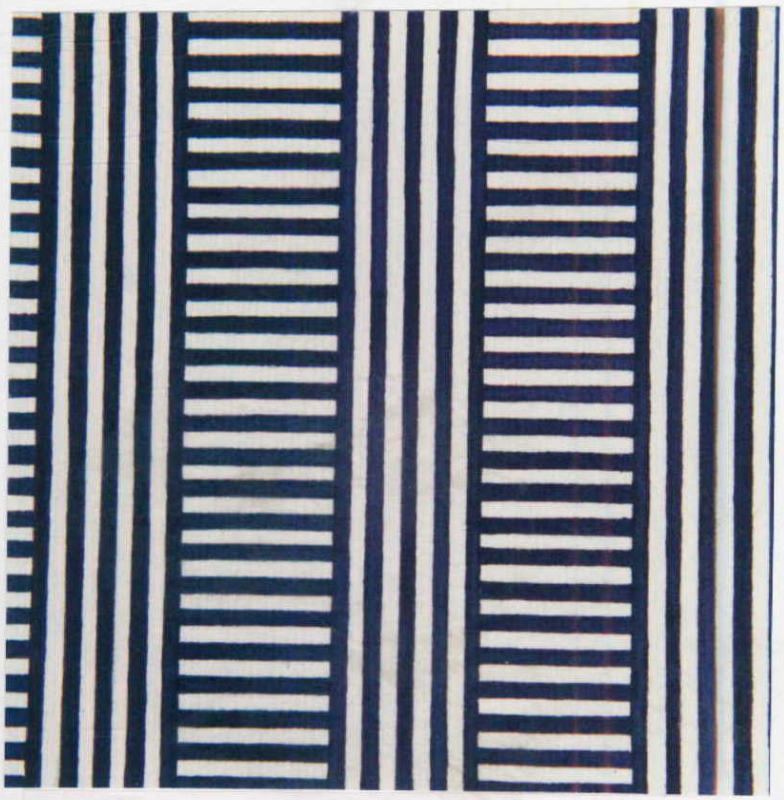


Plate V Developed fabric design with stripe (vertical and horizontal) design

RANK IX

Plate VI Developed fabric design with stripe design

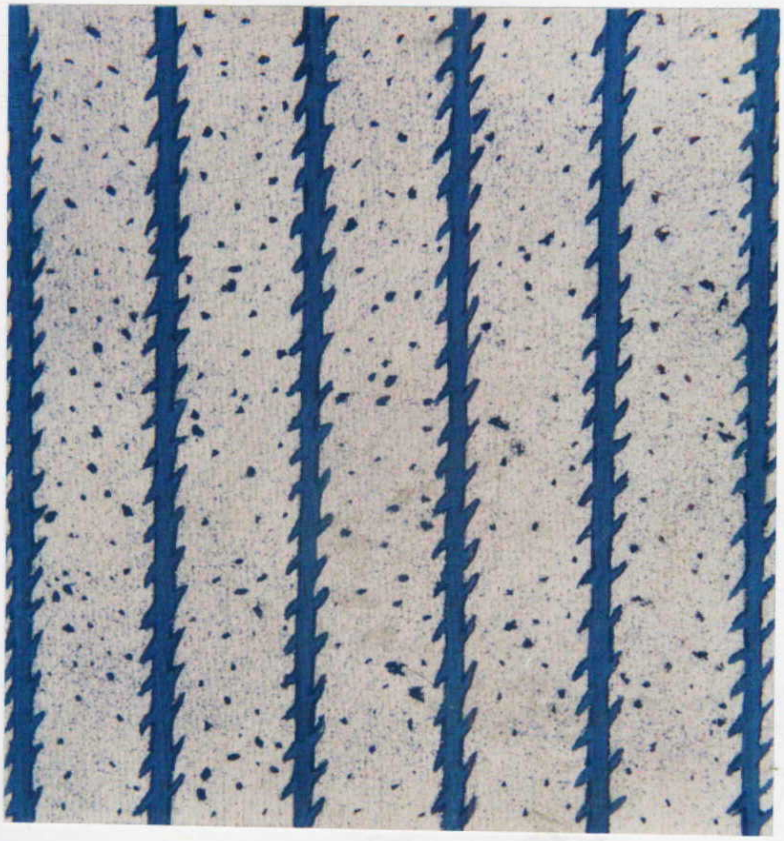


Plate VII Developed fabric design with stylized stripe design

Plate VIII Developed fabric design with diagonal lines motif

black with white background. The number of colours used are three with two tones. The value of dominant colour is high and intensity is medium. The design is made in neutral colour scheme.

Design 11 (Plate XI) : The design consists of line (wavy) motif. The size of motifs is medium and all over area is covered by the motifs. The colours used in the design are blue and green with brown background. Three single toned colours are used. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 12 (Plate XII) : The design consists of broken lines. The size of motifs is medium and all over area is covered by the motifs. The colour used in the design is blue with white background. Two single toned colours are used. The value of dominant colour is high and intensity is medium. The design is made in cool colour scheme.

Design 13 (Plate XIII) : The design consists of stripe design. The size of motifs is medium and all over area is covered by the motifs. The colours used are grey, orange and yellow with white background. The number of colours used are four with two tones. The value of dominant colour is medium and intensity is high. The design has warm-neutral colour scheme.

Design 14 (Plate XIV): The design consists of leaf motif in stylized form. The size of the motifs is medium and medium area is covered by the motifs. The colours used in the motif are brown and cream with brown background. The number of colours used are two with two tones. The value of dominant colour is medium and intensity is also medium. The design has neutral colour scheme.

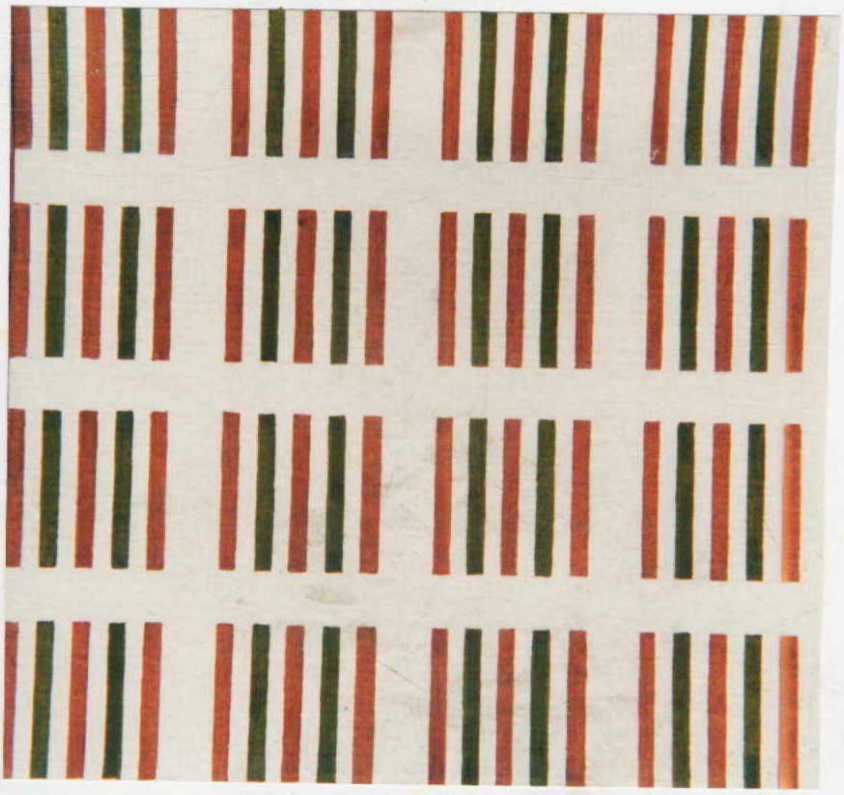


Plate IX Developed fabric design with broken lines motif

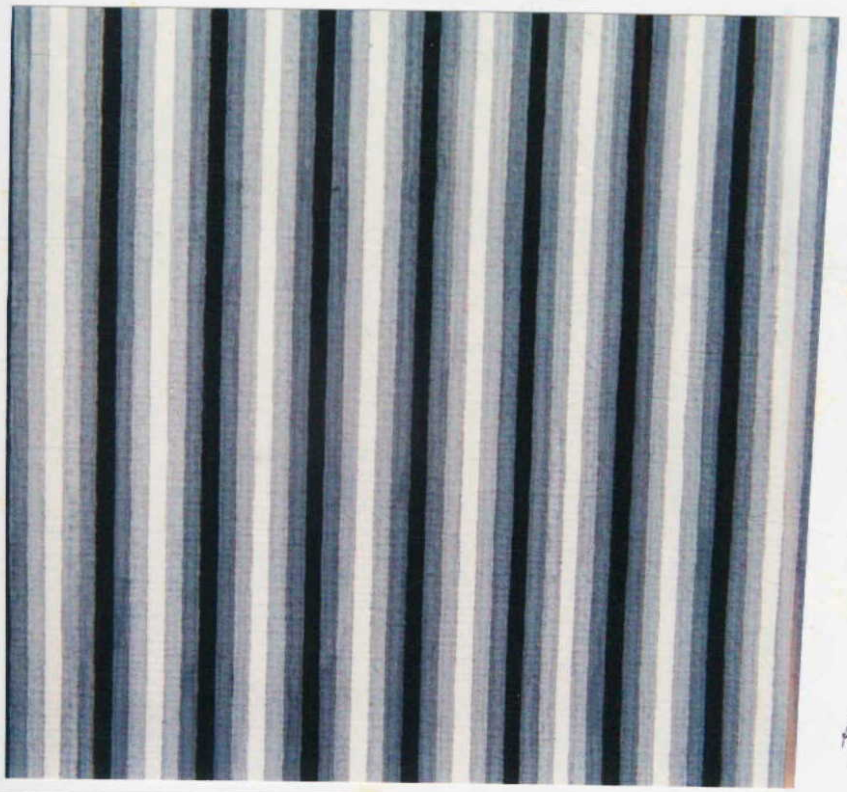
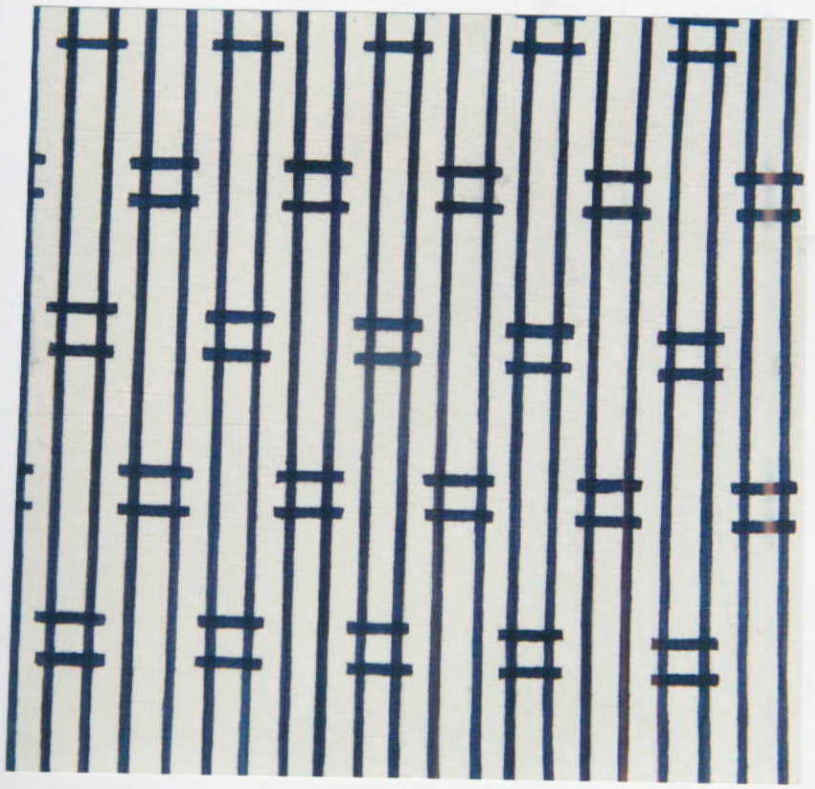


Plate X Developed fabric design with stripe design

RANK I

RANK IV

Plate XI Developed fabric design with line (wavy) motif



RANK V

Plate XII Developed fabric design with broken lines motif

RANK I

Plate XIII Developed fabric design with stripe design

RANK V

Plate XIV Developed fabric design with stylized leaf motif

Plate XV Developed fabric design with stylized leaf motif

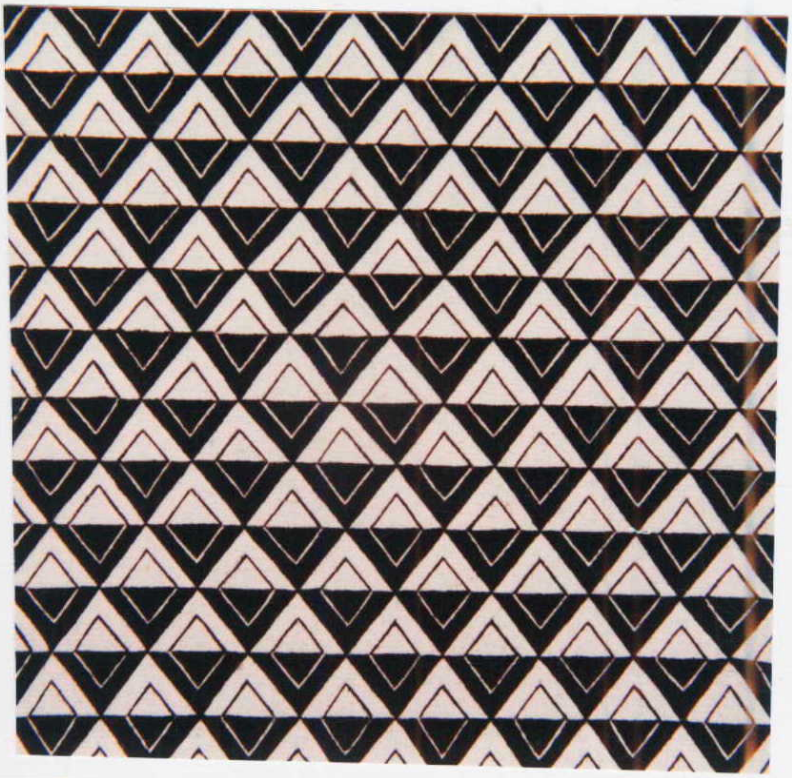


Plate XVI Developed fabric design with geometric (lozenges) motif

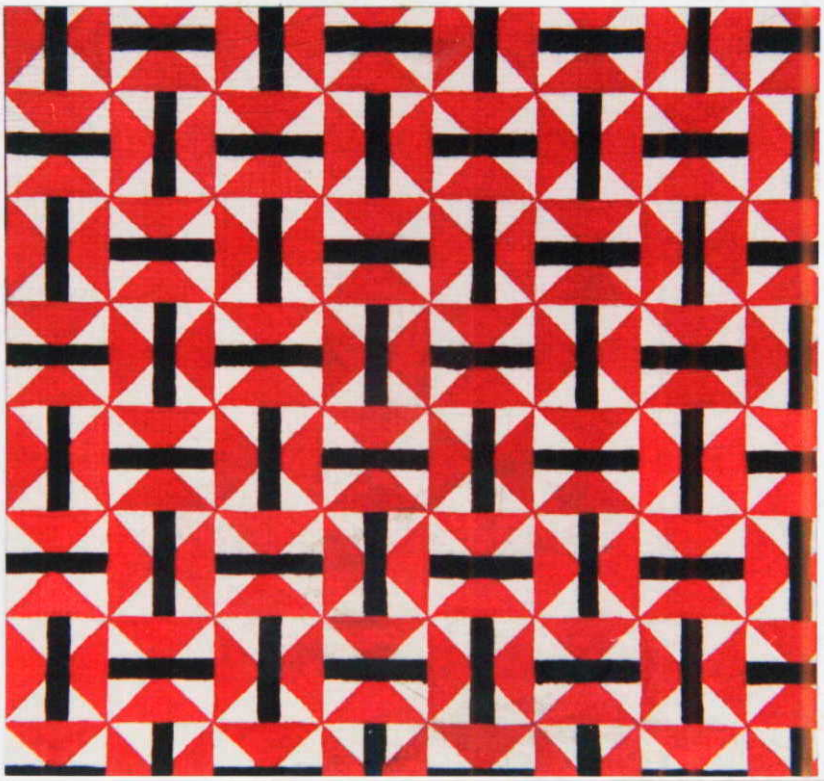


Plate XVII Developed fabric design with geometric (triangle/square/rectangle) motif

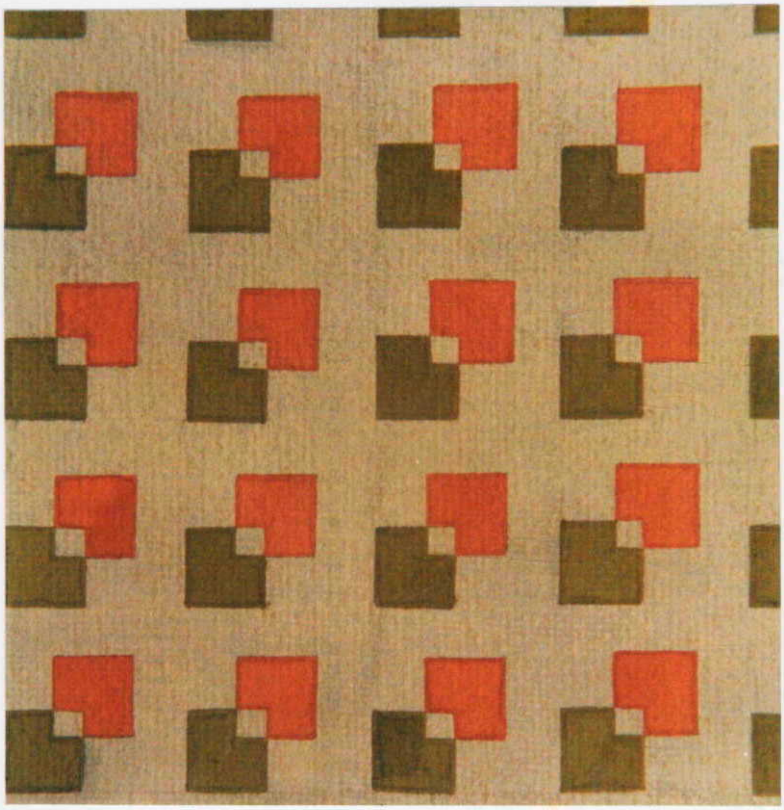


Plate XVIII Developed fabric design with geometric (square) motif

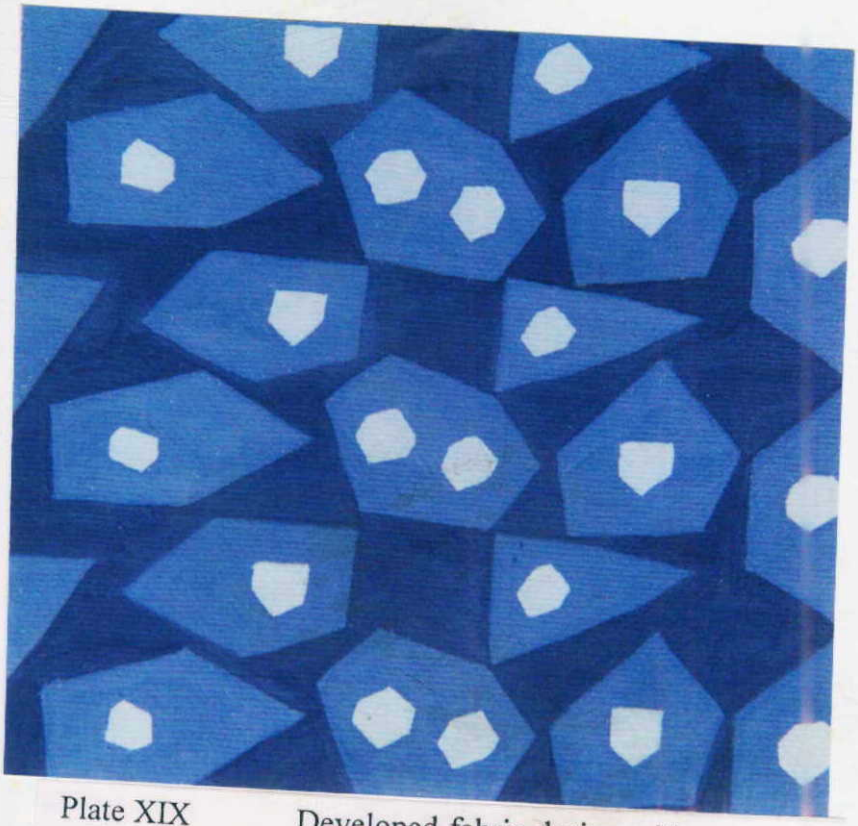


Plate XIX Developed fabric design with geometric (triangle, pentagon, hexagon) motif

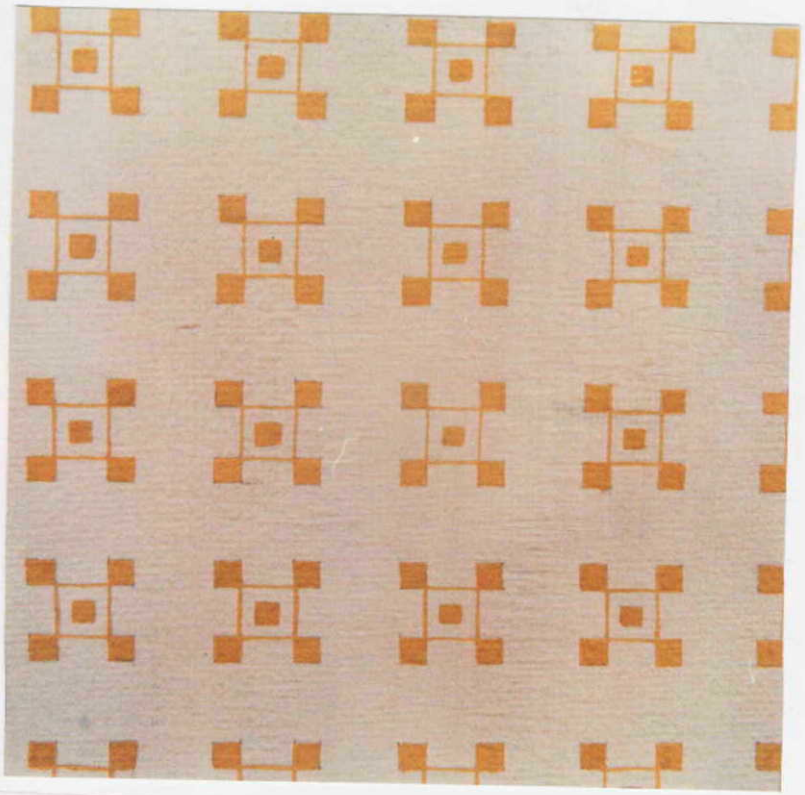


Plate XX Developed fabric design with geometric (square) motif

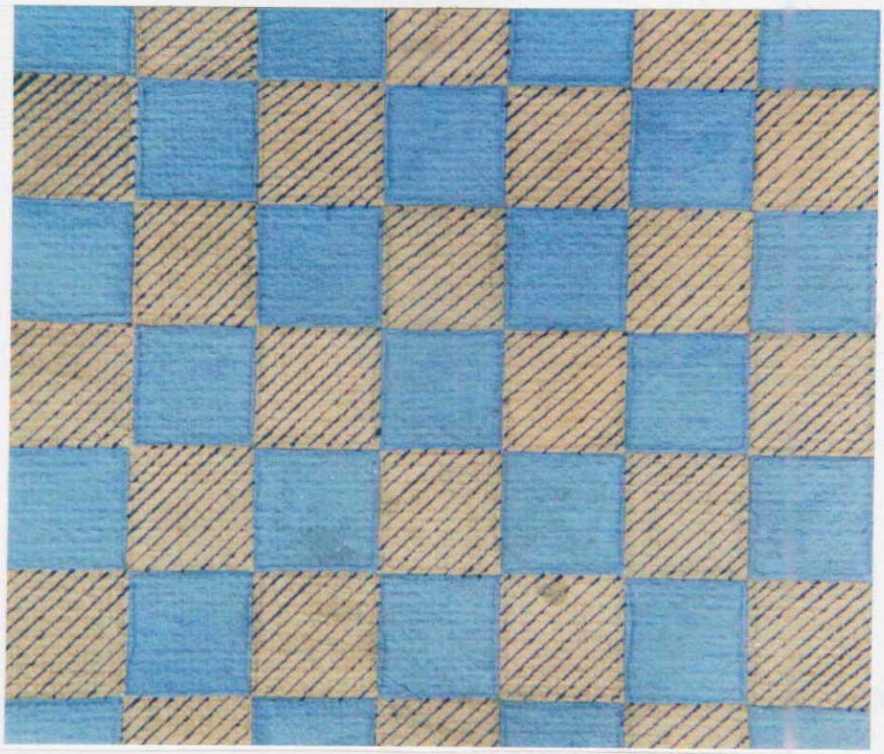
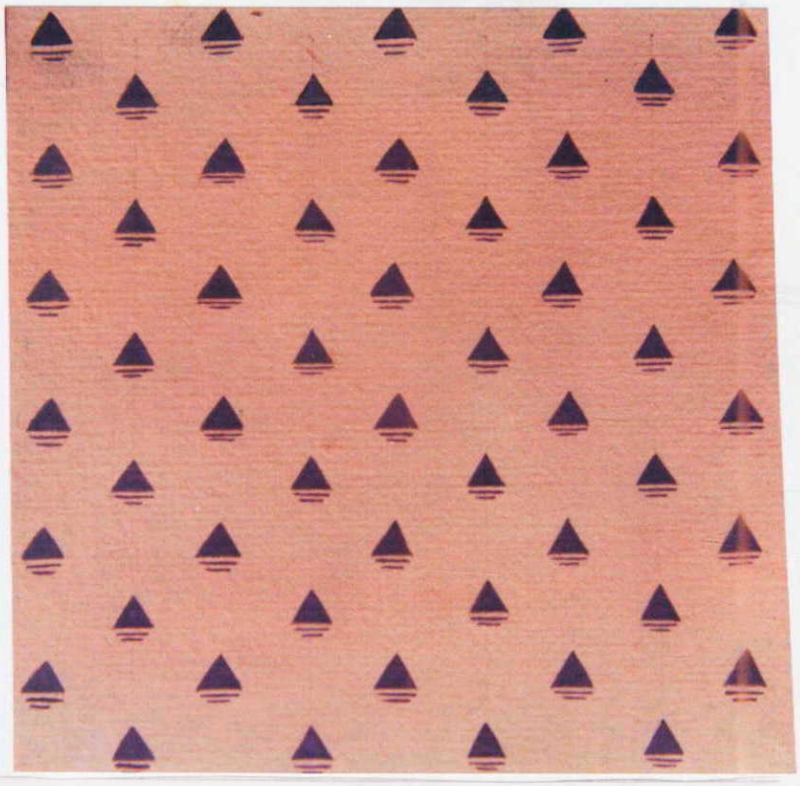


Plate XXII Developed fabric design with geometric (square) motif



RANK IX

Plate XXI Developed fabric design with geometric (triangle, lines) motif

Design 24 (Plate XXIV) : The design consists of geometric (step ladder) motif. The size of motifs is small and very less area is covered by the motifs. The colour used in the design in black with mustard-brown background. The number of colours used are two with single tone. The value of dominant colour is high and intensity is medium. The design has warm-neutral colour scheme.

Design 25 (Plate XXV) : The design consists of abstract (wood grain) motif. The size of motif is big and whole of the area is covered by the motifs. The colour used in the motifs is mustard-brown with mustard-brown background. The number of colours used is one with two tones. The value of dominant colour is medium and intensity is also medium. The design has neutral colour scheme.

Design 26 (Plate XXVI) : The design consists of abstract motif. The size of motifs is small and all over area is covered by the motifs. The colour used in the motifs is brown with yellow background. Two single toned colours are used. The value of dominant colour is medium and intensity is also medium. The design has warm-neutral colour scheme.

Design 27 (Plate XXVII) : The design consists of abstract motif. The size of motifs is small and medium area is covered by the motifs. The colour used in the design is blue with blue background. The number of colours used is one with three tones. The value of dominant colour is medium and intensity is also medium. The design has cool colour scheme.

Design 28 (Plate XXVIII) : The design consists of abstract motif. The size of motifs is medium and medium area is covered by the motifs. The colour used in the design is

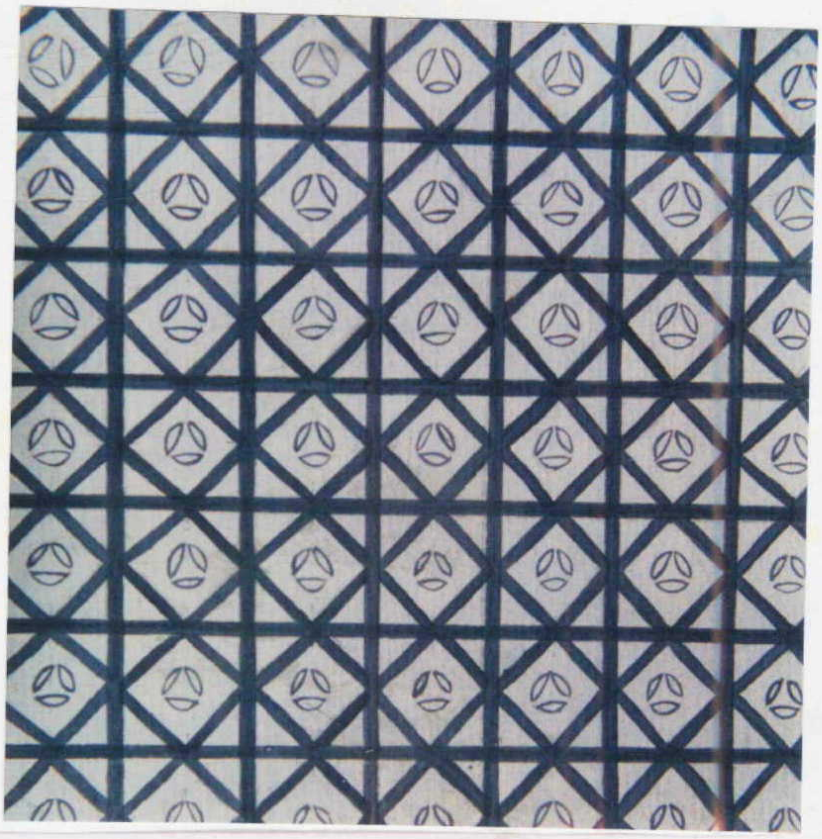
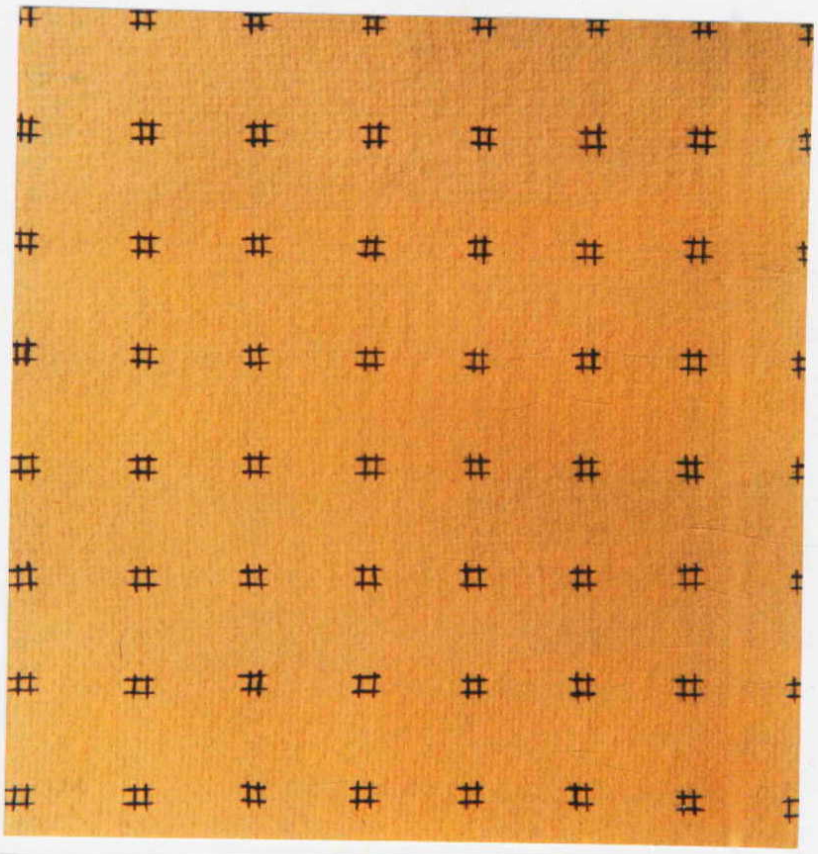


Plate XXIII Developed fabric design with geometric (square/circle) motif



RANK VII

Plate XXIV Developed fabric design with geometric (step ladder) motif

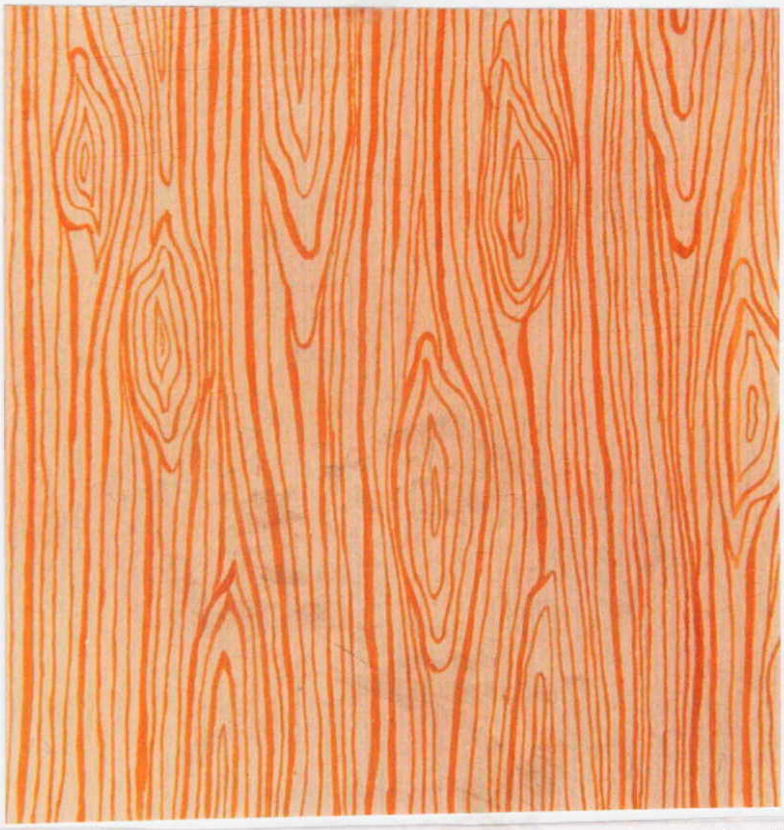


Plate XXV Developed fabric design with abstract (wood grain) motif

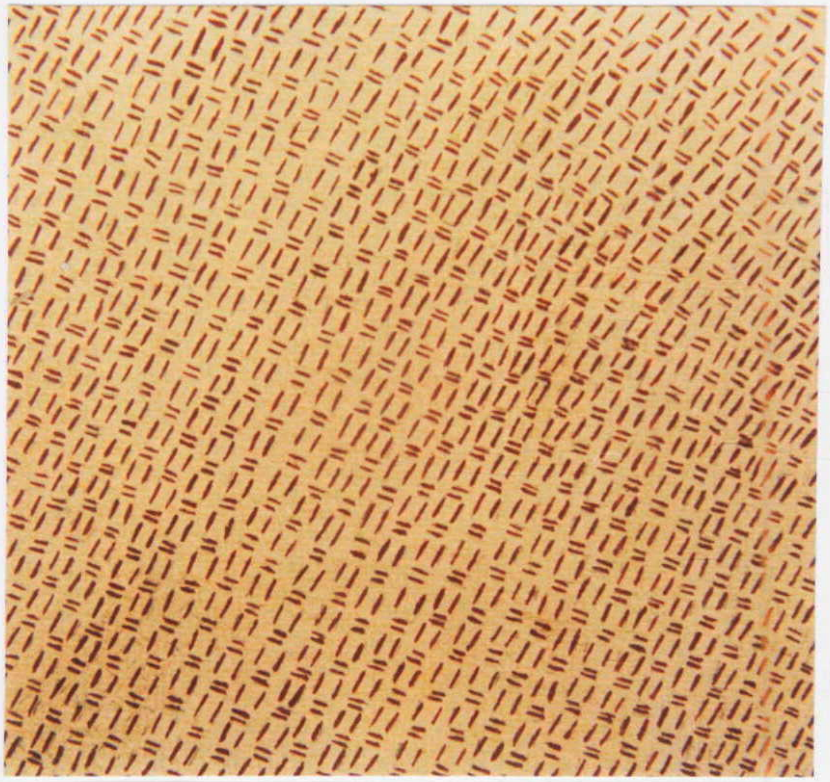


Plate XXVI Developed fabric design with abstract motif

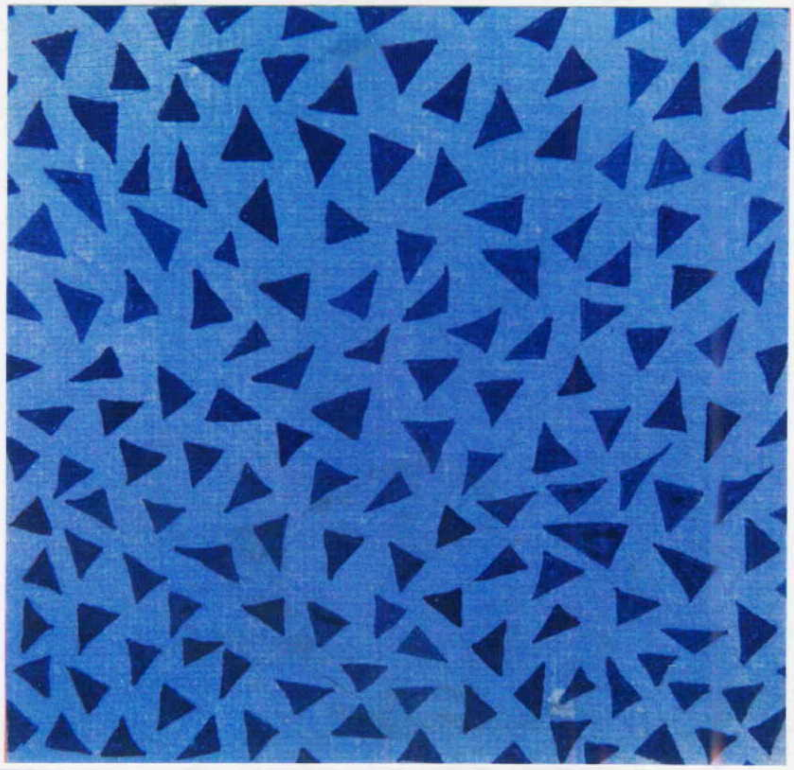
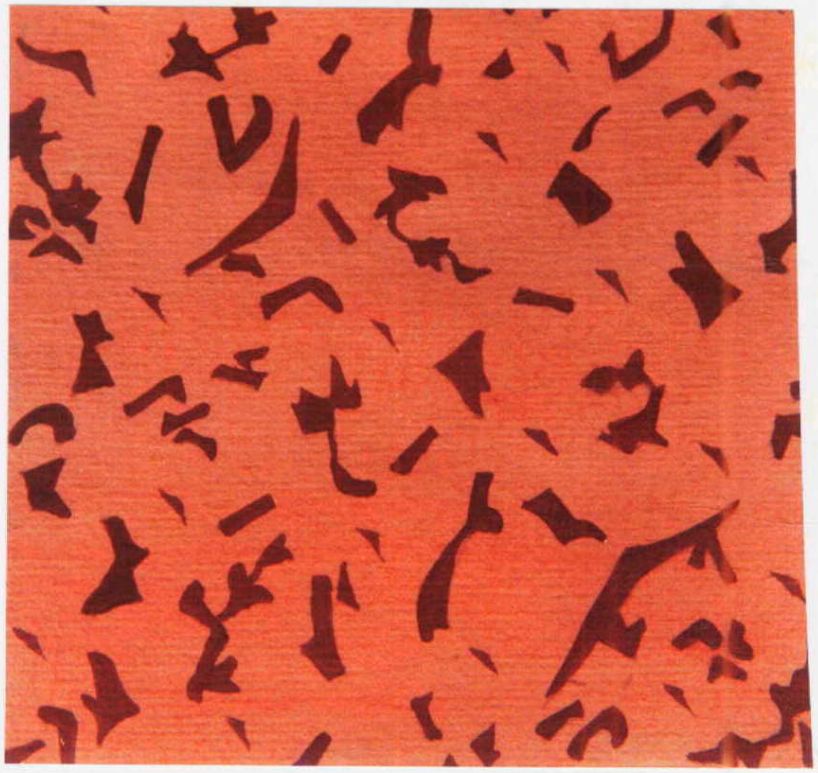


Plate XXVII Developed fabric design with abstract motif



RANK VIII

Plate XXVIII Developed fabric design with abstract motif

brown with brown background. The number of colours used is one with two tones. The value of dominant colour is medium and intensity is also medium. The design is made in neutral colour scheme.

Design 29 (Plate XXIX) : The design consists of abstract motif. The size of motifs is big and all over area is covered by the motifs. The colours used in the design are purple, mauve and green with grey background. The number of colours used are four with two tones. The value of dominant colour is medium and intensity is low. The design is made in cool-neutral colour scheme.

Design 30 (Plate XXX): The design consists of abstract motif. The size of motifs is medium and all over area is covered by the motifs. The colours used in the design are blue and brown with white background. The number of colours used are three with two tones. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 31 (Plate XXXI) : The design consists of a combination of comb motif and stripes. The size of motifs is medium and all over area is covered by the motifs. The colours used in the design are green and blue with cream background. Three single toned colours are used in the design. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 32 (Plate XXXII): The design consists of a combination of geometric (square, dot) and abstract motifs. The size of motifs is medium and whole of the area is covered by the motifs. The colour used in the motifs is black with white background. The number of colours used are two with single tone. The value of dominant colour is high and

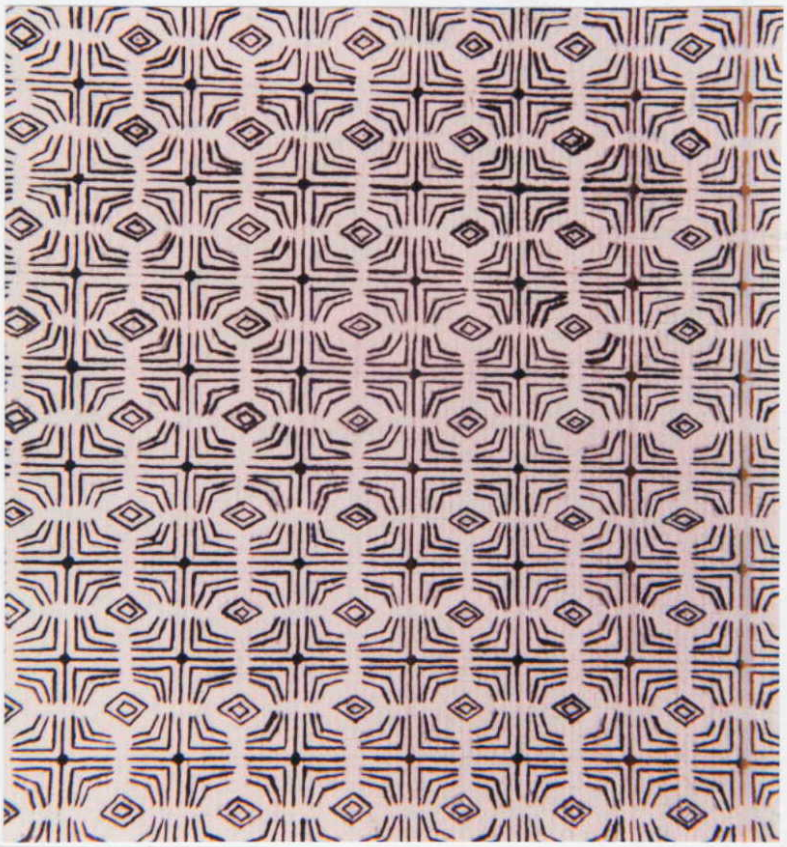
Plate XXIX Developed fabric design with abstract motif

RANK VIII

Plate XXX Developed fabric design with abstract motif

RANK VII

Plate XXXI Developed fabric design with comb motif and stripes



RANK X

Plate XXXII Developed fabric design with geometric (square,dot) and abstract motifs

intensity is medium. The design has neutral colour scheme.

Design 33 (Plate XXXIII) : The design consists of a combination of geometric (lozenges) and abstract motif. The size of motifs is medium and area covered by the motifs is also medium. The colour used in the design are white and brown with yellow-orange background. The number of colours used are four with two tones. The value of dominant colour is medium and intensity is high. The design has warm-neutral colour scheme.

Design 34 (Plate XXXIV) : The design consists of a combination of stripe and geometric (lozenges) motifs. The size of motifs is medium and medium area is covered by the motifs. The colours used in the design are grey and black with blue background. Three single toned colours are used. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 35 (Plate XXXV) : The design consists of a combination of stripe and saw tooth motifs. The size of motifs is medium and medium area is covered by the motifs. The colour used in the design is blue with brown background. Two single toned colours are used in the design. The value of dominant colour is high and intensity is medium. The design has cool-neutral colour scheme.

Design 36 (Plate XXXVI) : The design consists of a combination of stripe and curved lines motif. The size of motifs is small and all over area is covered by the motifs. The colour used in the design is brown with white background. The number of colours used in the design are two with two tones. The value of dominant colour is high and intensity is medium. The design has neutral colour scheme.

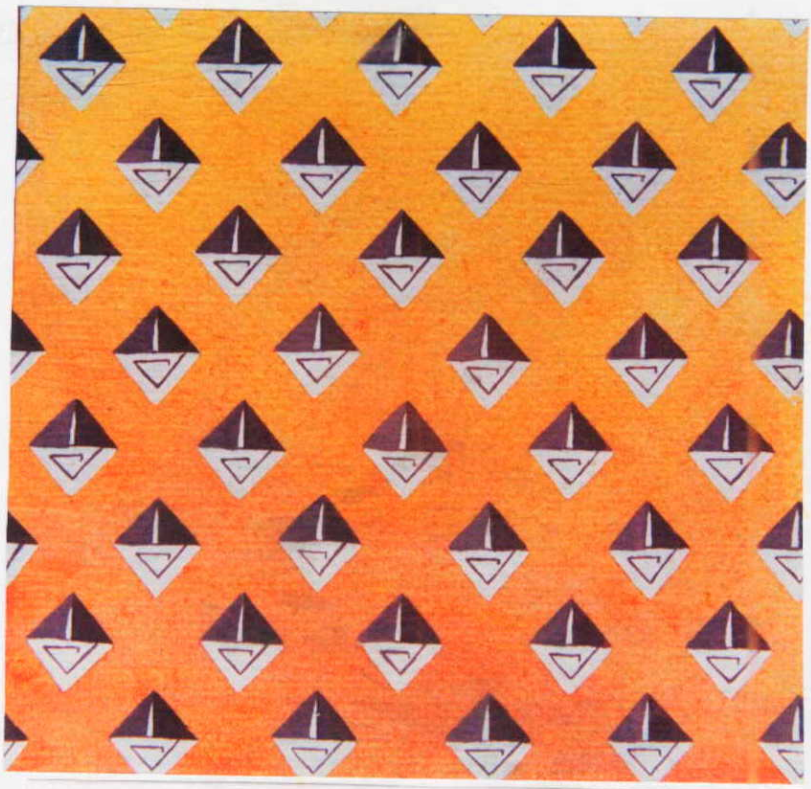


Plate XXXIII Developed fabric design with geometric (lozenges) and abstract motifs

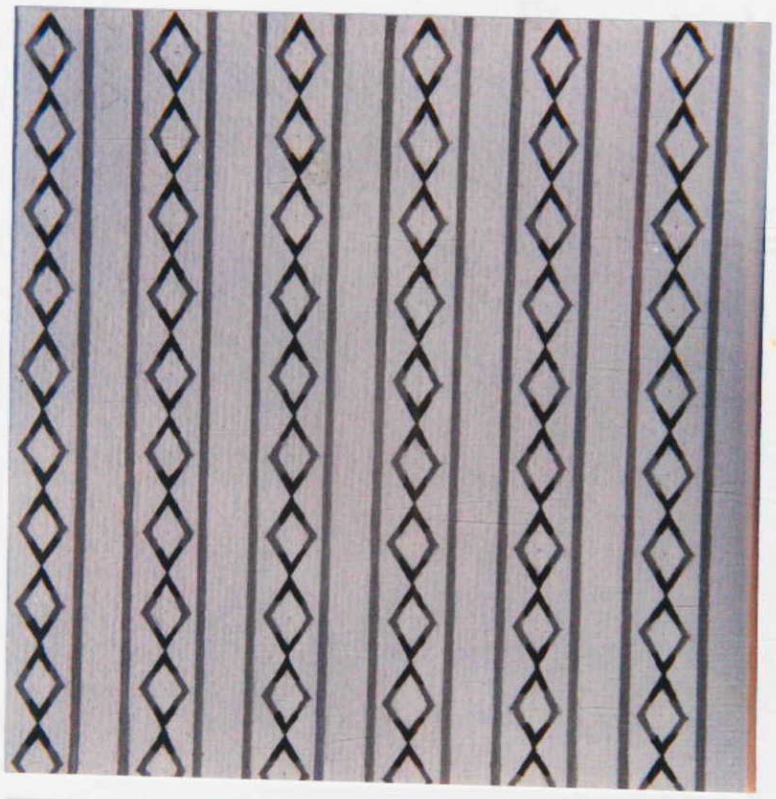
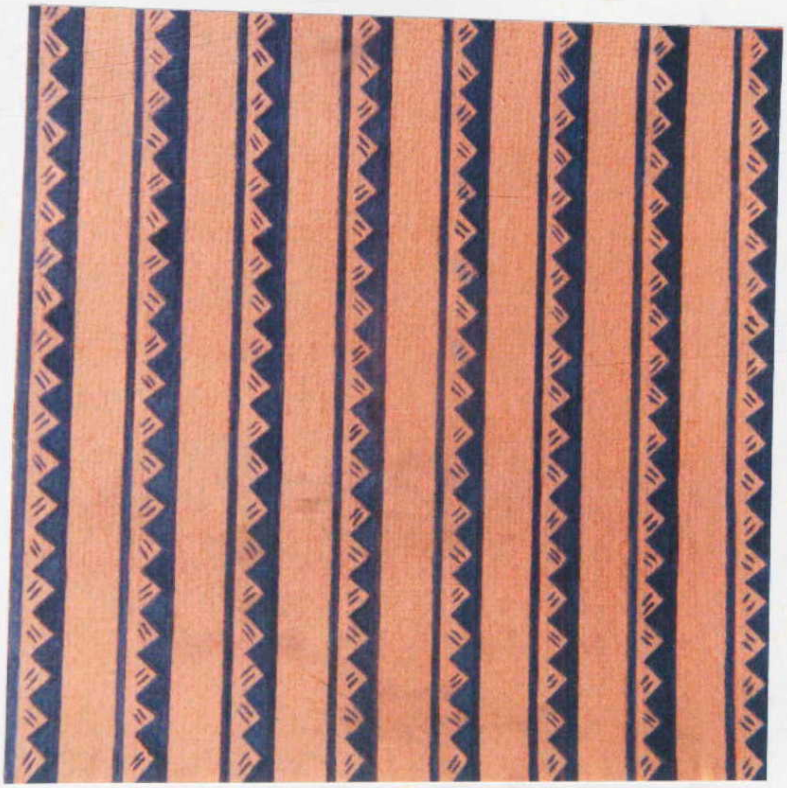


Plate XXXIV Developed fabric design with stripe and geometric (lozenges) motifs



RANK V

Plate XXXV Developed fabric design with stripe and saw tooth motifs

RANK II

Plate XXXVI Developed fabric design with stripe and curved line motifs

Design 37 (Plate XXXVII) : The design consists of a combination of stripe and human figures in stylized form. The size of the motifs is medium and medium area is covered by the motifs. The colour used in the design is black with orange background. The number of colours used are two with two tones. The value of dominant colour is high and intensity is medium. The design has warm-neutral colour scheme.

Design 38 (Plate XXXVIII) : The design consists of geometric (Phulkari) motif arranged in stripes. The size of motifs is small and all over area is covered by the motifs. The colour used in the design is brown with white background. The number of colours used are two with single tone. The value of dominant colour is medium and intensity is also medium. The design has neutral colour scheme.

Design 39 (Plate XXXIX): The design consists of a combination of stripe and star motifs. The size of the motifs is medium and all over area is covered by the motifs. The colours used in the design are blue and brown with white background. Three single toned colours are used. The value of dominant colour is medium and intensity is also medium. The design has cool-neutral colour scheme.

Design 40 (Plate XL) : The design consists of a combination of stripe and geometric (circle) motifs. The size of the motifs is medium and medium area is covered by the motifs. The colours used in the design are brown and mustard-brown with cream background. The number of colours used are two with three tones. The value of dominant colour is medium and intensity is also medium. The design has neutral colour scheme.

Design 41 (Plate XLI) : The design consists of a combination of stripe and geometric

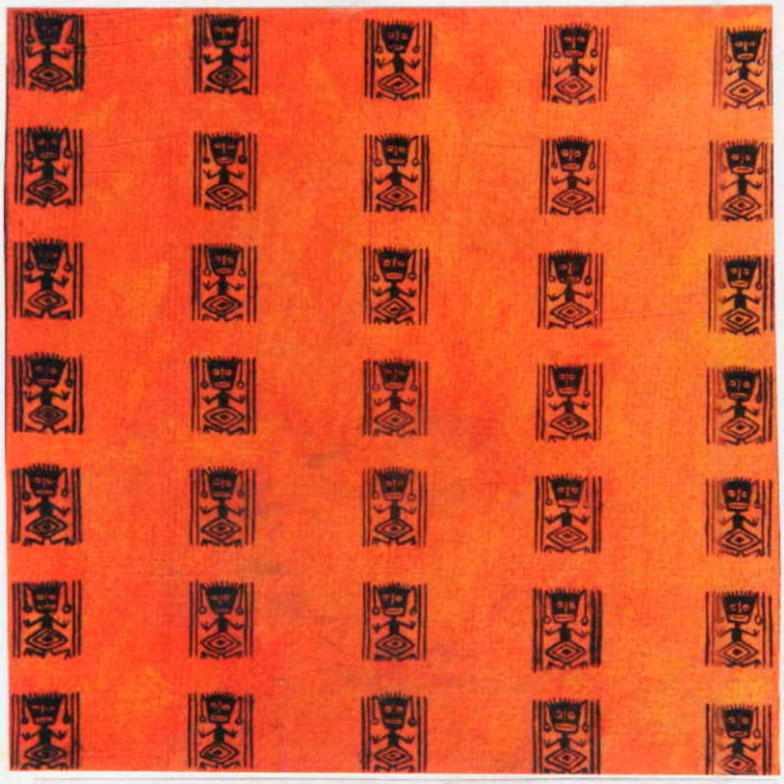


Plate XXXVII Developed fabric design with stylized human figures in stripes

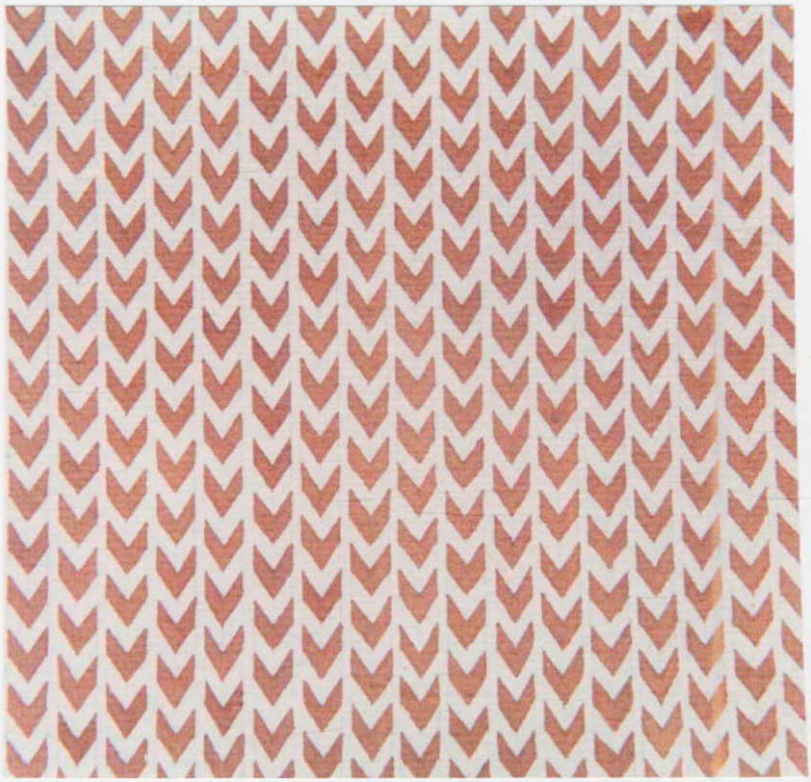


Plate XXXVIII Developed fabric design with geometric (Phulkari) motif in stripes

RANK VI

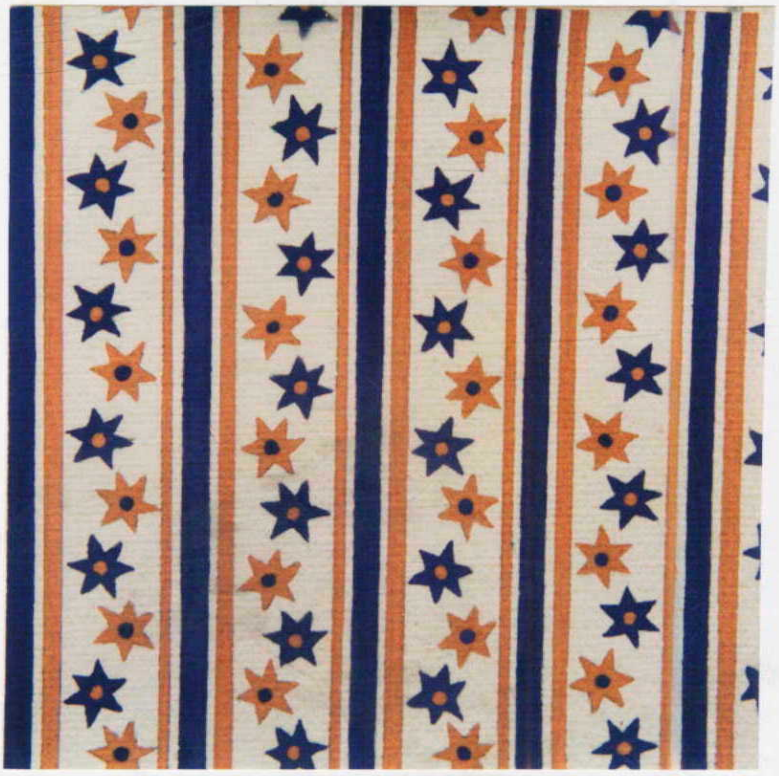


Plate XXXIX Developed fabric design with stripe and star motifs

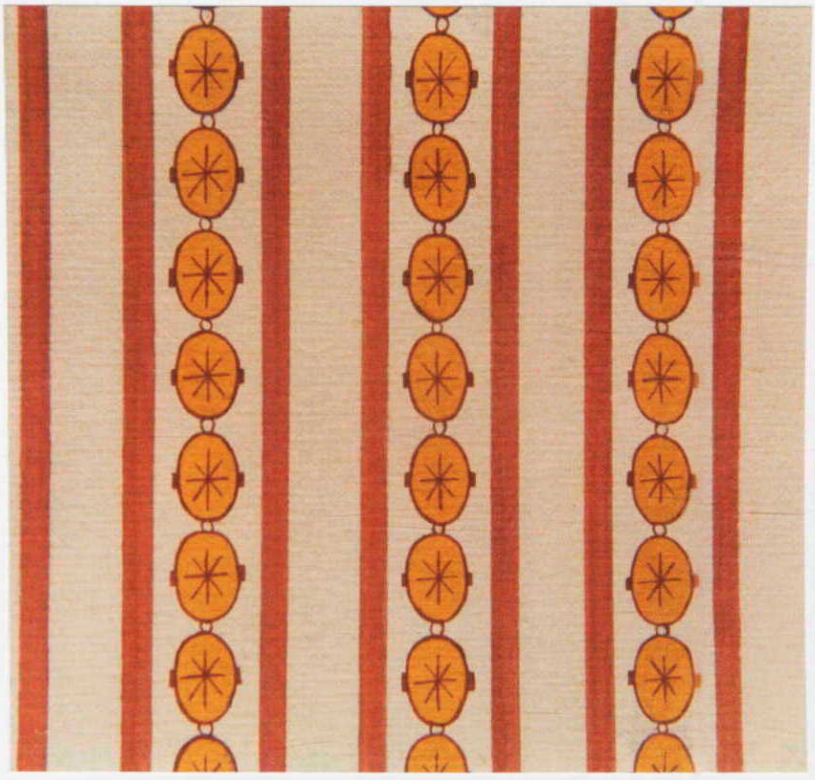


Plate XL Developed fabric design with stripe and geometric (circle) motifs

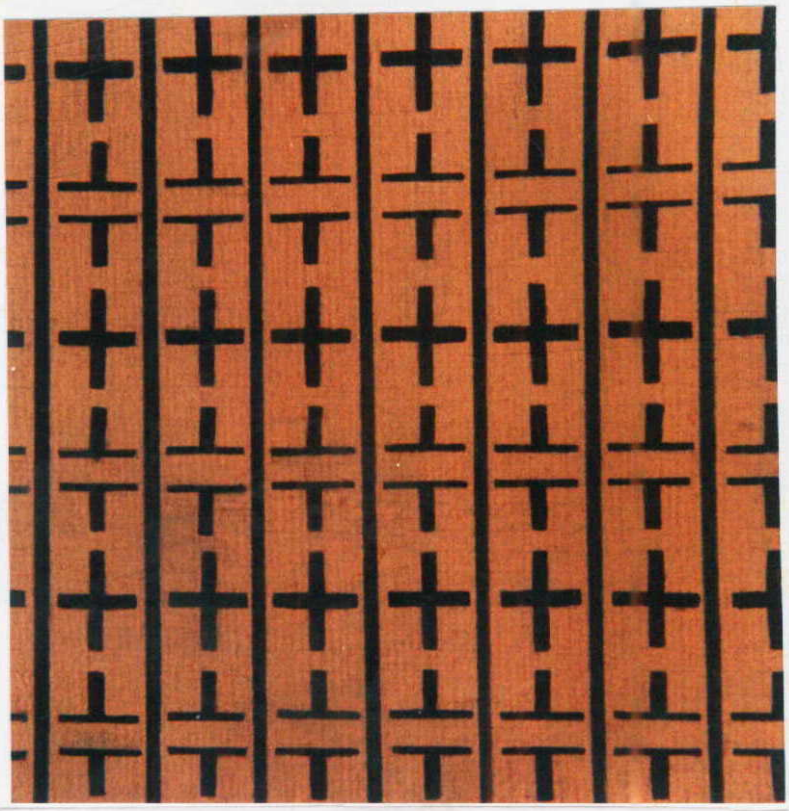
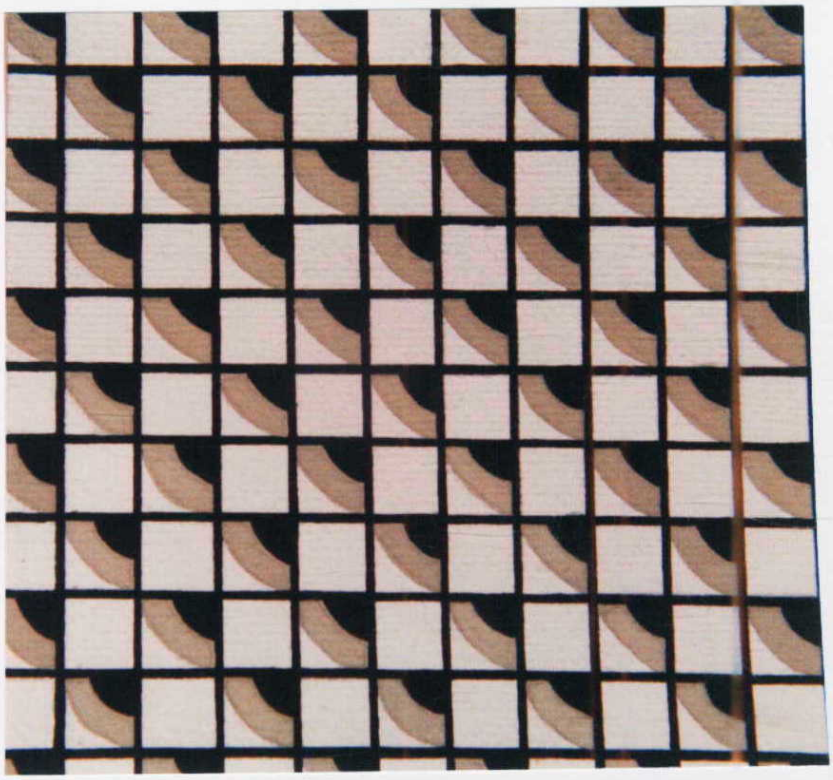


Plate XLI Developed fabric design with stripe and geometric motifs

Plate XLII Developed fabric design with stripe, stylized leaf and animal (bird) motifs

Plate XLIII Developed fabric design with stylized animal (elephant) and geometric (square/dot) motifs



RANK IX

Plate XLIV Developed fabric design with check and geometric motifs

of colours used are two with two tones. The value of dominant colour is medium and intensity is also medium. The design has neutral colour scheme.

Design 46 (Plate XLVI) : The design consists of feather motif in natural form. The size of the motifs is medium and medium area is covered by the motifs. The colour used in the design is blue with blue background. The number of colours used in the design is one with two tones. The value of dominant colour is low and intensity is medium. The design has cool colour scheme.

Design 47 (Plate XLVII) : The design consists of religious (swastika) motif. The size of the motifs is medium and very less area is covered by the motifs. The colour used in the design is red with yellow-orange background. Three single toned colours are used in the design The value of dominant colour is medium and intensity is high. The design has warm colour scheme.

Design 48 (Plate XLVIII) : The design consists of rib weave motif. The size of the motifs is medium and all over area is covered by the motifs. The colours used in the motifs is grey with black background. The number of colours used are two with three tones. The value of dominant colour is medium and intensity is also medium. The design has neutral colour scheme.

Design 49 (Plate XLIX) : The design consists of broken twill weave motif. The size of motif is medium and medium area is covered by the motifs. The colour used in the motifs is grey with white background. Two single toned colours are used. The value of dominant colour is high and intensity is medium. The design has neutral colour scheme.

Design 50 (Plate L) : The design consists of spiral motif. The size of motifs is medium

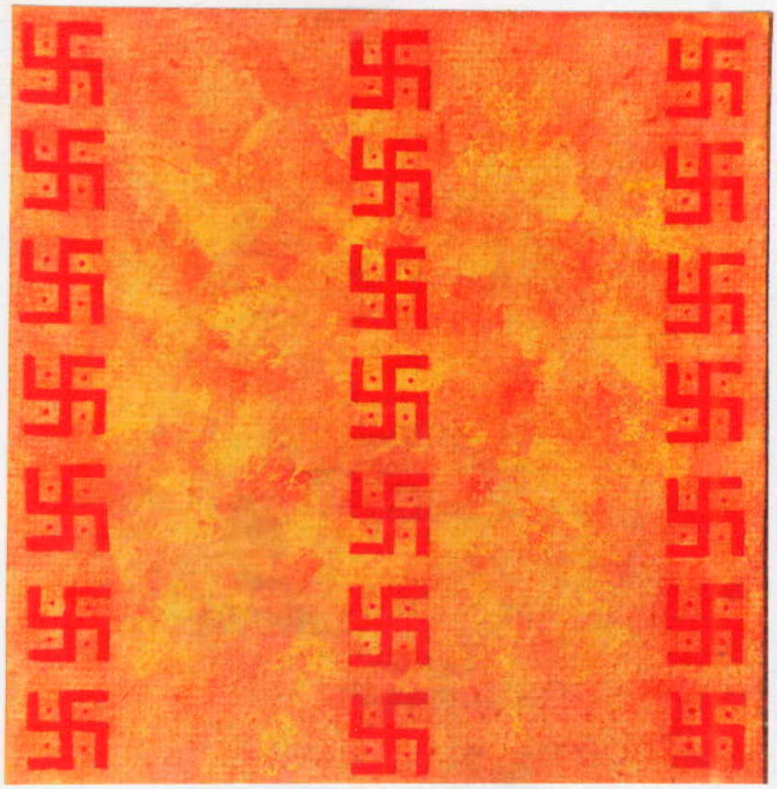
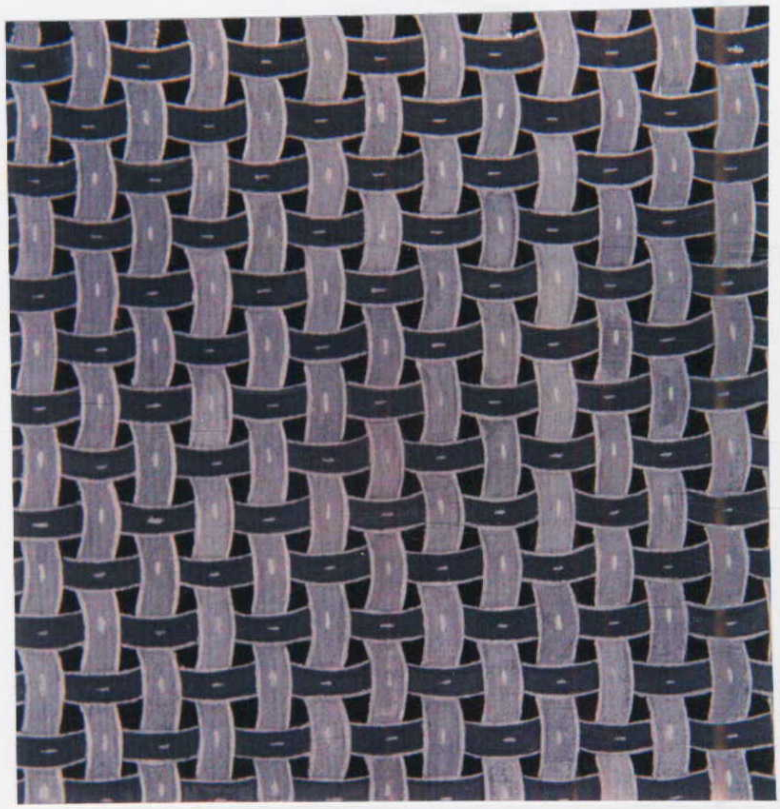


Plate XLVII Developed fabric design with religious (swastika) motif



RANK VIII

Plate XLVIII Developed fabric design with rib weave motif

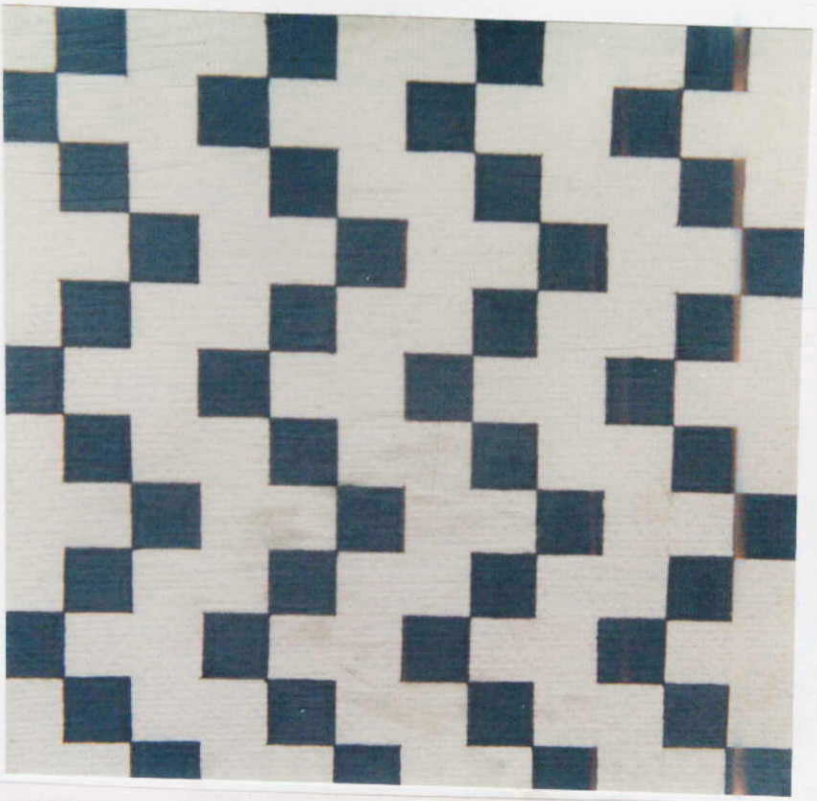


Plate XLIX Developed fabric design with broken twill weave motif

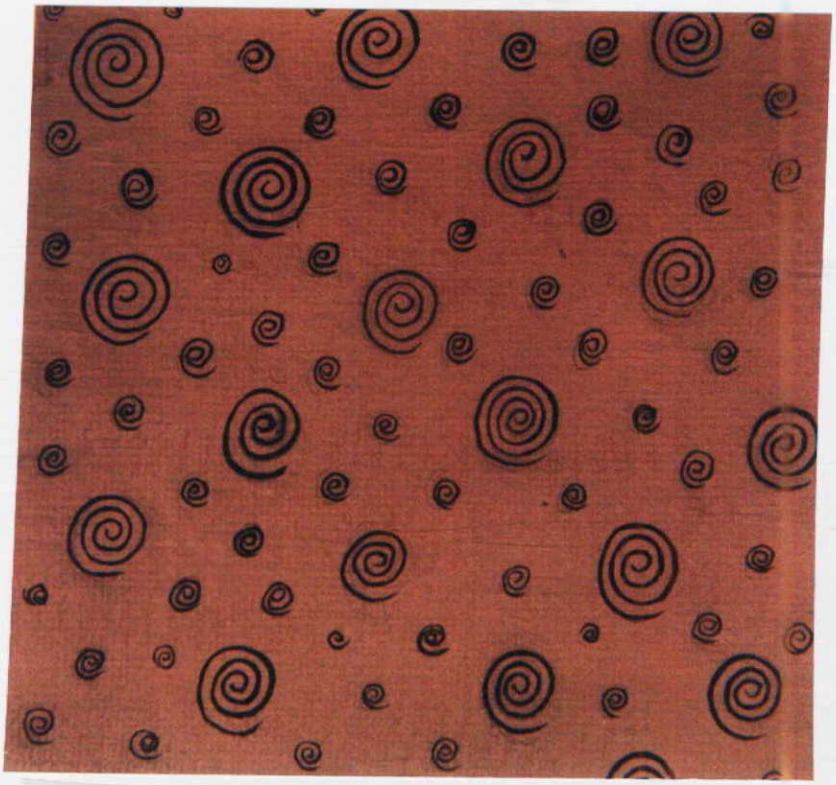


Plate L Developed fabric design with spiral motif

and medium area is covered by the motifs. The colour used in the motifs is black with brown background. The number of colours used are two with single tone. The value of dominant colour is high and intensity is medium. The design has neutral colour scheme.

4.3 Evaluation of developed designs

Seventy-five developed textile designs were evaluated in respect of their suitability through a panel of seven judges and 50 suitable designs were selected by them. Out of these 50 designs 10 best designs were ranked by the judges. According to their evaluation, the design nos. 13, 10 and 1 were ranked as first, design no. 36 was ranked as second, design no. 4 as third, design no. 11 as fourth, design nos. 12 and 35 as fifth, design no. 38 as sixth, design nos. 24 and 31 as seventh, design nos. 48, 30 and 28 as eighth, design nos. 6, 21 and 44 as ninth and design nos. 32 and 14 were ranked as tenth.

Chapter-V

SUMMARY AND CONCLUSIONS

Clothing is an important aspect of life. It plays a vital role in the physical, psychological and social development of a human being and co-ordination of his traits with his immediate environment. Clothing with its colour, design and style provides ample knowledge about structure, homogeneity, unity, aspirations, aesthetic attitude, nature of customs and fashion trends of society. The colour, designs and styles keep on adapting to the changing tastes and fashions as man's aesthetic sense motivates him to introduce grace and elegance into monotony and drabness which leads gradually to decorative designs through fine form, colour and style.

5.1 OBJECTIVES

1. To study the prevalent fabric designs for gents shirting in the market.
2. To develop suitable fabric designs for gents shirting.
3. To evaluate the developed designs in respect of their suitability through a panel of judges.

5.2 MATERIALS AND METHODS

Ludhiana city was selected for conducting the research. Survey method was used to collect the samples. For this purpose 200 samples of prevalent textile designs of gents shirts were collected from 50 shops of different markets of Ludhiana city. An observation sheet was prepared to collect the information regarding the prevalent textile designs. The observation sheet was filled personally by studying samples one by one and information so obtained was recorded. The simple percentages were worked for analysis of data.

In all 75 textile designs were then developed on pieces of hand made sheets of size 6"x6". Out of these, 50 suitable designs were selected by a panel of 7 judges.

5.3 SUMMARY

The findings of the study revealed that the most prevalent type of dominant motif was check motif (41 per cent) and most of the textile designs consisted of natural motifs (71.5 per cent). The most prevalent type of combination of motifs was check and self (30.5 per cent). Majority of the textile designs consisted of medium sized motifs (47.5 per cent) and mostly whole of the area was covered by the motifs (81 per cent).

Twenty five per cent of the prevalent textile designs consisted of brown as the dominant colour and white (31 per cent) as the dominant background colour. Most of the prevalent textile designs consisted of medium value (58.5 per cent) and intensity (65.5 per cent). The number of colours used in 37 per cent of the designs were two and mostly two tones of colours (46.5 per cent) were used. The most prevalent colour scheme was neutral (40 per cent). Forty three per cent of the samples consisted of blended fabrics.

For gents shirting material, 75 new textile designs were developed out of which 50 suitable designs were selected by a panel of 7 judges.

5.4 CONCLUSIONS

On the basis of the results of the study, the following conclusions were drawn :

- Majority of the prevalent textile designs consisted of check as the dominant motif.
- The most prevalent combination of motifs was that of check and self.
- Most of the textile designs consisted of medium sized motifs and mostly whole of

the area was covered by the motifs.

- Twenty five per cent of the prevalent textile designs consisted of brown as the dominant colour and 31 per cent consisted of white as the dominant background colour.
- The value of 58.5 per cent of the designs was medium and intensity was also medium (65.5 per cent).
- Neutral was the most prevalent colour scheme.
- Forty three per cent of the samples consisted of blended fabrics.
- Assessment of the 50 selected developed designs revealed that majority (18 per cent) of the designs consisted of geometric motifs and stripes. Thirty per cent of the designs consisted of a combination of various motifs. Most of the designs (28 per cent) consisted of blue as the dominant colour and white (34 per cent) as the background colour. Thirty two per cent of the designs consisted of neutral colour scheme.

Ten (bearing nos. 1 to 10) designs were then ranked by a panel of seven judges.

Implications of the study

- The study will help the manufacturers of clothing material for gents shirting to produce new designs.
- The study will provide the consumers of gents shirting with a greater variety of printed clothing material to choose from

Recommendations for further study

- A similar study may be carried out on the development of new textile designs for infant's clothing material.
- A similar study may also be carried out on development of new textile designs of tops for adolescent girls.
- A study may be carried out on the development of new styles for gents shirts.
- A study on computer-aided designs (CAD) may also be carried out.

REFERENCES

Bala R (1983) *A study of consumer preference for woven dress materials from their trade pattern at the retailers' level in Ludhiana.* M.Sc. Thesis, Punjab Agricultural University, Ludhiana, India.

Bansal R and Phadke S (1984) Hand Woven Saris of Maharashtra. *The Ind Tex J* **94** : 63-70.

Bao M (1992) Traditional motifs on Chinese textiles and their influence on Japanese textile motifs. *J China Tex Unit* **18** : 25-30 (Original not seen Abst in World Textile Abstract 25 : Entry no. 00636, 1992).

Bharad N G and Kulkarni S Y (1995) Costume Preferences : A Comparison of Rural and Urban boys. *Maha Jour of Extn Edn* **14** : 227-30.

Bhavnani E (1969) *Decorative designs and craftsmanship of India.* DB Taraporevala sons & Co. Pvt. Ltd, Bombay 18,29,30.

Chandrakala S B and Shailja D N (1995) Selection of men's wear. *The Ind Tex J* **105** : 24-27.

Chattopadhya K (1975) *Handicrafts of India.* Indian Council for Cultural Relations, New Delhi 1, 40-45, 47, 50.

Dhir G (1997) *Creation of motifs and designs inspired from Madhubani paintings for use on textile materials.* M.Sc. Thesis, Panjab University, Chandigarh, India.

Duggal R (1982) *A comparitive study on the impact of the textile advertisements on young unmarried men and married men.* M.Sc., Thesis, Panjab University, Chandigarh, India.

Editors of American Fabric magazine (1960) Encyclopedia of Textiles. pp. 266-67, 479-81. Prentice Hall Inc, New Jersey.

Ghosh G K and Ghosh S (1995) *Indian Textiles.* APH Publishing Corporation. New Delhi 15-22, 109-18.

Jacob M (1992) Clothing selection and fashion adoption by adolescent boys. *Clothesline6* : 173-78.

Johnson B H, Nagasawa H K and Peter K (1977) Clothing style differences : Their effect on the impression of sociability. *Home Eco Rec J* **6** : 58-64.

Joshi D N (1982) Textile designing. *Colourage* **29** : 23-27.

Joshi R P (1981) Aesthetic aspects of textile designs. *The Ind Tex J* **91** : 66-69.

Joshi R P (1984) Aesthetic of colour in textiles. *The Ind Tex J* **94** : 59.

Kaur A (1999) *Development of textile designs and styles for ladies suits*. M.Sc. Thesis, Punjab Agricultural University, Ludhiana, India.

Kaur S (1996) *A study on the adaptation and incorporation of Indian Traditional motifs in weaving, embroidery and printing by contemporary dress designers*. M.Sc., Thesis, Panjab University, Chandigarh, India.

Kefgen M and Specht P T (1971) *Individuality in clothing selection and personal appearance*. The Mac Millan Co. USA 239-40.

Kosuge K and Kobayashi S (1990a) Study of the images of striped pattern. *J Japan Res Assoc Tex End Uses* **31** : 38-45. (Original not seen Abstr in World Textile Abstract 22 : Entry no. 01940, 1990).

Kosuge K and Kobayashi S (1990b) Basic study on the images of polka dot patterns. *J Japan Res Assoc Tex End-Uses* **31** : 427-31. (Original not seen. Abstr in World Textile Abstract, 23 : Entry No. 01347, 1990).

Labarthe J (1964) *Textiles : Origins to usage*. The Mac Millan Co., New York 81.

Majumdar G V and Chaulkar B N (1984) Studies in printed textile design and the development of experimental techniques for printing. *The Ind Tex J* **95** : 141.

Mehta R J (1960) *Handicrafts and Industrial art of India*. DB Taraporevala sons and Co. Pvt. Ltd., Bombay 119-28.

Mitra A (1987) Elegance of Textile designing. *The Ind Tex J* **97** : 58.

Nayyer S (1980) *A comparitive study of clothing interest between married and unmarried men*. M. Sc., Thesis, Panjab University, Chandigarh, India.

Pandit S and Bhargava H (1980) A study of Kota sarees of Rajasthan. *Ind J Home Science* **13** : 14-17.

Parikh J G, Aiyer H R, Dhage N R and Kawatra V S (1977) A survey on consumers' preferences for textiles. *The Silk and Art Silk Mills Res Assoc*, Bombay **11** : 14-21.

Patel S I and Bargohain M (1983) A study of hand woven textiles of Assam. *Ind Tex J* **94 :** 155.

Phadke S M and Sharma A (1983) A study of Bagru printing. *Ind Tex J* **94 :** 139.

Radder M and Shailaja D N (1995) Preferential choice of clothing material by farm labourers. *Tex Dyer and Printer* **28 :** 16.

Radhakrishnan K K (1980) Colour and Textile design. *Colourage* **27** : 43.

Rao R V (1980) Colour and Life. *Colourage* **27** : 25-34.

Rebecca P (1993) *Readymade shirts : Consumer behaviour and marketing strategies.* M. Phil. Dissertation, SNDT Women's University, Bombay, India.

Rogers J C and Hillikar J A (1989) Colour Analysis : The retail apparel response. *J Home Eco* **81:** 44-50.

Saggu H and Gandotra V (1994-95) Men's preferences for readymande shirts : Some implicaitons for manufacturers of readymade shirts. *The Textile Industry and Trade J* 33rd Anual Number 141-42.

Sandhu S (1986) *A study of textile designs and their development by printing.* M. Sc. Thesis, Punjab Agricultural University, Ludhiana, India.

Singh O P and Karwa M (1983) Sanganer Printing industry of Rajasthan. *Tex Dyer and Printer* **16 :** 29-31.

Srivastava A K, Jain M, Sharma R K and Prakash Jai (1995) A study on consumers tastes and preferences for suiting and shirting in Delhi market. *36th Joint Technological Conference* 160-70.

Thomas A and Pant B (1983) Historical evolution of Kalamkari. *Ind Tex J* **93 :** 43.

Thomas A and Sanghavi S (1984) A study of the Sanganeri printing. *The Ind Tex J* **94 :** 135.

Upadhyay M N (1957) *Handicrafts of India.* Swaarajya Printing Works, Secunderabad p 57.

Ward M (1973) *Art and design in Textiles.* Van Nostrand, Reinhold Co., New Yorkpp12-26.

Website, http://www.cottoninc.com.

Yoshioka T (1990) Measurement of images produced by two colour striped patterns - pattern images in clothing. *J Japan Res Assoc Tex End-Uses* **31** : 250-56 (Original not seen. Abstr in World Textile Abstract, 22 : Entry no. 05606, 1990).

Ziberna S M and Duprouski P D (1994) Colour and fabric designing. *Tekstilec* **37** : 352-57. (Original not seen. Abstr in World Textile Abstract 27 : Entry no. 02985, 1994).

ANNEXURE - I

OBSERVATION SHEET

Development of textile designs for gents shirting

I. Prevalent motifs

i. Type of dominant motif

Stripes
Checks
Geometric
Abstract
Paisley
Self
Floral

ii. Nature (natural/stylized) of dominant motif

Stripes
Checks
Geometric
Abstract
Paisley
Self
Floral

iii. Type of combination of motifs

Stripe and check
Stripe and floral
Stripe and geometric
Stripe and abstract
Geometric and floral
Abstract and floral
Check and floral
Check and self
Stripe and self
Geometric and abstract

iv. Size of motifs

Small (0-1 cm)
Medium (1-3 cm)
Big (more than 3 cm)

v. **Area covered by the motifs**
All over
Medium
Very less

II. **Prevalent colours**

i. **Dominant colour in the designs**
White
Black
Grey
Brown
Blue
Green
Cream
Maroon
Orange
Red
Yellow
Pink

ii. **Background colour of the designs**
White
Black
Grey
Brown
Blue
Green
Maroon
Red
Yellow
Pink

iii. **Value of dominant colour in the designs**
High
Medium
Low

iv. **Intensity of dominant colour in the designs**
High
Medium
Low

v. **Number of colours in the design**
One
Two
Three
Four
Five
More than five

vi. **Number of tones (tints and shades) of colours in the designs**
One
Two
Three
More than three

vii. **Nature of colour scheme**
Warm
Cool
Neutral
Warm-cool
Warm-neutral
Cool-neutral
Warm-cool-neutral

III. **Prevalent fabrics**
Cotton
Polyester
Rayon
Blended

VITA

Name of the student	:	**DEPIKA TOOR**
Father's name	:	S. Jaswinder Singh
Mother's name	:	Smt. Amarjeet Kaur
Nationality	:	Indian
Date of birth	:	14th August, 1977
Permanent Address	:	10/47, Punjab Agricultural University, Ludhiana - 141 004 (Punjab)

EDUCATIONAL QUALIFICATIONS

For Master's degree students

Bachelor's degree	:	B. Sc. (H. Sc.)
University and year of Award	:	Punjab Agricultural University, Ludhiana 1998
OGPA/OCPA/% marks	:	8.07/10.00 (OCPA)
Master's degree	:	M.Sc. (Clothing and Textiles)
University and year of Award	:	Punjab Agricultural Univeristy, Ludhiana 2000
OGPA/OCPA/% marks	:	8.31/10.00 (OCPA)
Title of Master's Thesis	:	**"Development of textile designs for gents shirting"**
Awards/Distinctions /Fellowships/ Scholarships	:	i. University Merit Scholarship during 3rd, 4th and 5th years of B.Sc. (Home Science) programme. ii. Merit certificate in B.Sc. (Home Science) programme.