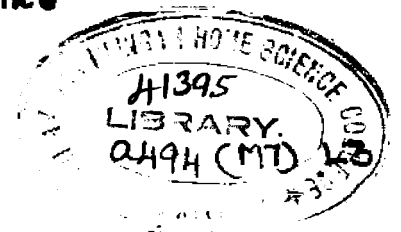


**AN EVALUATION OF TEXTILE DESIGNS ON KHADI DRESS
MATERIALS AVAILABLE AT TAMIL NADU**

**By
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TABLE OF CONTENTS

<u>Chapter</u>		<u>Page</u>
	LIST OF TABLES	.. v
	LIST OF APPENDICES	.. vi
I.	INTRODUCTION	.. 1
II.	REVIEW OF LITERATURE	.. 5
	A. Importance of clothing.	.. 5
	B. Khadi for clothing.	.. 6
	C. Designs on khadi	.. 7
	1. Structural and decorative designs.	.. 8
	2. Elements of design.	.. 9
	3. Principles of design.	.. 11
	4. Principles used in design organization.	.. 12
	5. Methods of introducing <i>decorative</i> designs on khadi fabrics.	.. 14
	D. Criteria for Evaluating the Designs on Textile Fabric.	.. 17
III.	EXPERIMENTAL PROCEDURE	.. 19
	A. Market Survey	.. 19
	B. Selection of Sample	.. 19
	C. Preparation of Score Sheet	.. 20
	D. Conducting the Pilot Study	.. 20

<u>Chapter</u>		<u>Page</u>
	E. Actual Study ..	21
	F. Consolidation and Analysis of the Data ..	21
IV.	RESULTS AND DISCUSSION ..	22
	A. Appearance of the Design	23
	B. Achievement of Variety ..	38
	C. Art Principles applied in Design ..	53
V.	SUMMARY AND CONCLUSION ..	78
	BIBLIOGRAPHY ..	79
	APPENDICES ..	vii

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1.	APPEARANCE OF DESIGN IN GROUP I ..	24
2.	.. .. II ..	27
3.	.. .. III ..	30
4.	.. .. IV ..	33
5.	.. .. V ..	36
6.	ACHIEVEMENT OF VARIETY IN GROUP I ..	39
7.	.. .. II ..	42
8.	.. .. III ..	45
9.	.. .. IV ..	48
10.	.. .. V ..	51
11.	ART PRINCIPLES APPLIED IN DESIGN IN GROUP ..	54
12.	.. .. II ..	59
13.	.. .. III ..	64
14.	.. .. IV ..	69
15.	.. .. V ..	73

LIST OF APPENDICES

<u>Appendix</u>		<u>Page</u>
1.	SCORE SHEET FOR EVALUATING THE TEXTILE DESIGN PRODUCED ON KHADI DRESS MATERIALS.	.. viii
2.	INDIVIDUAL RATINGS REGARDING THE APPEARANCE OF DESIGN.	.. x
3.	INDIVIDUAL RATINGS REGARDING THE ACHIEVEMENT OF VARIETY.	.. xiv
4.	INDIVIDUAL RATINGS REGARDING THE ART PRINCIPLES APPLIED IN THE DESIGN.	.. xviii
5.	SAMPLES JUDGED AS BEST	.. xxx

I. INTRODUCTION

Very early in history man wanted something to protect his body, to make his living quarters more comfortable, to satisfy his need for spiritual stimulation and satisfaction and he produced fabrics, Faulkner and Faulkner (1950). Today, textile industry is the pillar of national economy, which contribute to our country's wealth and business, Dantyaqi(1968). Among the textile fabrics cotton plays a very important place in the wardrobe of both men and women as it give more varieties suitable for any situation. Khadi, a variety of cotton has got a remarkable role especially in dress and in furnishings by adopting efficient dyeing and printing techniques.

Ghandi (1959) points out that the qualities of cotton such as good heat conductivity, durability, serviceability and affinity for dyes are furnished by khadi, which originates from cotton fibres that are hand spun and hand woven. Khadi is a bridge between rural and urban life and it is a symbol which stands for an ideology for a certain discipline and for certain convictions, Diwarker (1967). It is an embodiment of political movement and a livery of freedom, Singh (1967).

In India Khadi work initiated forty years ago by the All India Spinners Association, is now being implemented by the State Khadi and Village Industries Board as well as by the Tamil Nadu Sarvodaya Sangh, Gandhi Ashram, Gandhigram and a few other institutions (The State Khadi and Village Industries Board).

After the advent of independence when a National Government took over the administration in Madras State, the Government gave the deserving importance to rural development on an intensive scale and among the schemes for such rural development, Khadi was given the place of pride. Among the states in the country, Madras takes the distinction of being the first and foremost state to have taken up Khadi as a Government development programme, (The Department of Khadi, Government of Madras).

The production of Khadi does not simply mean hand spinning and hand weaving. Bleaching and printing also go hand in hand with spinning and weaving to produce Khadi varieties. In recent years fashion has played a much larger part in both woven and printed designs of textiles both for apparel and for household decoration, Hunt (1951). In order to meet the tastes of the people in cities and towns finer Khadi in beautiful colours and designs have been produced and marketed (1962).

Khadi is ^a more useful and superior cloth as it gives novelty and attraction, Asad (1957). Customers are no doubt being attracted to Khadi because of its durability, texture and also out of appreciation of the social welfare of the products, Mehta (1959). Today the durability of Khadi varieties is much more ensured than at any time before. The Khadi industries solve mass employment and offers supplementary income to the agriculturer as well as the other types of workers. Khadi has entered the external market also.

An important step taken by the Khadi centres is the introduction of more and more new varieties in Khadi and training of salesman in the art of salesmanship, since a lot depends on these days on attractive sales windows and salesmanship, opines Jeraiani (1952). They are also trying to convince the villagers about the need, importance and utility of using locally produced hand spun yarn for weaving, Banker (1959). The future of Khadi will however depend very largely on the rate at which and the manner in which the income of the people in the rural areas is increased (1952).

Fine varieties of Khadi with or without designs are produced in the Government centres as well as in the centres of other Khadi institutions in the state.

These varieties are as good and fine as, if not superior to other textiles in texture, elegance and appearance.

Every production centre of Khadi is famous for certain special varieties. Today, butta weaving, patta weaving, tie and dye, Jacquard pattern, wax print and lace varieties are produced on khadi material. The main aim of this study is to find out and evaluate the different types of designs available on khadi dress materials and to find out how the consumers favour them.

II. REVIEW OF LITERATURE

The literature collected for this study is reviewed under the following headings:

- A. Importance of clothing
- B. Khadi for clothing
- C. Designs on Khadi
 - 1. Structural and decorative designs
 - 2. Elements of design
 - 3. Principles of design
 - 3. Principles used in design organization
 - 3. Methods of introducing ^{decorative} designs on Khadi fabrics
- D. Criteria for evaluating the designs on textile fabrics

A. Importance of Clothing:

The primary function of clothes is protection against the rigors of climate, cold or heat, snow or rain, spines Evan (1949). Clothing is in some respects considered as important as food as it meets one of the primary needs, Mehta (1960) and Tate and Glisson (1953). It is an expression of person reflecting his personality, way of living, way of thinking and especially pride in

self or family, Chambers and Houlton (1961). Clothes has been used for decoration and to show individuality and social superiority, McJinsey (1963). According to Ghosh (1972), the function of clothes is to maintain the heat balance with the minimum demand of the thermal regulation process of the body.

B. Khadi for Clothing

Khadi is introduced in the country with the specific purpose of providing employment to the rural population in large number as well as to lead the rural communities towards self reliant economy, Sharma (1970). Azhad (1967) states, that a piece of khadi has a personality of its own, if personality can be attributed to cloth. In the form of an industry, Khadi satisfied some of our cloth requirements, Deshpande (1967).

Most fabrics that become a part of everyday life by use acquire the combined aspect of being functional and decorative when they do, their need for their improvement becomes a necessity which is being felt in producing Khadi, says Verma (1959). Khadi cloth has unique qualities which results from the irregularity of threads and therefore can not be imitated by factory made clothes, Van De Weyer (1971). Government Khadi Centres are producing 1500 varieties of khadi cloth.

Some wear Khadi simply as a matter of habit. This is very advantageous for it is a stable source of demand. Some prefer Khadi for its attraction and this has contributed to a sizeable sale of Khadi even abroad, says Isvaramurthy (1965). Because of the looseness of the twist in parts of Khadi threads which make the cloth warm, that the demand for Khadi in western countries is more, says Sharma (1971). To meet the special needs of foreign markets, the Khadi and Village Industries Commission is developing new designs to cater to the consumer's tastes and preferences, says Sanyal (1971).

The introduction of modern weaving equipment to make Khadi pure, simple, cheap and cent per cent national have increased the Khadi wearers, says Master (1970).

C. Designs on Khadi

New and traditional patterns and varieties are produced in Khadi. In 1956, the main design centre was started in Bombay followed by those in Banaras and Madras, Verma (1959). A design centre is functioning at Madathukulam for preparing and introducing new designs in series and other varieties. The Government Dyeing, Bleaching and Printing Unit was started in 1955 with a view to improve the quality of dyeing and printing and to cater to the needs of the Intensive Khadi Scheme, Government of Madras, Department of Khadi (1958). Stru-

etural and nonstructural designs are done on Khadi to meet the demand of the locality, says Nadkarny (1960). Printed fabric is the combination of the basic fabric and a suitable design is printed on the surface in colour or in colours, Wright (1949). Printing is undertaken on bleached cloth or dyed fabrics in various styles which increases the sales at the counter (1959). Khadi goods are printed with rapid fast colours, rapid-dye, indigo and pigment colours (1958). The printed clothes are famous in Southern India, opines Srinivasachari (1958). Now there are hundreds of varieties in colour and print which can please any eye and satisfy any taste.

1. Structural and decorative designs

In textiles, designs are achieved by arranging or manipulating the yarns in fabric construction or by applying a design to the fabric surface after the fabric has been constructed which are referred, by Oerke (1955) and Stout (1960), as structural and decorative designs.

Goldstein and Goldstein (1954) say, "Structural design is the design made by the size, form, colour and texture of an object". Structural designs are produced by the use of different coloured yarns, types of yarns, yarns having different treatment,

grouping or spacing of yarns or by the method of spacing the yarns (1960).

Decorative design is ornamentation or surface enrichment by applied design (1963). Decorative and ornamental designs are expressed by Rutt (1948) in four styles, naturalistic, conventional, abstract, and geometric. Naturalistic designs are reproduction of nature, conventional or stylized designs are simplified natural forms relating their shapes to the area they occupy, abstract designs have no relation to nature and geometric designs are in different sizes to form triangles, circles and squares.

2. Elements of design

A good design in clothing must not only be aesthetically pleasing, but must also meet the needs of comfort, fit, becomingness, says McJimsey (1963). The success of design depends upon the clever handling of elements, Bir^rzi (1950). The four elements of designs are line, shape, texture and colour.

Line is the basic element of beauty, which has the power to suggest movement, mood and personality, depending on its type and direction, Craig and Rush (1966). Lines are two kinds, straight and curved. Straight lines are stiff and motionless whereas the curved lines add movement and decoration (1963).

Form is something solid and tangible (1955). Rutt (1948) states, that the term form is generally considered to apply to two dimensional volumes or masses. A good design might combine various forms such as geometric or floral but it would not contain both, Todd (1952).

The word texture refers to the tactile quality of the surface of textiles, opines Pickering (1941). Faulkner and Faulkner (1960) say that texture is a source of beauty and individuality. It suggests the roughness or ^{mo0}smoothness, shininess or dullness, softness or stiffness and heaviness or sheerness of the cloth (1956).

According to Jakway (1924), colour is a property of light and is a dominant element in the language of decoration. Colours are warm and cool. They have three qualities explained as hue, value and intensity. Value refers to the amount of lightness or darkness in a colour, says Lutzke and Quinlan (1935). To produce pleasing designs, the colour schemes, suggested by Goldstein and Goldstein (1954) are one hue, analogous, complementary, double complementary, split complementary and triad colour harmonies.

3. Principles of design

The principles of design, according to Ryan and Phillips (1947) are rules which govern the way the elements may be combined. Proportion, balance, emphasis, rhythm and harmony are called the five major principles of designs (1960). Design principles should be regarded as guides which are subjected to intelligent rather than rigid interpretation (1953). According to Lewis and Banks et al (1960) proportion is the relationship of different spaces to each other within a given area.

According to McJimsey (1963), a well balanced design results from an equalization of attractions on either side of a center point. Formally balanced design is exactly alike on both sides from the center and in the informally balanced, the sizes and the sides are unlike. Unequal spaces are more interesting than evenly divided spaces for producing a good design, says Graves (1951) and Lewis and Banks et al (1960).

"Emphasis, is one by which the eye is carried first to the most important thing in any arrangement and from that point to every other details in the order of its importance", Goldstein and Goldstein(1954). According to Silver and Ryan (1943), "Emphasis is the principle that directs us to have a center of interest

in any arrangement and dominating idea, form or colour in any scheme". The success of the result depends upon a knowledge of what to emphasize, how to emphasize, how much to emphasize and where to place emphasis.

Rhythm, as Pickering (1941) states, is an easy connected path or a pleasing sense of organised movement. Rhythm may be produced by repetition, opposition, gradation, transition or radiation, Craig and Rush (1955).

"Harmony is the art principle which produces an impression of unity through the selection and arrangement of consistent objects and ideas" (1954). It produces unity in the design by the choice and use of lines, shapes, colours and ideas (1969). The principle of harmony has five aspects referred as line, shape, size, texture, idea and colour.

4. Principles used in design organization

The designing process is a form of organization in which the elements are a collection of units (1954). A designed fabric, according to Todd (1952) and Lewis *et al* (1960), should bear a definite relationship to the various shapes and should balance to light and dark areas, bright and dull areas and large and small areas. The success of any design, according to Birrell (1956),

depends upon the clever handling of such elements as line, shape, colour and texture. Beauty in pattern depends not only on having well designed motifs but also arranging them well, Rutt (1948).

The effectiveness of a pattern may depend upon its size. An *allover* design is one which is composed of a unit or series of units repeated according to some definite methods whereby the entire surface of a given area is decoratively covered, says Cox and Warren (1951) and George (1953). The design in *allover* prints, according to Erwin and Kinchen (1959), is most pleasing if the shapes are repeated with good proportion, flowing lines and gradation of sizes. A narrow bounded area is readily visualized as completed with the addition of some simple lines of forms. Border designs are composed of unit or series of units or lines repeated at intervals over the length of the enclosed area. When a border design is combined with an *allover* pattern, the design units in the two areas must be related in subject and character and the border units must be either smaller or larger than those in the adjacent *allover* pattern, opines Birrell (1959). Good textile design shows an orderly arrangement of the materials used and in addition creates beauty in the finished products (1954).

9. Methods of introducing decorative designs on Khadi fabrics

According to McJinsey (1953), decorative design is the design which is applied to the garment usually after it is made. The decorative designs are obtained in a variety of ways such as embroidery, printing with pigments, blocks, rollers and stencilling, says Evans (1949).

The Department of Khadi in Madras reports, that there are about 3000 varieties in Khadi in which 700 are woven pattern and the rest colourful printed designs. Decorative designs are made either by weaves or imposed designs printed on the surface.

a. Embroidery

According to Barve (1957), embroidery is the ornamentation of textile fabrics with needle work. Embroidery design depends largely upon the stitch and method for its right expression. Flowers, figures, birds and animals, geometrical forms such as knots can be produced by embroidery, Christie (1953).

b. Printing

According to Hess (1958) and Chambers and Moulton (1961), printing is the method of applying

dye to a fabric in a design or a pattern. Textile printing is the application of art and science in the production of designs on materials, Encyclopaedia(1968). The method of stamping coloured figures on the fabric is known as printing, Wingate (1953). Printing is the ancient, easiest and least expensive way to add applied design to fabric, says Evans (1949). The basic ways of printing designs on Khadi are block, screen, spray and intangible printing.

Block printing

Block printing is the earliest, most artistic, simplest and slowest method (1967). Greater variety of designs and colour effects are produced by this method. The good block printed designs depends upon the clearness of colour, the sharpness of outline, and the regularity of the design, says Wingate (1953). A separate block is usually prepared for each colour to be applied and the design is stamped by hand on the surface of fabrics, Faulkner et al (1955). Block printing is suited to patterns in which the design is relatively simple, the repeated motifs are of fairly small in size and the number of colours are limited.

Roller printing

Roller printing, according to Barve (1967), is rather an elegant and efficient process. Rollers are made of copper and engraved on it is that portion of the

pattern which it contributes, Hall (1959). The accurate engraving of the copper roller is one of the most important activity (1958). The number of rollers are depending upon the number of colours in the design, Stout (1950). Rollers which are prepared once can be used for many different colour combinations.

Screen printing

According to Hess (1958) and Hall (1959), screen printing is a variation of stencil process and is largely used in the production of distinctive textiles. This method is adapted to the use of large designs either by hand or semimechanically (1950). A separate frame is prepared for each colour in the design (1960). The designs obtained by screen printing are more pleasing, Dentyagi (1968). Screen printing is several times as fast as block printing and is flexible than roller (1958).

Stencil printing

Birrell (1959) says, stencil printing is one of the resist processes of textile design, the resist in this case being the stencil itself and many commercial prints are done by it. Stencil printing is a hand resist process. Stencil can be made out of paper and metal and the charm of a stencil printed pattern lies

in the contour of its outline and the variation of the sizes and shapes.

Batik

Batik is a resist type of printing and batik like patterns are printed by roller printing method. Through batik prints, originality may be obtained in designs (1958). The method of batik work has the variations, such as, outline and tinted, crackle, crayon, dyed crayon, white line and pin pointed (1958).

Spray painting

Potter and Corbman (1959) opines, that the dye may be applied with a mechanized air brush which blows or sprays colour on the fabric by means of spray painting. Shaded effects are produced on fabrics. In spray painting a stencil is placed on the fabric and colour is sprayed on by means of a 'gun', Evan (1949). Spray painting is used when surface colouring is to be done quickly and economically. The type of dyestuff used may be direct, acid or vat dissolved in water, alcohol or other organic solvent (1945).

D. Criteria for Evaluating Textile Designs:

Designs are applied on textile fabrics for giving decoration. According to Craig and Rush (1966),

decorative design may be purely ornamental having no function and no value except beauty. Good decorative designs may be judged by the simplicity that has been observed in the application of the design, the object that has been enhanced by the addition of decoration and the decoration in harmony with the style of the object and the background.

Since sight is the principle through which most of one's knowledge is received, Dantyaqi (1959) suggested that the designs can be judged by visualising the proper use of lines, forms and colour effect. Wright (1949) views, that the design should be evaluated by the printing method and the printing application to be adopted, the type of fabric, and the use for which it is intended.

III. EXPERIMENTAL PROCEDURE

The experimental procedure for the study "Evaluation of Textile Designs on Khadi Dress Materials Available at Tamil Nadu", involves the following steps:

- A. Market Survey
- B. Selection of Sample
- C. Preparation of Score Sheet
- D. Conducting the Pilot Study
- E. Actual Study
- F. Consolidation and Analysis of the Data.

A. Market Survey:

The main aim of this survey was to find out the different types of textile designs on Khadi dress materials available in the market. A market survey was conducted at Tirupur, Erode and Coimbatore to find out the details regarding the designs on Khadi, methods used to apply the designs and the places in which the designs were produced on the material. The investigator also found the types of dyes used for different prints.

B. Selection of the Sample:

Printed dress materials in general, including, saree, blouse and frock materials, were taken as samples

for this study. Among them the most commonly sold ones were selected from different Khadi centres. With the help of ten postgraduate students, 50 samples for the study were chosen from the collected samples.

C. Preparation of Score Sheet

According to Freeman (1958) and Mouly (1970), the rating scale is best conceived as an instrument which permits the quantification of observation through the assignment of numerical values. So rating scale method was followed in order to judge the designs. A score sheet was prepared to facilitate the evaluation of the design on the samples.

The following points were considered while preparing the score sheet.

1. General appearance of the design
2. Suitability of the design
3. Achievement of variety
4. Achievement of contrast
- and 5. Art principles applied in the design

D. Conducting the Pilot Study

In order to find out the accessibility of the prepared score sheet, a pilot study was conducted taking twenty samples. Ten Home Science Undergraduate Students and ten Home Science postgraduate students were selected

as judges. These judges evaluated the designs by using the rating scale such as good, fair and poor.

After the pilot study, the score sheet was modified as per the suggestions given. The modified score sheet is given in Appendix I.

E. Actual Study

For the actual study, fifty designed samples were selected from the collected samples of different places. Fifty Home Science undergraduate and fifty Home Science postgraduate students of Sri Avinashilingam Home Science College for Women, Coimbatore, who were studying about designs in their course, were asked to be the judges for evaluating the designs, considering the convenience of the investigator. These judges evaluated the designs by using the rating scale such as good, fair and poor.

F. Consolidation and Analysis of the Data

The data collected were consolidated and discussed in Results and Discussion.

IV. RESULTS AND DISCUSSION

The results of the study, "The Evaluation of Design on Selected Khadi Dress Materials" are discussed under the following headings:

- A. Appearance of the Design**
- B. Achievement of Variety**
- C. Art Principles Applied in the Design**
 - 1. Balance**
 - 2. Rhythm**
 - 3. Proportion**
 - 4. Harmony**
 - 5. Emphasis**

Since it was unable to discuss all the fifty samples selected for the study together, the samples were grouped randomly into five groups containing 10 samples in each group and the individual ratings of the 50 samples are given in Appendices II, III, and IV. Random sampling, according to Seetharaman (1965) and Shukla and Gulshan (1970), is one in which every one of them in the whole population has an equal chance of selection.

A. Appearance of the Design

The appearance of the design in group I as rated by the judges is given in Table I.

TABLE I
APPEARANCE OF THE DESIGN
Group I

S. No.	Sample number	Neatness of the design			Clarity			Attraction			Simplicity		
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	2	16	44	40	40	48	42	10	48	42	19	41	40
2.	4	47	42	11	47	42	16	43	45	12	31	49	70
3.	12	35	52	13	39	49	12	41	45	14	31	39	30
4.	14	33	45	27	23	53	24	14	54	32	24	47	79
5.	18	47	45	8	40	45	15	47	44	9	34	43	23
6.	29	61	32	7	52	42	6	44	37	19	41	42	17
7.	37	50	38	12	41	46	13	37	44	19	36	37	27
8.	42	52	50	18	35	47	18	34	52	14	27	44	79
9.	47	29	48	23	32	48	20	33	39	28	20	37	43
10.	48	37	45	18	34	48	18	38	50	12	29	41	30

----- Appearance through. -----

From the given table it is clear that sample 27 was ranked first, regarding the neatness of design, as it was rated good by 51 per cent of the judges. This was followed by 32, 4 and 18 according to 50, 47 and 47 per cent of the judges respectively. Only 15 per cent rated sample 2 as good whereas 40 per cent of the judges rated the same sample as poor. The rest of the samples in this group were graded fair by majority of the judges.

The clarity of design was found to be good in sample 23 according to 52 per cent of the judges and this was followed by sample 4 according to 42 per cent of the judges. Only 10 per cent of the judges rated sample 2 as good.

Coming to attraction of design, sample 18 came first as it was rated good by 47 per cent of the judges. The second place went to 23 by 44 per cent and the third place was given to 4 by 43 per cent of the judges. All the other samples were rated fair by a majority of judges. Samples 14, 42 and 48 were rated as fair by more than 50 per cent of the judges and the rest by below 50 per cent of the judges. None of the samples were rated poor by more than 45 per cent of the judges.

Simplicity which is the last aspect in appearance was found to be rated as good in sample 23 by 41 per cent of the judges followed by sample 32 (36 per cent). All the rest were rated as fair by majority of the judges. Only sample 9 was rated poor by 43 per cent of the judges regarding its simplicity.

From this, it can be concluded that regarding balance in design in this group, sample 23 was ranked first followed by samples 4, 7 and 18.

Table II gives a detailed account of the appearance of the design in group II as rated by judges.

TABLE II

APPEARANCE OF THE DESIGN

Group II

S. No.	Sample Number	Appearance through															
		Neatness of the design				Clarity				Attraction				Simplicity			
		Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor	
1.	3	13	40	47	14	41	45	35	35	30	35	20	45	35			
2.	7	26	55	19	18	61	21	19	49	32	18	60	22				
3.	10	39	49	12	31	50	19	43	42	15	40	42	18				
4.	20	45	44	10	40	37	23	52	36	12	30	45	25				
5.	27	11	54	35	12	47	41	12	38	50	10	51	31				
6.	26	32	35	33	27	45	27	28	45	27	15	47	38				
7.	27	15	51	33	13	51	36	11	49	40	19	46	35				
8.	28	29	45	25	19	53	28	17	48	35	20	48	32				
9.	31	51	34	5	48	43	9	43	48	9	38	48	14				
10.	45	20	42	38	17	44	39	22	45	32	22	47	31				

In the second group, almost all the samples were adjudged as fair by majority of the judges regarding the neatness of design except sample 20 which was considered as good by 45 per cent of the judges. More than 50 per cent of the judges, rated samples 7, 22 and 27 as fair and 40 to 50 per cent of the judges considered samples, 3, 10, 20, 28 and 45 as fair. Only 13 per cent considered sample 3 as good regarding the neatness whereas 47 per cent of the judges considered the same as poor.

Sample 31 was ranked first regarding the clarity of design by maximum number of judges (48 per cent). The rest of the samples were considered as fair by most of the judges. More than 50 per cent of the judges considered samples 7, 10, 27 and 28 as fair. None of the samples were marked poor except samples 3 and 22 which were rated poor by 45 and 41 per cent of the judges respectively.

Coming to attraction of the design, sample 20 in this group was ranked first as it was judged good by 52 per cent of the judges followed by samples 10 and 31 by ⁴³ per cent of the judges in each. The rest of the samples were fair in their attraction of the design as recorded by more than 35 per cent of the judges.

Only 11 and 12 per cent rated samples 27 and 22 as good whereas the same samples were considered as poor by 40 and 50 per cent of the judges respectively.

According to majority of the judges none of the samples in this group were considered to be good in their simplicity of design. Sample 7 was considered to be fair by 50 per cent of judges, followed by sample 22 (57 per cent). The rest of the samples were rated as fair by more than 45 per cent of the judges.

From the second group we can conclude that when all the aspects of appearance were considered, sample 31 was ranked first, sample 20 as second and sample 10, as third.

Table III gives a detailed account of the appearance of the design in group III as rated by judges.

TABLE III
APPEARANCE OF THE DESIGN

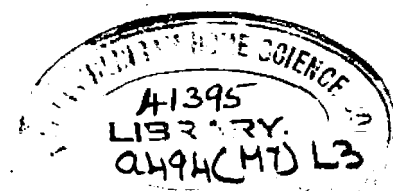
Group III

S. No.	Sample No.	Appearance through											
		Neatness of the design			Clarity			Attraction			Simplicity		
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	1	51	37	2	50	35	5	55	29	5	37	43	20
2.	13	22	59	19	19	59	22	34	47	19	22	40	38
3.	17	14	41	45	5	46	49	13	45	42	15	53	32
4.	24	30	53	17	27	55	18	20	50	30	20	57	29
5.	25	48	46	6	47	47	5	40	49	11	30	43	27
6.	35	24	42	34	23	41	36	18	53	29	21	52	27
7.	36	50	15	5	75	21	4	62	30	6	70	22	8
8.	39	35	49	15	34	53	13	24	45	30	21	45	34
9.	41	37	39	24	32	44	24	43	41	15	29	32	39
10.	43	44	42	14	49	39	12	45	40	15	32	40	28

In this group the maximum rating was received by samples 36 and 1 as regards their neatness of design and these two were rated good by 80 and 61 per cent of judges respectively. Sample 25 was ranked third with 48 judges and sample 43 ranked fourth by 44 per cent of the judges. The rest of the samples were rated fair by maximum number of judges. Only sample 17 was rated as poor by 45 per cent of the judges.

Regarding the clarity of design, samples 36 and 1 were ranked first and second as they were rated good by 75 per cent and 60 per cent of the judges respectively. Forty nine per cent of the judges rated sample 43 as good and sample 25 by 47 per cent of the judges. All the rest of the samples were graded fair by more than 35 per cent of the judges except sample 17 which was rated as poor by 49 per cent of the judges.

Attraction of the designs ^{as} were considered good in sample 1 by 55 per cent and in sample 36 by 52 per cent of the judges. More than 40 per cent of the judges graded samples 25, 41 and 43 also good. The rest were considered as fair by majority of judges and very few considered them as poor excepting sample 17 which was rated poor by 42 per cent of the judges.



Simplicity of design was found to be good in sample 35 according to 70 per cent of the judges whereas the rest of the samples were rated fair by a majority of judges. Samples 17, 24 and 35 were considered fair by more than 50 per cent of the judges whereas 40 to 50 per cent of the judges considered samples 1, 13, 25, 39 and 43 as fair, regarding the simplicity of design. The only sample which was rated poor by majority of the judges (39) was 41.

Coming to the conclusion in group III, samples 35, 1 and 25 were ranked as first, second and third when all the aspects in the appearance of design were taken into consideration.

A detailed account of the appearance of the design of the samples in group IV is given in Table IV.

TABLE IV

APPEARANCE OF THE DESIGN

Group IV

S. Sample No. number	Appearance through															
	Neatness of the design				Clarity				Attraction				Simplicity			
	Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor	
1.	6	51	39	10	47	39	14	26	39	25	45	41	14			
2.	8	21	60	19	16	53	31	16	52	32	22	55	23			
3.	16	71	27	2	63	36	1	39	43	18	47	44	9			
4.	21	62	31	7	55	41	3	43	44	13	48	38	14			
5.	29	28	55	16	26	55	19	19	54	27	30	47	23			
6.	33	54	37	9	50	43	7	43	44	13	44	44	12			
7.	34	32	55	12	33	57	10	29	58	13	32	47	21			
8.	40	18	58	24	20	56	24	28	49	23	28	45	27			
9.	45	32	43	35	17	49	34	22	47	31	19	47	34			
10.	50	71	42	37	20	42	38	24	41	35	21	38	41			

Neatness of design was considered as good by 71 per cent of the judges in sample 16 whereas 62 per cent considered sample 21 as good. According to 54 and 51 per cent of the judges, the neatness in samples 33 and 6 were good. Sixty per cent of the judges considered sample 8 as fair, whereas samples 40, 34 and 29 were considered as fair by more than 50 per cent of the judges. Only few judges rated all the samples as poor regarding the neatness of design.

Coming to clarity of design it was rated as good in sample 16 by 63 per cent and in samples 21 and 33 by 56 and 50 per cent of the judges respectively. Only 16 and 17 per cent considered samples 8 and 45 as good whereas 53 and 49 per cent considered the ^{same} samples as fair. The rest in this group were considered as fair, regarding clarity of design, by more than 35 per cent of the judges.

None of the samples in this group possessed good attractive design as most of the samples were rated as fair by majority of the judges. Samples 21 and 33 were rated good by 43 per cent of judges in each. More than 50 per cent of the judges graded samples, 8, 29 and 34 as fair whereas the rest were considered as fair by 40 to 49 per cent of the judges.

Regarding simplicity, sample 21 was ranked first with 48 per cent of the judges rating it as good followed by sample 15 with 47 judges. Forty five judges considered sample 6 as good. The rest of the samples in this group were rated as fair, regarding simplicity of design, by more than 45 per cent of the judges except sample 50 which was rated poor by 41 per cent of the judges.

Sample 15 in this was the best when appearance of the design was considered and this was followed by samples 21 and then 33.

Table V gives a detailed account of the appearance of the design of the samples in group V.

TABLE V

APPEARANCE OF THE DESIGN

GROUP V

S. No.	Sample Number	Appearance through											
		Neatness of the design			Clarity			Attraction			Simplicity		
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	5	15	43	42	10	48	42	18	47	40	19	41	40
2.	9	31	50	19	22	48	30	23	42	35	24	49	77
3.	11	27	54	19	30	54	15	33	47	20	24	36	40
4.	15	29	51	20	22	53	25	26	45	29	21	45	34
5.	19	28	55	17	29	52	19	19	53	28	15	48	37
6.	30	33	43	24	28	44	28	31	44	25	24	44	32
7.	37	24	54	12	19	58	23	25	55	20	27	48	25
8.	38	24	54	22	20	57	23	24	51	25	27	50	23
9.	44	23	58	19	24	57	19	16	54	30	25	45	30
10.	49	50	33	7	58	33	9	45	39	16	49	43	8

It is clear from the above table that in this group sample 49 was rated good by 60 per cent of the judges regarding its neatness. Among the rest, sample 37 was rated as fair by 54 per cent of the judges and this was followed by samples 44, 19, 11, 38, 15 and 9 by more than 50 per cent of the judges. Only sample 5 was rated as poor by 42 per cent of the judges.

Regarding the clarity of design, sample 49 was considered as the best as it was rated good by 58 per cent of the judges whereas all the others were rated as fair by majority of the judges. Samples 11, 15, 19, 37, 38 and 44 were rated fair by more than 50 per cent of the judges. Sample 5 alone was again rated poor by 42 per cent of the judges.

In attraction, sample 49 was ranked first, as it was rated good by 45 per cent of the judges and this was followed by samples 11 and 30 rated by 33 and 31 per cent of the judges respectively. Almost all the other samples were considered as fair by more than 40 per cent of the judges regarding attraction. Only sample 5 was rated poor by 40 per cent of the judges whereas the remaining samples were rated as poor by very few judges.

Simplicity was found to be good in sample 49 according to 49 per cent of the judges. Fifty per cent of the judges rated sample 38 as fair. The rest in this group were considered as fair by more than 40 per cent of the judges.

From the fifth group we can conclude that sample 49 was ranked first, sample 11 as second and sample 30 as third, as regards the appearance of design.

B. Achievement of variety

Variety in a design can be achieved through lines, colours, spacing and shape. So this was taken as the second aspect in the evaluation of the design. The result of the samples in group I, as given by the judges, for achievement of variety is given in Table VI.

TABLE VI
ACHIEVEMENT OF VARIETY

Group I

S. Sample No. Number	Variety through															
	Lines				Colour				Spacing				Shape			
	Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor	
1.	26	50	24	21	45	34	19	53	28	22	61	17				
2.	48	42	10	37	45	18	30	44	26	31	43	26				
3.	29	55	16	43	46	11	37	42	21	39	44	17				
4.	27	46	27	21	55	24	23	47	30	27	47	26				
5.	35	45	20	42	47	11	30	45	24	35	41	24				
6.	57	34	9	43	45	12	41	43	16	40	45	15				
7.	38	48	14	38	43	19	35	44	21	39	38	23				
8.	34	54	12	32	58	10	22	53	25	26	43	31				
9.	30	47	23	30	46	24	22	48	40	29	48	23				
10.	38	43	19	35	52	13	27	45	28	31	44	25				

It is clear from the table that sample 23 was ranked first, as regards the variety achieved through lines was concerned, as it was graded good by 57 per cent of the judges followed by sample 4 by 48 per cent of the judges. All the other samples were rated as fair by a majority of judges. More than 50 per cent of the judges graded samples, 2, 12 and 42 as fair for the achievement of variety through lines and above 40 per cent of the judges considered ^{the remaining samples as fair. Only 9 judges considered} sample 23 as poor and 10 judges rated sample 4 as "poor".

As regards the achievement of variety through colour, samples 12 and 23 were rated good by 43 per cent of the judges in each. Sample 42 was considered fair by 58 per cent of the judges and 55 and 52 per cent judged samples 14 and 48 respectively as fair. None of the samples were rated poor by above 35 per cent of the judges regarding the achievement of variety by colour.

Variety achieved through spacing was found to be good according to 41 per cent, in sample 23 whereas the rest were rated as fair by majority of the judges. Samples 2 and 42 were graded as fair by 53 per cent of the judges in each and the rest of the samples were judged as fair by below 50 per cent of the judges. None of the samples were rated poor by more than 35 per cent of the judges.

According to 40 and 49 judges, achievement of variety through shape was found to be good in samples 23, 12 respectively. Sixty one per cent of the judges rated sample 2 as fair whereas the rest of them were rated as fair by more than 40 per cent of the judges, except sample 32. Very few judges rated the samples in this group as poor regarding achievement of variety through shape.

From the above data it can be concluded, that samples 23 and 4 were ranked as first and second respectively and most of the samples in this group had achieved variety fairly through the various aspects.

The achievement of variety through lines, colour, spacing and shape as rated by judges in group II is given in Table VII.

TABLE VII

ACHIEVEMENT OF VARIETY

Group II

S. No.	Sample No.	Variety through											
		Lines			Colour			Specing			Shape		
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	3	21	25	54	79	45	25	22	47	31	22	35	43
2.	7	27	53	20	17	45	38	28	51	21	30	45	74
3.	10	32	42	23	36	51	11	29	44	27	30	45	24
4.	20	33	48	19	44	41	15	25	39	35	28	45	77
5.	22	32	48	20	11	45	43	13	47	40	10	45	44
6.	26	20	47	33	20	53	27	18	49	33	16	52	32
7.	27	27	50	23	19	53	28	11	48	41	15	43	42
8.	28	25	53	22	19	59	22	15	55	30	19	58	23
9.	31	45	44	10	42	42	16	45	45	10	45	43	12
10.	45	19	37	44	32	44	24	19	49	32	17	37	45

Sample 31 was ranked first regarding achievement of variety through lines, as it was rated good by 45 per cent of the judges followed by sample 20 which was considered good by 33 per cent of the judges. Samples 7, 27 and 28 were rated fair by 53, 50 and 53 per cent of the judges respectively. Among the rest, more than 45 per cent of the judges graded samples 20, 22 and 26 as fair. Only 19 and 21 per cent of the judges rated samples 49 and 3 as good whereas the same samples were rated poor by 44 and 54 per cent of the judges respectively.

Achievement of variety through colour was found to be good in samples 20 and 31, according to 44 and 42 per cent of the judges respectively. Only 19, 11, 11 and 19 per cent of the judges rated samples 27, 7, 22 and 28 respectively as good and it was found to be fair in 10, 26, 27 and 28 according to 51, 53, 53 and 59 per cent of the judges respectively. For the rest of the samples more than 40 per cent of the judges graded them as fair. Sample 22 was considered poor by 43 per cent of the judges.

Variety through space was found to be achieved well in sample 31 as it was graded good by 45 per cent of the judges. None of the other samples were considered good by more by than 30 per cent of the judges. Only 11

and 13 per cent of the judges graded samples 27 and 22 as good. In samples 7 and 28, the variety through spacing was found to be fair by 51 and 55 per cent of the judges respectively. None of the samples were rated as poor by more than 45 per cent of the judges.

Variety through space was considered as good according to 45 per cent of the judges in sample 31. Fifty eight and 52 per cent rated samples 28 and 26 respectively as fair whereas samples 7, 10, 29, 22, 27 and 31 were judged fair by more than 40 per cent of the judges. Only 10, 15 and 17 per cent of the judges rated samples 22, 27 and 45 as good whereas the same samples were rated as poor by 44, 42 and 45 per cent of the judges respectively.

From the second group, we can conclude, sample 31 was ranked, first, sample 20 as second and sample 10 as third.

The achievement of variety through lines, colour, spacing and shape in group III, as rated by the judges is given in Table VIII.

TABLE VIII

ACHIEVEMENT OF VARIETY

Group III

S. No.	Sample No.	Variety through											
		Lines			Colour			Spacing			Shape		
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	1	57	28	5	61	34	5	44	45	10	62	53	5
2.	13	24	49	27	35	45	20	22	54	24	26	52	22
3.	17	12	28	60	15	51	34	5	35	60	6	34	50
4.	24	22	50	28	24	49	27	32	49	19	28	45	26
5.	25	31	55	14	37	49	14	30	54	16	35	51	13
6.	35	28	45	25	24	53	23	15	54	30	19	45	35
7.	36	55	36	9	54	38	8	55	30	5	54	28	8
8.	39	75	53	22	22	43	35	24	47	29	22	45	32
9.	41	42	40	18	33	43	24	32	41	27	38	42	20
10.	43	41	47	12	37	46	17	33	51	16	35	47	18

Samples 1 and 35 in this group were found to be good, regarding the achievement of variety through lines, as 67 and 55 per cent of the judges rated them as good. Samples 41 and 43 came next according to 42 and 41 per cent respectively whereas only 12 per cent graded sample 17 as good.

Variety through colour was also found to be good in samples 1 and 35 as they were considered good by a maximum percentage of judges (61 and 54 per cent). The rest of the samples were rated fair by more than 40 per cent of the judges whereas none of the samples in this group were rated as poor by more than 35 per cent of the judges.

Variety through spacing was found to be good in samples 35 and 1 whereas it was found to be poor in sample 17. Sixty five and 44 per cent of the judges rated samples 35 and 1 respectively as good and only 9 judges graded sample 17 as good. According to more than 50 per cent of the judges, samples 13, 25, 35 and 43 were fair whereas the rest of the samples in this group were considered fair by more than 40 to 50 per cent of the judges.

Sixty four and 62 per cent of the judges considered samples 35 and 1 respectively as good as regards variety through shape. Among the rest, samples 1, 3 and 25 were graded fair by more than 50 per cent of the judges. None of the samples, excepting sample 17, were considered poor by more than 40 per cent of the judges.

Coming to the conclusion, in group III, samples 35 and 1 were ranked as first and second when all the aspects were taken into consideration.

The details regarding the achievement of variety through various aspects in group IV is given in Table IX.

TABLE IX

ACHIEVEMENT OF VARIETY

Group IV

S. No.	Sample Number	Variety through															
		Lines				Colour				Spacing				Shape			
		Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor	
1.	6	61	33	6	33	53	14	14	36	46	18	41	45	14			
2.	8	18	47	35	25	58	17	17	22	48	30	23	43	34			
3.	16	54	38	8	45	44	11	11	45	50	5	41	46	13			
4.	21	27	49	24	41	49	10	10	43	46	11	38	46	16			
5.	29	23	57	20	17	56	27	27	14	60	26	16	53	31			
6.	33	44	44	12	35	50	15	15	35	50	15	37	50	13			
7.	34	24	58	18	28	57	15	15	27	57	16	31	58	11			
8.	40	28	47	25	33	44	23	23	24	50	26	27	50	23			
9.	45	25	44	30	25	50	25	25	10	46	35	20	52	28			
10.	50	27	49	24	28	45	27	27	28	44	28	24	42	34			

It is clear from the given table that sample 6 and 16 were rated best as maximum number of judges, 61 and 54 per cent respectively, rated them as good. Only 16 per cent of the judges graded sample 8 as good. Achievement of variety through lines was found to be fair in samples 34, 29, 21, 50, 40, 8 and 45 according to 58, 57, 49, 47, 47 and 44 per cent of the judges respectively.

Sample 15 was ranked first regarding the variety through colour, as 45 per cent of the judges judged it as good and this was followed by sample 21 with 41 per cent of the judges. Majority of the judges judged the rest of the samples as fair regarding the variety through colour.

Variety through spacing was also found to be good in samples 15 and 21 as they were adjudged by 45 and 43 per cent respectively as good. Only 14 and 19 judges rated samples 29 and 45 as good whereas the same were rated as fair by 50 and 46 per cent of the judges respectively.

None of the samples in this group had achieved a good variety through shape. Among the ten samples,

samples 6 and 16 seemed to be better as they were judged good by 41 per cent of the judges in each. Only 15 and 20 judges rated samples 29 and 45 as good whereas the rest were considered fair by majority of the judges. Sample 16 in this group was the best, when achievement of variety was considered and this was followed by samples 6 and 33.

Table X gives a detailed account of the achievement of variety in group V.

TABLE X
ACHIEVEMENT OF VARIETY

GROUP V

S. No.	Sample Number	Variety through											
		Lines			Colour			Spacing			Shape		
		Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	8	23	52	25	22	45	32	12	41	47	17	40	47
2.	9	30	53	17	33	45	21	29	50	21	28	48	28
3.	11	36	47	17	26	54	18	20	45	34	27	45	27
4.	15	25	52	23	20	57	23	14	50	36	15	45	39
5.	19	19	57	24	15	57	28	22	51	27	26	51	23
6.	30	25	48	27	22	49	29	21	42	37	20	39	41
7.	37	22	54	24	25	58	17	15	53	32	20	53	27
8.	38	35	47	18	20	51	29	20	53	27	24	43	33
9.	44	40	47	13	20	47	33	21	53	26	23	48	29
10.	49	42	41	17	47	43	10	45	40	14	43	47	10

It is clear that none of the samples were good, regarding the achievement of variety through line, as majority of the judges did not rate them as good. But sample 49 and 44 were seemed to be better than the rest as they were rated good by 42 and 40 per cent of the judges. Almost all the samples in this group had achieved the variety through line, fairly. According to 97, 54, 53, 52 and 52 per cent of the judges samples 19, 37, 9, 5 and 15 were fair and according to more than 40 per cent of the judges, samples 11, 30, 38, 44 and 49 were fair.

As regards the achievement of variety through colour, none of the samples were found to be good except sample 49 which was ^{rated} good by 47 per cent of the judges. Samples 11, 15, 19, 37 and 38 were considered fair by 54, 57, 57, 58 and 51 per cent of the judges respectively. The rest in this group were rated as fair by more than 45 per cent of the judges.

Variety through space was also not found to be good in all the samples in this group except sample 49 which was considered as good by 45 per cent of the judges. Only 12, 14 and 15 judges rated samples 5, 15 and 37 respectively as good. Samples 9, 15, 19, 37, 38 and 44 were rated as fair by more than 50 per cent of the judges.

Sample 5 alone was graded as poor by 47 per cent of the judges.

Achievement of variety through shape was found to be fair in the case of almost all the samples in this group. Sample 49 was ranked first as it was rated good by 43 per cent of the judges and fair by 47 per cent of the judges, and fair by 47 per cent of the judges. Only 15 and 17 per cent rated samples 15 and 5 as good whereas the same samples were rated as fair by 45 and 40 per cent of the judges respectively. Fifty three and 51 per cent of the judges considered samples 37 and 19 as fair whereas majority among the rest were graded as fair by more than 40 per cent of the judges.

From the fifth group we can conclude that sample 49 was ranked first, sample 9 as second and sample 11 as third, when the achievement of variety was considered.

C. Art Principles Applied in the Design

The art principles applied to the design of the selected samples as evaluated by the judges are discussed below.

Table XI gives a detailed account of the rating of the art principles applied to the samples in Group I.

Regarding the balance in size of the design, sample 23 was adjudged as first as it was rated good by 55 per cent of the judges. This was followed by sample 32 according to 40 per cent of the judges. Sample 47 was ranked last as only 23 judges rated it as good. Among the rest, samples 2 and 47 were rated fair by more than 50 per cent and the rest were rated fair by more than 40 per cent of the judges.

Balance through the arrangement was also found to be good in sample 23, according to 48 per cent of the judges, whereas only 24 per cent judged sample 4 as good. More than 50 per cent judged samples 2, 32, 42 and 47 as fair. None of the samples were rated poor by more than 30 per cent of the judges.

Balance was found to be achieved through colour combination in samples 23 and 32 according to 45 and 40 per cent of the judges. Samples 2, 4, 14 and 15 were rated fair by 53, 52, 55 and 50 per cent of the judges respectively whereas none of the samples were rated poor by more than 30 per cent of the judges.

Regarding the second art principle, Rhythm, sample 23 was again ranked first as it was judged good by 57 per cent of the judges followed by samples 12 and 18 by 43 and 40 per cent respectively. Samples

2, 12, 14, 32, 42, 47 and 48 were considered fair by more than 50 per cent of the judges. Only 5 and 10 judges judged samples 12 and 23 as poor.

Proportion in design can be achieved through size and space and arrangement. Regarding size, sample 23 ranked first as it was rated good by 47 per cent followed by samples 12 and 32 by 40 per cent of the judges in each. More than 50 per cent rated the rest of the samples in this group as fair, regarding the achievement of proportion through size. Space and arrangement was found to be again good in sample 23 as 43 per cent of the judges considered it as good. Fifty four per cent rated samples 2 and 42 as fair and samples 18 and 48 were judged as fair by 52 and 50 per cent of the judges respectively.

So regarding balance, rhythm and proportion, sample 23 in this group was found to be best.

Harmony in a design can be obtained by various ways. Harmony in colour was found to be good in samples 12 and 18 as it was judged good by 47 and 40 per cent of the judges respectively. Only 21 judges rated sample 14 as good. Among the rest, samples 2, 14, 23, 32 and 47 were adjudged as fair by above 50 per cent whereas

the rest were graded as fair by more than 40 per cent of the judges.

Harmony through design elements was achieved well by samples 2 and 23 as they were ^{adjudged} good by 43 per cent of the judges whereas the rest in this group were rated as fair by a majority of the judges. The evaluation in the above table shows that more than 50 per cent of the judges were of the opinion that samples 2, 47 and 48 were fair and more than 50 per cent considered samples 4, 12, 18 and 32 ^a fair.

Emphasis achieved through colour combination was found to be good in sample 18 as it was rated good by 41 per cent of the judges. Among the rest, samples 2, 12, 14, 42 and 47 were considered as fair by 56, 51, 55, 53 and 52 judges respectively. Emphasis was also achieved through the elements of design and this was found to be good in none of the samples as most of them were rated fair by majority of the judges. Sample 23 was rated as good by 35 per cent and sample 12 by 35 per cent of the judges. Sixty one and sixty per cent of the judges considered samples 2 and 17 as fair and samples 4, 14, 32, 42 and 48 were rated fair by more than 50 per cent of the judges. None of the samples

in this group were rated as poor by more than 25 per cent of the judges except sample 14 which was considered poor by 25 per cent of the judges.

From this, it can be concluded that regarding art principles applied in the design in this group, sample 23 was ranked first followed by sample 32.

The art principles applied in the design in group III, as evaluated by the judges are given in Table XII.

Application of balance through size was found to be good in sample 31 as it was graded good by 45 per cent of the judges. Only 15 and 16 per cent of judges rated samples 22 and 27 as good whereas the same were rated poor by 45 and 33 per cent of the judges respectively. Samples 45, 22 and 7 were judged fair by 50, 31 and 52 per cent of the judges respectively.

Regarding balance through arrangement of design, sample 31 again came first with 45 per cent of the judges and only 15 and 16 per cent of the judges rated samples 3 and 45 as good. More than 50 per cent judged samples 7, 26, 28 and 45 as fair whereas the rest of the samples in this group were rated fair by more than 40 per cent of the judges.

Balance through colour combination was found to be good in samples 31 and 20 according to 45 per cent of the judges in each. Among the rest, samples 3, 10, 27 and 28 were considered fair by more than 50 per cent of the judges. Balance through colour combination was found to be poor in sample 22 according to 45 per cent of the judges.

Sample 31 was found to be best in this group, regarding the application of rhythm in the design, as it was graded by 52 per cent of the judges as good

and sample 20 was ranked second as it was rated good by 47 per cent of the judges. More than 50 per cent considered samples 7, 10, 26 and 27 as fair and very few judges graded the samples in this group as poor.

Proportion through size of the design was found to be applied fairly in all the samples in this group as majority of the judges rated them as fair. Samples 28, 31, 10, 27, 26, 20 and 7 were rated fair by 55, 54, 53, 52, 51, 50 and 50 per cent of the judges respectively. Only sample 31 was judged as good by a maximum number of judges (38 per cent).

Space and arrangement was also found to be fair according to majority of judges in almost all the samples. Thirty five per cent of the judges rated sample 31 as good. Among the rest, more than 50 per cent of the judges considered samples 7, 10, 22, 26, 28 and 31 as fair. According to 45 per cent of the judges sample 27 was poor, regarding the application of proportion through space and arrangement.

Harmony through colour combination was achieved maximum by sample 20 and it was considered good by 50 per cent of the judges. Less than 40 per cent of the judges rated all the rest in this group as good. Accord-

ing to 60, 54 and 50 per cent of the judges samples 27, 28 and 10 were fair regarding harmony through colour combination. Forty five per cent of the judges rated sample 22 as poor.

Harmony through design elements was found to be fair in almost all the samples. According to 59, 57, 53, 52, 51 and 50 per cent of the judges, the design elements was found to be fairly harmonising in samples 31, 7, 28, 27, 45 and 20 respectively. Sample 3 alone was graded poor by 40 per cent of the judges.

Through colour combination good emphasis was achieved in samples 20 and 31 by 52 and 40 per cent of the judges respectively. All the rest were fairly emphasising regarding colour combination. According to 55 and 51 per cent of the judges, emphasis through colour combination was achieved in samples 27 and 7 fairly. Among the rest all of them were rated as fair by more than 40 per cent of the judges.

Emphasis by elements of design was considered to be good in none of the samples but all of them were rated fair. Above 50 per cent of the judges considered samples 7, 10, 22, 26, 27, 3 and 45 as fair and 40 per cent of the judges considered sample 3 as poor.

From the second group we can conclude that when all the aspects of art principles were considered, sample 31 was ranked first, sample 20 second and sample 10 as third.

The art principles applied in the designs in group III samples as given by the judges are given in Table XIII.

From the given table it is clear that samples 36 and 1 were rated good by majority of judges (64 and 53 per cent respectively), regarding balance in size of the design. All the others were rated as good by below 40 per cent of the judges. Balance in size of the design was considered fair in samples 24, 25, 35 and 43 by 52, 58, 50 and 55 per cent of the judges respectively. Only 8 judges rated sample 17 as good whereas it was rated as poor by 56 per cent of the judges.

Regarding the application of arrangement of design, samples 36 and 1 were ranked first and second as they were considered good by 57 and 51 per cent of the judges respectively. All the rest of the samples in this group were considered as fair by majority of the judges. According to more than 50 per cent of the judges, arrangement of design was found to be fair in samples 24, 25, 35 and 41 respectively. Only sample 17 was rated poor by 46 per cent of judges.

Application of balance through colour combination was found to be best in samples 1 and 36 as they were rated good by 58 and 50 per cent of the judges respectively. Samples 17 and 39 were considered good by only 14 and 21

per cent of the judges. Among the rest, samples 13, 24, 25 and 35 were judged fair by more than 50 per cent of the judges.

Sample 1 was ranked first, regarding the achievement of rhythm as it was rated good by 69 per cent of the judges. This was followed by sample 35 which was considered as good by 59 per cent of the judges. More than 50 per cent rated samples 13 and 24 as fair whereas the rest were rated fair by 40 to 50 per cent of the judges. Forty four per cent of the judges judged sample 17 as poor, regarding the achievement of variety through rhythm.

Application of proportion through size of design was found to be good in samples 1 and 36 according to 60 per cent of the judges in each. Samples 13, 24, 25 and 43 were rated as fair by 58, 55, 53 and 58 per cent of the judges respectively and sample 17 was rated poor by 57 per cent of the judges. The rest in this group were rated as fair by above 40 per cent of the judges.

Proportion in space and arrangement was considered best in sample 36 as it was rated good by 61 per cent of the judges. Sample 1 came second with 49 per cent of the judges rating it as good. Only 7 per cent of the judges adjudged sample 17 as good whereas the

same was rated poor by 55 per cent of the judges. Among the rest, samples 43 and 24 were rated fair by 58 and 51 per cent of the judges respectively.

Application of harmony through colour was found to be good in sample 1 according to 54 per cent of the judges and 54 per cent rated sample 35 as good. Only 19 per cent of the judges considered sample 17 as good. Fifty one and fifty per cent graded samples 35 and 41 as fair whereas the rest were considered as fair by a majority of judges. Sample 39 was judged poor by 38 per cent of the judges.

Harmony through design elements was achieved best in sample 1 as it was rated good by majority of the judges (51 per cent). Sample 35 came second (47 per cent) and only 11 per cent of the judges considered sample 17 as good. Among the rest, harmony in design elements was found to be fair in samples 13, 24, 25, 39, 41 and 43 by more than 50 per cent of the judges.

Coming to emphasis in colour combination, sample 1 stood first as it was considered good by 55 per cent of the judges. Sample 35 occupied the second place (55 per cent) and among the rest, most of the samples were rated fair by a majority of the judges. Only sample 39 was rated poor by 39 per cent of the judges.

Regarding emphasis in elements of design, sample 1 and 35 were rated good by 50 and 48 per cent of the judges respectively. Only 10 per cent of the judges rated sample 17 as good whereas 47 per cent of the judges considered the same as poor. Among the rest, 55, 53 and 55 per cent of the judges considered samples 24, 25 and 43 respectively as fair.

Coming to the conclusion, in group III, sample 1, 35 and 41 were ranked as first, second and third respectively, when all the aspects in art principles applied in the design were taken into consideration.

The art principles applied in the design of the samples in group IV is given in Table XIV.

It is clear that balance in size of the design was found to be good in samples 6 and 33 as they were rated good by 52 and 45 per cent of the judges respectively. Sample 34 was rated fair by 50 per cent of the judges and sample 47 by 57 per cent of the judges.

Balance in the arrangement of design was considered as good by 40 per cent of the judges in samples 6 and 33. Only 17 judges considered sample 45 as good. Among the rest, more than 50 per cent of the judges considered samples 8, 15, 33, 34 and 40 as fair whereas the rest were considered as fair by more than 40 per cent of the judges. Only very few per cent of the judges considered all the samples in this group as poor.

As regards balance in colour combination, samples 33 and 15 were graded best as they were rated good by 42 and 40 per cent of judges respectively. All the rest were graded fair by a majority of the judges. Sample 34 was judged fair by 53 per cent and samples 40 and 6 by 50 per cent of judges in each.

Application of rhythm was found to be good in samples 1 and 5, according to 55 and 47 per cent of the judges respectively. All the other samples were judged

fair by majority of the judges. According to 57, 52, 55, 58 and 54 per cent of the judges, samples 8, 21, 29, 34 and 40 respectively were fair regarding rhythm.

According to majority of judges, proportion in size was found to be fair in all the samples. Only sample 6 was rated good by 45 per cent of the judges. More than 45 per cent of the judges adjudged the rest of the samples as fair.

Proportion through space ^{and} arrangement was also found to be applied fairly in all the samples in this group according to majority of judges. More than 50 per cent of the judges considered samples 6, 8, 15, 21, 33 and 34 as fair. Only sample 45 was considered as poor by 37 per cent of the judges.

As regards harmony in colour combination, samples 15, 21 and 33 were rated good by 43, 40 and 40 per cent of the judges respectively. Sixty five per cent of the judges rated sample 8 as fair and 50, 53 and 50 per cent rated samples 29, 34 and 40 respectively as fair.

Regarding harmony through design elements all the samples were rated fair by majority of the judges. Sample 15 alone was rated good by 40 per cent of the

judges. More than 90 per cent of the judges considered the rest as fair except sample 50 which was rated fair only by 39 per cent of the judges.

Emphasis by colour combination was found to be best in sample 33 as it was rated good by 49 per cent followed by sample 15 according to 47 per cent of the judges. Among the rest samples 21, 29, 34 and 40 were considered as fair by 50, 52, 53 and 50 per cent of the judges respectively. Only sample 50 was rated poor, regarding emphasis in colour combination, by 37 per cent of the judges.

Emphasis through elements of design was obtained fairly in all the samples. Thirty eight per cent considered sample 33 as good. Sample 34 was judged fair by 60 per cent of the judges and 50 to 60 per cent of the judges rated samples 6, 8, 16, 29, 33, 40 and 45 as fair.

Sample 33 in this was the best when art principles applied in the design were considered and this was followed by samples 15 and 6.

The art principles applied in the design in the samples of the V group are given in Table XV.

From this it is clear that the size of the design was found to be balanced well in sample 49 as it was rated good by 45 per cent of judges. Only 15 per cent of the judges rated sample 15 as good. Among the rest, about 50 per cent of the judges considered sample 37 as fair whereas more than 90 per cent of the judges rated samples 9, 11, 19, 38 and 44 as fair.

Regarding the balance in arrangement of design, again sample 49 was graded as good and it was the only sample which was considered good by more than 45 per cent of the judges. Samples 15 and 44 were graded good by 12 and 15 per cent of the judges only. Among the rest, sample 19 was rated fair by 50 per cent, sample 37 by 53 per cent and sample 9 and 38 by 90 per cent of the judges in each. Only, sample 5 was rated poor by maximum number of judges (46).

In the case of balance in colour combination, sample 49 stood first with 45 per cent of the judges rating it as good whereas only 15 per cent judged sample 44 as good. Balance in colour combination was found to be fair in samples 11, 15, 19, 37, 38 and 44 according to 50, 51, 52 and 55 per cent of the judges respectively.

Rhythm was found to be good in sample 49 according to 52 per cent of the judges whereas all the other samples were rated good by below 35 per cent of the judges. Majority of the judges rated all the samples as fair. Sample 9 was rated fair by 52 per cent of the judges, sample 11 by 54 per cent and samples 37 and 38 by 52 per cent of the judges in each. None of the samples were found to be rated poor by above 30 per cent excepting sample 30 which was rated poor by 32 per cent of the judges.

Proportion in size of the design was found to be good in samples 49 and 9 as they were considered good by 48 and 32 per cent of the judges respectively. The rest of the samples were considered fair by more than 40 per cent of the judges. Sample 11 was rated fair by 58 per cent, sample 19 by 57 per cent and sample 37 by 55 per cent of the judges.

Regarding the space and arrangement also samples 49 and 9 were found to be good by 47 and 30 per cent of the judges. Samples 9, 11, 15, 19, 37, 38 and 44 were rated fair by more than 50 per cent of the judges and among the remaining, samples 5, 15 and 30 were rated poor by 42, 33 and 35 per cent of the judges respectively.

In the case of harmony in colour combination, samples 49 and 11 were found to be good according to 47 and 35 per cent of the judges. All the rest were rated fair by majority of the judges. Sample 37 was considered fair by 55 per cent of the judges and sample 15 by 53 per cent of the judges. Samples 5 and 38 were rated poor by 32 and 31 per cent of the judges respectively.

Considering harmony in design elements, sample 49 alone was rated good by 40 per cent of the judges and the other samples were rated good by less than 30 per cent of the judges. About 50 per cent judged sample 9 as fair and samples 11, 19, 37, 38 and 44 were rated fair by above 50 per cent of the judges. Samples 5 and 15 were rated poor by 37 and 34 per cent of the judges respectively.

Emphasis by colour combination was found to be good in sample 49 according to 42 per cent of the judges. Sixty one per cent of the judges considered sample 31 as fair. All the other samples were rated fair by 40 to 50 per cent of the judges.

Regarding emphasis by elements of design, 40 per cent of the judges considered sample 49 as good. Excepting samples 15, 30 and 44, all the rest were rated

fair by more than 50 per cent of the judges and none of the samples were considered poor by more than 30 per cent of the judges.

From the fifth group we can conclude, when all the aspects of art principles applied in the design were considered, sample 49 was ranked first and samples 9 and 44 followed it.

Among the selected samples, the samples which were evaluated as best in most of the aspects of design are given in Appendix V.

V. SUMMARY AND CONCLUSION

A study was conducted to evaluate the designs found on fifty selected Khadi dress materials and the results are summarised and given below.

Appearance of design, achievement of variety and principles of the design were the three aspects considered while evaluating the samples.

1. Appearance of the design was found to be best in sample 36 as this was rated good by majority of the judges. The next in order were samples 15, 49, 23 and 31. Samples 17 and 2 were rated poor as regards their appearance.
2. Regarding achievement of variety it was found to be best again in sample 36. The second place went to sample 15 and samples 23 and 31 followed it. Samples 17 and 5 were rated poor.

3. When the art principles were considered, sample 1 was judged good by majority of judges. This was followed by samples 49, 23, 31 and 6. Samples 17 and 5 alone were judged poor, regarding the principles of art.

Among the fifty samples selected, only very few were rated poor in all the aspects of design. Majority of the samples came under good or fair category.

When all the aspects were taken into consideration, samples 49, 23 and 31 were ranked as first, second and third respectively and samples 17, 5 and 27 were considered as poor.

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APPENDICES

APPENDIX I

SCORE SHEET FOR EVALUATING THE TEXTILE DESIGNS ON
KHADI DRESS MATERIALS

S.No.	Particulars	Good	Fair	Poor
I	<u>APPEARANCE OF THE DESIGN</u>			
	a) Neatness of the design			
	b) Clarity			
	c) Attraction			
	d) Simplicity			
II	<u>ACHIEVEMENT OF VARIETY BY</u>			
	a) Line			
	b) Colour			
	c) Spacing			
	d) Shape			
III	<u>ART PRINCIPLES APPLIED IN THE DESIGN</u>			
	1) <u>Balance in</u>			
	a) Size of the design			
	b) Arrangement of the design			
	c) Colour combination			

S.No.	Particulars	Good	Fair	Poor
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2) Rhythm

(through repetition of colour, size, shape, line value and continuous line movement).

3) Proportion in

- a) Size of the design
- b) Space and arrangement

4) Harmony in

- a) Colour combination
- b) Design elements
(Shape, line and value)

5) Emphasis by

- a) Colour combination
- b) Elements of design

APPENDIX II

INDIVIDUAL RATINGS REGARDING THE
APPEARANCE OF THE DESIGN

Sample Numbers	Neatness of the design		Clarity		Attraction			Simplicity				
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	61	37	2	60	35	9	66	29	5	37	43	20
2.	15	44	40	10	48	42	10	48	42	19	41	40
3.	13	40	47	14	41	45	35	35	30	20	45	35
4.	47	42	11	42	42	15	43	45	12	31	49	20
5.	15	43	42	10	48	42	18	42	40	19	41	40
6.	51	39	10	47	39	14	36	39	25	45	41	14
7.	26	55	19	18	61	21	19	49	32	18	60	22
8.	21	60	19	16	53	31	16	52	32	22	55	23
9.	31	50	19	22	48	30	23	42	35	24	49	27
10.	39	49	12	31	50	19	43	42	15	40	47	18
11.	27	54	19	30	54	16	33	47	20	24	36	40
12.	35	52	13	39	49	12	41	45	14	31	39	30

contd....

Sample Numbers	Westness of the design			Clarity			Attraction			Simplicity		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
13.	22	59	19	19	59	22	34	47	19	22	40	38
14.	33	45	22	23	53	24	14	54	32	24	47	29
15.	29	51	20	22	53	25	26	45	29	21	45	34
16.	71	27	2	63	36	1	39	43	18	47	44	9
17.	14	41	45	5	46	49	13	45	42	15	53	32
18.	47	45	8	40	45	15	47	44	9	34	43	23
19.	28	55	17	29	52	19	19	53	28	15	48	37
20.	45	44	10	40	37	23	52	36	12	30	45	25
21.	67	31	7	56	41	3	43	44	13	48	38	14
22.	11	54	35	12	47	41	12	38	50	18	51	31
23.	61	32	7	52	42	6	44	37	19	41	42	17
24.	30	53	17	27	55	18	20	50	30	20	57	23
25.	48	45	6	47	47	6	40	49	11	30	43	27
26.	32	35	33	27	46	27	28	45	27	15	47	38

contd..

Sample Numbers	Neatness of the design			Clarity			Attraction			Simplicity		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
27.	15	51	33	13	51	36	11	49	40	19	45	35
28.	29	46	25	19	53	28	17	48	35	20	48	32
29.	28	56	16	26	55	19	19	54	27	30	47	23
30.	33	43	24	28	44	28	31	44	25	24	44	32
31.	61	34	5	48	43	9	43	48	9	38	48	14
32.	50	38	12	41	45	13	37	44	19	36	37	27
33.	54	37	9	50	43	7	43	44	13	44	44	12
34.	32	56	12	33	57	10	29	58	13	32	47	21
35.	24	42	34	23	41	36	18	53	29	21	52	27
36.	80	15	5	75	21	4	62	30	8	70	22	8
37.	24	54	12	19	58	23	25	55	20	27	48	25
38.	24	54	22	20	57	23	24	51	25	27	50	29
39.	36	49	15	34	53	13	24	45	30	21	45	34
40.	18	58	24	20	56	24	28	49	23	28	45	27
41.	37	39	24	32	54	24	43	41	16	29	32	39

contd....

Sample Numbers	Neatness of the design			Clarity			Attraction			Simplicity		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
42.	32	50	18	36	47	18	34	52	14	27	44	29
43.	44	42	14	49	39	12	45	40	15	32	40	28
44.	23	58	19	24	57	19	16	54	30	25	45	30
45.	22	43	35	17	49	34	22	47	31	19	47	34
46.	20	42	38	17	44	39	22	45	32	22	47	31
47.	29	48	23	32	48	20	33	39	28	20	37	41
48.	37	45	18	34	48	18	38	50	12	29	41	30
49.	60	33	7	58	53	9	45	39	15	49	43	8
50.	21	42	37	20	42	38	24	41	35	21	38	41

APPENDIX III

INDIVIDUAL RATINGS REGARDING THE
ASSESSMENT OF VARIETY

Sample numbers	Lines			Colour			Spacing			Shape		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	57	28	5	61	34	5	44	46	10	62	33	5
2.	26	50	24	21	45	34	19	53	28	22	61	17
3.	21	25	54	29	46	25	22	47	31	22	35	43
4.	48	42	10	37	45	18	30	44	26	31	43	26
5.	23	52	25	22	46	32	12	41	47	17	40	43
6.	61	33	6	33	53	14	36	46	18	41	45	14
7.	27	53	20	17	45	38	28	51	21	30	45	24
8.	18	47	35	25	58	17	22	48	30	23	43	34
9.	30	53	17	33	46	21	29	50	21	28	48	24
10.	32	45	23	38	51	11	29	44	27	30	46	24
11.	36	47	17	28	54	18	20	46	34	27	46	27
12.	29	55	15	43	45	11	37	42	21	39	44	17

contd...

Sample Numbers	Lines			Colour			Spacing			Shape		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
13.	24	49	27	35	45	20	22	34	24	26	52	22
14.	27	46	27	21	55	24	23	47	30	27	47	26
15.	25	52	23	20	57	23	14	50	36	15	46	39
16.	34	36	8	45	44	11	45	50	5	41	45	13
17.	12	28	60	15	51	34	5	35	60	6	34	50
18.	35	45	20	42	47	11	20	45	24	35	41	24
19.	19	57	24	15	57	28	22	51	27	26	51	23
20.	33	48	19	44	41	15	26	38	35	28	45	27
21.	27	49	24	41	49	10	43	45	11	38	46	16
22.	32	48	20	11	46	43	13	47	40	10	46	44
23.	57	34	9	43	45	12	41	43	16	40	45	15
24.	22	50	28	24	49	27	32	49	19	28	45	26
25.	31	55	14	37	49	14	30	54	16	36	51	13
26.	20	47	33	20	53	27	18	49	33	15	52	32

contd....

Sample Number	Lines			Colour			Spacing			Shape		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
27.	27	50	23	19	53	28	11	48	41	15	43	42
28.	25	53	22	19	59	22	15	55	30	19	58	23
29.	23	57	20	17	56	27	14	60	26	16	53	31
30.	25	48	27	22	49	29	21	42	37	20	39	41
31.	45	44	10	42	42	16	45	45	10	45	43	12
32.	38	48	14	38	43	19	35	44	21	39	38	29
33.	44	47	12	35	50	15	35	50	15	37	50	13
34.	24	58	18	28	57	15	27	57	16	31	58	11
35.	28	45	26	24	53	23	16	54	30	19	45	36
36.	55	36	9	54	38	8	65	30	5	64	28	8
37.	22	54	24	25	58	17	15	53	32	20	53	27
38.	35	47	18	20	51	29	20	53	27	24	43	33
39.	29	53	22	22	43	35	24	47	29	22	45	32

Contd.....

Sample Number	Lines			Colour			Spacing			Shape		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
40.	28	47	25	33	44	23	24	50	26	27	50	23
41.	42	40	18	33	43	24	32	41	27	36	42	20
42.	34	54	12	32	58	10	22	53	25	26	41	31
43.	41	47	12	37	45	17	33	51	16	35	47	18
44.	40	47	13	20	47	33	21	53	26	23	48	29
45.	26	44	30	25	50	25	19	46	35	20	52	28
46.	19	37	44	32	44	24	19	49	32	17	37	45
47.	30	47	23	30	48	24	22	48	30	29	48	23
48.	38	43	19	35	52	13	27	45	28	31	44	25
49.	42	41	17	47	43	10	45	40	14	43	47	10
50.	27	49	24	28	45	27	28	44	28	24	42	34

APPENDIX IV

INDIVIDUAL RATINGS REGARDING THE
ART PRINCIPLES APPLIED IN THE DESIGN

Sample Number	Balance in											
	Size of the design		Arrangement of the design		Colour		Combination					
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	53	40	7	51	42	7	68	30	2			
2.	25	59	16	28	51	21	19	53	28			
3.	18	39	43	15	46	38	29	50	21			
4.	25	45	30	25	45	30	35	52	13			
5.	17	48	35	12	42	46	17	43	40			
6.	52	39	9	40	44	16	22	50	28			
7.	27	52	21	20	55	25	15	48	37			
8.	22	50	28	19	51	30	29	46	25			
9.	29	54	17	28	50	22	25	46	29			
10.	38	47	15	37	43	20	36	51	13			
11.	30	51	19	24	48	28	27	50	23			
12.	37	48	15	38	43	19	39	41	20			

contd....

Balance in

Sample Number	Size of the design		Arrangement of the design		Colour combination	
	Good	Fair	Good	Poor	Good	Poor
13.	34	41	25	25	27	18
14.	33	39	28	26	26	23
15.	15	47	38	33	33	28
16.	39	52	9	10	10	8
17.	8	36	36	45	45	41
18.	32	46	22	25	25	14
19.	27	54	19	18	18	28
20.	25	53	22	26	26	15
21.	32	51	17	13	13	13
22.	16	51	33	38	38	45
23.	55	31	18	12	12	15
24.	25	52	23	18	18	24
25.	31	58	11	15	15	14

Contd....

Sample Number	Balance in								
	Size of the design		Arrangement of the design		Colour combination				
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
26.	74	48	28	19	50	31	25	40	35
27.	15	40	45	18	42	40	14	52	34
28.	24	48	28	20	53	27	17	54	29
29.	20	50	30	24	47	29	20	49	31
30.	24	46	30	22	43	35	23	48	29
31.	45	45	10	45	39	16	45	39	16
32.	40	45	14	32	50	18	40	43	17
33.	45	45	10	40	50	10	42	42	16
34.	24	60	15	29	58	13	29	53	18
35.	20	50	30	17	50	33	25	53	22
36.	54	30	6	57	36	7	50	43	7
37.	19	60	21	19	53	28	28	60	12
38.	20	52	28	19	50	31	18	52	30

Contd...

Sample Number	Balance in											
	Size of the design				Arrangement of the design				Colour combination			
	Good	Fair	Poor		Good	Fair	Poor		Good	Fair	Poor	
39.	23	42	35		25	40	35		21	39	40	
40.	24	57	19		18	53	29		27	50	23	
41.	35	47	18		32	50	18		34	41	26	
42.	23	47	30		25	50	25		33	42	25	
43.	33	55	12		35	49	16		35	45	20	
44.	28	52	20		15	58	27		19	55	30	
45.	19	48	33		17	47	36		22	45	33	
46.	17	50	33		15	52	33		33	44	29	
47.	32	52	16		27	51	22		25	45	30	
48.	25	48	27		30	44	26		37	48	15	
49.	45	42	12		47	42	11		45	43	12	
50.	33	47	20		33	45	22		25	42	33	

APPENDIX - IV

INDIVIDUAL RATINGS REGARDING THE
ART PRINCIPLES APPLIES IN THE DESIGN

Sample Number	Rhythm		Size of the design		Proportion in Space and arrangement				
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
1.	69	28	3	60	38	2	49	40	11
2.	27	59	14	26	60	14	29	54	17
3.	19	45	35	17	49	34	17	44	39
4.	38	44	18	30	50	20	27	46	27
5.	30	42	28	27	46	37	20	38	42
6.	55	35	10	45	45	10	35	50	15
7.	23	59	18	28	50	22	22	50	28
8.	28	57	15	25	59	15	20	57	23
9.	32	45	23	32	48	20	30	50	20
10.	33	55	12	29	53	18	25	51	24
11.	29	54	17	22	58	20	20	55	25
12.	43	52	5	40	50	10	38	45	17

contd...

Sample Number	Proportion in											
	Rhythm			Size of the design			Space and arrangement					
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
13.	35	52	13	25	58	17	21	49	30			
14.	30	50	20	25	57	18	26	49	25			
15.	30	50	20	15	55	30	17	50	33			
16.	47	45	8	41	50	9	35	55	10			
17.	13	43	44	10	38	52	7	38	55			
18.	40	46	14	37	48	15	30	52	18			
19.	27	62	11	23	57	20	19	56	25			
20.	47	42	11	33	50	17	29	47	24			
21.	35	52	13	35	52	13	33	55	12			
22.	35	48	17	18	48	34	15	53	32			
23.	57	33	10	47	44	9	43	45	12			
24.	25	57	18	30	55	15	32	51	17			
25.	48	44	8	32	53	15	33	45	22			
26.	30	50	20	29	51	20	23	53	24			

contd.....

Sample Number	Proportion in											
	Rhythm		Size of the design				Space and arrangement					
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
27.	20	50	30	12	52	36	14	40	46			
28.	40	43	17	26	55	19	23	50	27			
29.	32	55	13	22	55	23	29	46	25			
30.	28	40	32	24	51	25	22	43	35			
31.	52	40	8	38	54	8	35	52	13			
32.	37	53	10	40	42	18	33	40	27			
33.	43	48	9	40	52	8	32	55	13			
34.	29	58	13	25	55	20	22	53	25			
35.	22	41	37	18	46	36	15	44	41			
36.	59	34	7	60	33	7	61	31	8			
37.	28	52	20	20	56	24	22	54	24			
38.	27	52	21	20	49	31	20	53	27			

contd....

Sample Number	Proportion in								
	Rhythm		Size of the design		Space and arrangement				
	Good	Fair	Poor	Good	Fair	Poor			
39.	30	46	24	25	47	28	25	45	29
40.	30	54	16	25	56	19	27	48	25
41.	50	36	14	35	40	25	33	44	23
42.	27	58	15	20	58	22	17	54	29
43.	43	47	10	32	58	10	27	59	15
44.	34	48	18	26	52	20	24	56	20
45.	20	48	32	18	50	32	15	48	37
46.	25	48	27	23	43	34	23	45	32
47.	32	51	17	25	52	23	24	47	29
48.	33	53	14	25	58	17	25	50	25
49.	52	41	7	48	43	9	47	42	11
50.	30	45	25	27	47	26	30	40	30

APPENDIX - IV

INDIVIDUAL RATINGS ASSIGNED THE
ART PRINCIPLES APPLIED IN THE DESIGN

Sample Number	Harmony in										Emphasis by									
	Colour combination					Design elements					Colour combination					Elements of design				
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor		
1.	64	32	4	51	44	5	56	27	7	50	40	10								
2.	23	52	25	20	65	15	20	56	24	16	51	23								
3.	27	47	26	12	48	40	31	44	25	15	45	40								
4.	32	48	20	30	50	20	37	46	17	25	51	24								
5.	22	46	32	20	43	37	20	45	34	20	50	30								
6.	34	45	20	35	50	15	30	45	25	26	54	20								
7.	23	42	35	20	57	23	18	51	31	21	51	28								
8.	29	55	16	19	57	24	29	43	28	17	58	25								
9.	25	48	27	15	60	25	23	48	29	20	59	21								
10.	35	50	15	34	46	20	35	45	20	29	51	20								
11.	35	43	22	20	57	23	28	50	22	19	60	21								
12.	47	43	10	35	54	11	40	51	9	35	49	15								

contd..

Sample Number	Harmony in				Emphasis by							
	Colour combination		Design elements		Colour combination		Elements of design					
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor			
13.	37	48	15	30	52	18	39	41	70	27	47	26
14.	21	54	25	24	49	27	20	55	25	22	52	26
15.	27	53	20	21	45	34	23	50	28	19	48	33
16.	43	45	12	40	48	12	42	48	10	32	59	13
17.	19	46	35	11	39	50	15	49	35	10	43	47
18.	40	47	13	32	50	18	41	45	14	31	46	23
19.	23	50	27	15	59	25	18	55	27	16	58	26
20.	50	39	11	37	50	13	52	37	11	33	45	22
21.	40	43	17	30	52	18	35	50	15	31	45	24
22.	15	39	45	15	49	35	11	43	46	15	53	32
23.	38	50	12	43	48	9	35	47	18	35	45	19
24.	28	45	27	28	56	15	23	47	30	23	55	22
25.	41	45	14	38	50	12	35	47	18	24	53	23

contd.....

Sample Number	Harmony in				Emphasis by							
	Colour combination		Design elements		Colour combination		Elements of design					
	Good	Poor	Good	Poor	Good	Poor	Good	Poor				
26.	30	43	27	23	45	32	33	42	25	20	57	23
27.	15	60	25	13	52	35	15	55	30	15	51	34
28.	21	54	25	20	53	27	20	48	32	22	48	30
29.	26	50	24	20	56	24	25	52	23	20	53	27
30.	33	46	21	25	49	26	29	51	20	22	48	30
31.	37	43	20	30	59	11	40	40	20	32	53	15
32.	34	50	16	30	57	13	47	47	16	32	50	18
33.	40	47	19	33	55	12	49	40	11	38	51	11
34.	34	53	13	25	58	17	36	53	11	23	60	12
35.	20	51	29	15	48	37	22	43	30	16	49	25
36.	54	36	10	47	45	8	55	35	10	48	41	11
37.	30	55	15	25	55	20	20	61	19	20	56	24
38.	25	44	21	18	53	29	24	40	36	16	54	30

contd...

Sample Number	Harmony by						Emphasis by					
	Colour combination			Design elements			Colour combination			Elements of design		
	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor	Good	Fair	Poor
39.	25	37	38	20	50	30	25	35	39	21	49	30
40.	28	50	22	25	53	22	25	50	25	25	50	25
41.	30	50	20	26	55	19	35	42	23	35	45	21
42.	34	48	18	28	47	25	29	53	18	28	52	20
43.	35	49	17	33	55	12	35	47	18	30	55	15
44.	24	48	28	28	52	20	20	50	30	23	53	24
45.	28	44	28	22	52	26	25	48	27	20	59	21
46.	31	41	28	18	51	31	35	39	26	20	55	25
47.	22	50	28	20	50	20	25	52	23	20	50	20
48.	39	48	13	25	65	10	35	47	17	20	58	22
49.	47	40	13	40	45	15	42	43	15	40	44	16
50.	27	40	33	26	39	35	25	38	37	23	47	30

APPENDIX V

SAMPLES JUDGED AS BEST

SAMPLE NUMBER 44



SAMPLE NUMBER.23



SAMPLE NUMBER 31

