

Designing and Constructing Selected Summer Casualwears for Teenage Girls

By

K. S. BHUVANESWARI

**A THESIS SUBMITTED TO THE AVINASHILINGAM INSTITUTE FOR HOME SCIENCE
AND HIGHER EDUCATION FOR WOMEN-DEEMED UNIVERSITY, COIMBATORE-43
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF SCIENCE IN TEXTILES AND CLOTHING**

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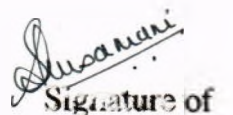
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Certified as bonafide research work



**Signature of the
Head of the Department**



**Signature of
the Guide**

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Introduction

I. INTRODUCTION

Clothing is one of the basic necessities of human life. It plays a significant role in allround development of an individual. Clothing is an intimate part of oneself. Clothing reveals one's priorities, aspirations, liberalism, conservation and add hue to our environment and fun to our feelings. Clothing assists in defining one's role or place in society, in identifying sex, locality and nationality and in reflecting social stratification and economic status.

"One is known from one's dress and address". Thus one's dress is not only a symbol of one's culture, prestige, status and standard of living but is also a major integral part of one's personality say Singh and Bhanote (1987). Clothing is an art and an expression of personality requiring as much study for successful performance as any factor associated with the life.

Kulloli and Shailaja (1997) opine that clothing is one of the most personal and important components of daily life and at the same time it is an expression of social activities deeply embedded in the cultural patterns of an era.

Clothing was created by people in response to physical needs. The value of clothing in meeting certain human needs - physical protection, modesty and decoration has long been recognised. Clothing can be influential in meeting psychological needs, which are also protective needs, it is of value in meeting communication needs which are vital in developing social relationships and it can contribute to the need for self acceptance and self expression.

Clothes are an outward expression of how people feel about themselves and world around them. It tends to expand and extend the personality. The 'right' clothes free the spirit and bring a sense of poise and adequacy. Also it gives a joyous sense of motion, vivacity and freedom. Clothes can contribute to that difficult -to -define quality called charm or personal attractiveness. Such kind of right clothes also help us to keep the body warm in winter and cool in summer. It provides protection against sunburn on hot days and dampness on rainy days.

The cycle of seasons - spring, summer, autumn and winter come and go throughout the year and we have to clothe ourselves suitably in each season to enjoy them to the fullest. Today's dress includes formal, semiformal, informal, sport, casual and work clothing. In each category exists an ever increasing number of designs and styles. But the original style in clothing is changing day by day with structural and decorative variation. Today we have clothes designed for each season in different ways. Winter clothing will be heavy and thick to keep the body warm and protect our body from severe cold, wherein summer clothing will be light and thin to keep the body cool and protect over body from sun. The people of India mostly suffer from the severity of summer season more than winter.

Among all the age groups teenagers are very self-conscious and it became important to provide suitable clothing in acceptable styles and fashion to meet teenage activity needs. The teenagers of today tend to prefer clothing that is aesthetically attractive, socially acceptable, physically comfortable, psychologically gratifying, economically obtainable and at the same time easily maintained. The late

teenage girls who are college going are very much influenced by the latest fashion trends than the other groups. When these late teenage group enter the college they face new surroundings and atmosphere with their peers. They frequently value clothing more for peer group approval than for aesthetic reasons thus being more influenced by group fads with less interest in functional or aesthetic values. For a teenager simplicity is better guideline. A girl who dresses simply and smartly in pleasing combinations done in clear line can never be out of fashion. Since teenagers' activities centre mostly around informal activities they prefer mostly casual wears for the need of comfort. Simplest of the satisfactions sought through clothing is physical comfort. This need for comfort in clothing can be satisfied by the casualwears which is not too set or too conventional.

Cotton is mostly preferred and suitable for summer wear as it gives coolness and comfort for the wearer, since it allows heat to escape and absorbs perspiration from the body of the wearer.

Keeping all the above factors in mind the investigator has taken a study on "Designing and constructing selected summer casualwears for teenage girls".

The specific objectives of the study were as follows:

- i. Standardising body measurements of late teenage girls (17-19 years).
- ii. Conducting an unstructured interview to collect information regarding teenage girls preference for casualwear.
- iii. Designing casualwear patterns to suit late teenage girls.
- iv. Constructing the best designed casualwears to suit late teenage girls.
- V. Evaluating the constructed summer casualwears.

Review of Literature

II. REVIEW OF LITERATURE

The literature pertaining to the study is reviewed under the following headings:

- A. Importance of clothing.
- B. Clothing for teenagers.
- C. Pattern making.
- D. Importance of sewing
- E. Need for standardisation
- F. Summer casualwear.

A. Importance of clothing:

Clothing is one of the basic necessities. It plays a significant role in every individual life irrespective of age and sex point Rajan and Bhalla (1988). Farmer (1982) defines clothing as an extension of the self, helping one to define oneself clothing was created by people in response to a physical need for shelter and protection suggests Elizabeth (1989). The most obvious reason for clothing seems to be the need for protection from the physical environment but actually this function is greatly modified by the culture of the society feels Harriet and Jimsey (1976).

Clothes were initially mere protection than any other single trait in general appearance states Baliga (1990). Lester (1983) points out that unlike the animal whose main concern is being covered to keep warm, man has many more complicated reasons to express personality, creed, status, political position, sexuality,

modesty, human desire for change and to imitate social superiors. According to Ukponowan (1990) the importance of clothing is to ensure maximum comfort in different circumstances.

Clothes act as a media which communicate about a person even before persons voice is heard says Vastrad and Shailaja (1995). Kaur (1988) opines that all through life individuals consciously or subconsciously choose clothing that will obtain a positive reaction from the other people who are significant in their personal associations. Rouse (1982) states that clothing is one of the basic conditions of social life that individuals know with whom they are dealing they have to be able to recognize each others social identity. There are innumerable ways that this kind of information is conveyed to an outlooker but clothing can be an important vehicle for social communication. Khan (1997) states that clothes are the most usual symbols of culture and relate very deeply to the society. They characterise the mood of each day and the style of each person.

Sethi (1996) states that clothes are probably the most important part of ones external personality and an extension of ones internal personality. Paola et al., (1980) declares that todays clothing provides both psychological and sociological insights into people. Castelino (1994) points out that clothing changes when the wearer leaves the cradle, enters primary school, secondary school or university, on starting work, on getting married and on gaining promotion. Even death has a special wardrobe both for the dead and the mourner's.

B. Clothing for teenagers:

According to Santrock (1986) and The New Encyclopedia Britannica (1994), The life span between 12 to 20 is equivalent to the term 'Teens' which is inclusive of adolescence. Cooper (1987) opines that this period is a wonderful time of life filled with new feelings, sense of almost unlimited horizons to explore and a higher level of self awareness. Green (1978) says that clothes are important in every girl's life. Dearbon (1978) states that young teenagers are much concerned about their physical appearance than any other aspects of themselves. Ryan (1976) says that clothing has an effect upon moods and actions of girls of this age group in social situations.

Rao (1981) remarks that adolescents whose desire to dress like others may be striving for an identity. Hoffer (1975) is of the opinion that adolescents who are over sensitive to the feelings of others are even more aware of clothing. Wass (1984) feels that young persons are attracted by the styles, fabrics and patterns worn by friends. Clothes and appearance are visual-communicators, that reflect the psychological needs of the teenagers states Jacob (1992).

Hurlock (1980) and Jimsey (1973) say that adolescents personal and social adjustments are greatly influenced by their agemates, attitudes towards their clothes, thus most of them are very anxious to conform to what the peer group approves of in the matter of dress. Rice (1975) says that clothing is one of the means by which adolescents express their dependence - independence conflicts. He further states that clothing enables this age group to discover the social identity of another

person and to pattern his or her behaviour and responses according to what is expected.

Ryan and Phillips (1974) state that clothes for this age group will display a carefree happy spirit of design. This age group likes to wear what everyone else is wearing. Hurlock (1978) opines that feeling of personal satisfaction and well being summed up the reasons by high school and college girls for the importance of being well dressed. According to Rao (1985) in the adolescent period they seek peer group acceptance which helps them to develop a certain amount of self acceptance and esteem.

Wilson (1974) remarks that greater the adolescent participation is in an organised activity the less frequent the expression of clothing deprivation. It appears that dress does limit their participation in activities when students judge their clothing as inappropriate for the situation.

Alexander (1977) opines that comfort is the primary consideration for teenagers. The fabric and construction should be durable enough to withstand whatever vigorous activities they participate. Erwin and Kinchen (1970) view that teenagers clothes are simple with enough decoration giving their distinction.

C. Pattern-making

Pattern making plays a very important role in clothing construction. The production of well fitting garments depends upon the good pattern views Erwin (1979). Pattern making saves time and creates awareness of mistakes. It not only helps to minimise wastage of cloth through layout but also in the maintenance of a

permanent records of garment measurements say Anwani and Hans (1990). Zarakar (-) says that the success of any sewing largely depends upon the patterns which in turn are made up of accurate body measurements.

The first step in producing a garment is the creation of design and the construction of pattern for the components in the design says Solinger (1980). The objective behind pattern making is to extract and make optimum use of the fabric with consideration to appearance, style, comfort and to avoid wastage to the extent possible says Mehta (1985). Cooklin (1990) views that the earliest known garment patterns date from the twelfth century. These patterns which were made from slate, consisted of the back, front and sleeve of the garment.

Erwin (1986) feels that the study of pattern making involves a combination of the following three basic factors, namely technical methods of procedure in modern block system, craftsmanship for good pattern designing and artistry in pattern designing.

Barta (1975) opines that paper pattern play an important role in the creation of garments and the first step towards excellent fit in clothes is a pattern that fits properly. According to Norma and Hollen (1971) and Erwin and Kinchen (1970) the pattern can be made in one of the three ways namely drafting, draping, flat pattern technique and commercial patterns.

Bane (1985) defines drafting as the basic pattern which is made up of individual body measurements, called sloper, block, master or foundation patterns. Stuart (1971) views that pattern made by drafting can be kept for ever and as fashion

changes the same pattern can be altered and used. Drafting is a plan for drawing patterns. It involves rafting on paper from a set of body measurements describes Hollen (1971).

Draping is a method of pattern making in which a pliable cloth is draped on a dress form and the outlines of the pattern is marked by pinning the cloth along with the dress form and the excess material is folded to make drafts, describes Bane (1973). Purdy and Mee (1987) feel that draping is the moulding of material around a dress stand or human body for the purpose of designing a garment. The technique of draping muslin on a dress form to produce a desired style is called draping says Bhede (1991). Campbell (1986) says in draping the designer is working in three dimensions which assists a total understanding of the appearance of the finished garment. Fisher (1988) feels that this is more expensive but achieves more artistic products because the design is created in harmony with the fabric.

Flat pattern method is based on the use of simple pattern which is changed or modified by specific directions to create a pattern for a chosen design states Hollen (1971). Balakumar (1988) and Sing (1988) say that paper pattern enhance cutting the fabric economically. Designing based upon the manipulation of the plain foundation pattern is called the flat pattern method say Latzke and Quinlan (1978). Campbell (1986) opines that flat pattern method starts with a pattern that has specific outlines, definite size and an adequate amount of ease, which are all retained throughout the process.

Commercial patterns help one to obtain garments of good appearance and perfect fit states Kohli (1979). Erwin (1986) defines commercial pattern as printed materials which could be merely cut to shape and designs.

Bell (1980) say that commercial patterns are patterns in which design and fit are already brought together. Commercial patterns are described as graded patterns which are standardised to specific sizes and cut out in tissue papers. According to Pynnonen (1972) most patterns come with easy to follow instructions so that the beginner may be able to understand everything that is to be done.

These are the four methods in which a pattern can be made. Each method has its own advantages and disadvantages. In India drafting method is most commonly used, whereas in abroad commercial patterns are mostly used.

D. Importance of sewing:

The term 'stitch' is used to denote various end results which can mean anything from a series of stitches in a straight line to a number of stitches in a quite complicated stitch formation. This unique craft of sewing using both hand and machine has become a part of day to day life opines Coles (1989). Erwin and Kinchen (1970) feel that sewing is an outlet for creative ability which involves the use of imagination to find the best solution for problems leading often to new ideas and application. Mathews (1990) say that sewing machines are of hand, treadle, motor operated or automatic which offers a wide variety and profusion of stitches.

Anwani and Hans (-) state that well stitched clothes adds to one's personality. Hosteller (1978) feels that properly fitted, well sewn and comfortable

clothes promote a more attractive appearance and disposition. Hayelen (1976) states that sewing must be chosen to suite the fabric and the design of the garment.

All finished garments are judged by their appearance on the wearers. A properly sewn garment thus seems to belong to the person who wears it and fits snugly to the body opines Doongaji (1986). Singh et al., (1994) opine that sewing done either manually or by machines has become an integral element in the production of garments.

Howlett et al., (-) state that the stitches used in the sewing of household articles and in dressmaking - the making of hems, seams, darts, tucks, buttonholes and all other methods which are used to make a garment of any kind-come under "plain sewing".

Sewing garments calls for various types like home sewing, tailor sewing, costume sewing and readymade sewing. Each has its own highlights. Readymade sewing stimulates bulk sewing of same colour, design and pattern, whereas tailor sewing and costume sewing consist of made-to-order garments. Home sewing is generally carried out by the homemaker to her whims and fancies. It also gives satisfaction.

According to Bane (1974) readymade, tailormade and costumemade are costlier when compared to home sewing. Home sewing is no longer an economic necessity but a luxury views Bane (1985). Further he says that many want to sew because they love and appreciate exclusive fabric and they know that beautiful fabric deserves excellent construction and many others want to sew in order to wear designs

from the fashion centres of the world and they know that high quality design demands good construction and also many sew to wear superbly fitted garments.

Faulkner and Faulkner (1975) feel that in recent years the popularity of home sewing has increased remarkably. Factors influencing this trend are the rising cost of clothing and household textile goods, greater sophistication of home sewing equipment, wide variety of yard good available and the development of quick, simplified construction techniques. Bane (1973) expresses that home sewing has become fashion sewing today. Doongaji and Deshpande (1986) state that as there is a growing awareness among the young age girls of dress consciousness and good grooming, now-a-days there is a developing trend towards the construction of one's own garments.

Hence home sewing has become popular even among teenage girls.

E. Need for standardisation:

Purdy and Mee (1987) feel that standardisation is important so that the designer is always working from the base. The Indian standards Institute (1986) defines standard as a preferred solution to common problems as they are intended to provide a common basis essential to commerce. Standardisation provides information of improving garments enables the consumer to purchase without alterations and allows small stocks of varying sizes to be maintained explains Khuller (1975). Kothari (1990) opines that standardisation involves the acceptance of a definition with reference to dimensions, composition, quality, performance, methods of manufacture and testing.

Frank and Althoen (1995) describes that standardisation is a statistical procedure used to convert measurements into a scale that permits meaningful comparisons. Borg and Gall (1989) states that standardised test is one, that produces very similar results when different persons administer and score the measure following the instructions given and for which normative data are present to describe how subjects from specified populations perform. Not only have standardised tests become a basic part of methodology in research but also their practical applications have become increasingly important in society.

Mansfield (1983) is of the opinion that standardisation eliminates confusion of different manufactures in adapting their own method of size individuals do not fall naturally into distinct size groups, there is no other way than to formulate some convenient rule for classification of individuals based on sizes. Erwin and Kinchen (1970) say that successful dressmaking begins with a pattern of the right size based on actual body measurements not age and these patterns are designed on standardised specifications.

Simplification of styles almost to the point of standardisation has resulted in simpler methods of dressmaking. Standard sizing in both readymades and patterns has improved considerably and has helped to reduce the cost of living. According to Hollen (1971) a standard is a criteria of measurements which is used as a basis of comparison and grading over a period.

As far as garment construction is considered standardisation of body measurements are important as it helps in the construction of readymade garments.

F. Summer Casualwear:

Augarde (1981) says that casual clothes are informal and suitable for leisure time. Hornby (1977) states that casual clothes are those to wear for informal occasions and holidays. Casual clothes are informal which makes the person who wears feel free and easy, relaxed and careless opines Spooner (1991). Webster (1973) states that casual clothes are designed in open, easy, loose-fitting styles for comfort of wear, as for informal or sports events or for play or relaxation, as distinguished from dresswear.

Erwin and Kinchen (1970) say that casual implies garments suitable for any chance occasion; hence the practicality and popularity of mix-match separates, double-duty jacket dresses and varied accessories. Casual does not mean careless; it implies flexibility and adaptability - not too set nor too conventional. Wingate (1965) describes casual clothes are garments with easy, fluid, unclinging, flowing lines that express an uncluttered, fresh, crisp, relaxed appearance.

Anwani and Hans (-) states that in all times style of dress depends on the climate of the place. Now-a-days the style of the dress changes with the change in the seasons. In India there are mainly three seasons which effect the dress, namely summer season, winter season and rainy season. In summer season we have to use clothes which should not give the effect of heat on our body. Thin materials such as voile, eyelet batiste, sheer crepes and chiffons, cotton and handloom are best in summer.

Clothesline Summer Fashion '96 (1995) states the summer wear approach is subtly fluid and flowing with swirling designs and prints. There is the effort to create the perfect look which is clean, elegant and sophisticated. As a result, though the silhouette is body conscious the look is very personalised and there is a desire for transparency and layering.

Clothesline (1995) say that in the style directions of casualwear the cut is structured by comfortable and understated. The style reflecting the continuous demand for no-fuss good looking suitable for contemporary lifestyles - casual, elegant and relaxed.

The fashion trend for summer casual wear as recommended by Clothesline (1998) are as follows:

- i. The fabrics suggested were single Jersey and double jersey with transfer prints, fleece and pique, rib knits and waffle weaves and autostriper knits.
- ii. The silhouette details suggested were antifit and straight lines, low waisted knit pants, bony looks, Neckline - V neck, crew neck, polos and short sleeves.
- iii. Colours suggested were a calm, reassuring knitwear range in a vibrant range of yellows, oranges to a hue of blues and greens.
- iv. The inspiration suggested were it should be young and upto date, in a fast moving everyday life, where everyone wants to belong yet not lose out on what they are.

Experimental Procedure

- v) Creating summer casualwear designs.
- vi) Selection of the garment designs.
- vii) Selection of material, colour and designs for selected summer casualwears.
- viii) Drafting paper patterns for selected summer casualwear designs.
- ix) Construction of selected summer casualwear designs.
- x) Evaluation of the constructed summer casualwears.

A. Finding out late teenage girls' preferences in the choice of summer casualwears:

i) Selection of age group:

Kastenbaum (1979) says that teenage is a time of life that invites fantasies by the society not just by those who are themselves moving through their teenyears. The Readersdigest (1971) opines that teenagers include the ages from 13-19 years that is inclusive of adolescence. Devadas (1980) remarks that teenage girls are deeply conscious of their appearance and concerned about the approval of their personal attractions. Khanna and Verghese (1978) feel that the group most influenced by fashion changes is the teenager's group especially college going girls.

Considering the above factors the investigator selected the late teenage period ranging from 17 to 19 years for the study.

ii) Selection of method:

Sidhu (1984) states that in an unstructured interview the subjects are encouraged to express themselves freely and only a few questions are asked to direct the trend of the interview. The information is obtained in such a casual manner that

the respondents are not even aware that they are being interviewed. Khothari (1985) says that unstructured interviews do not follow a system of predetermined questions and standardised techniques of recording information.

Keeping this in mind the investigator selected unstructured interview method in order to collect information regarding the preference of summer casualwears for late teenage girls.

The unstructured interview consists of casual questions as type of garments preferred during summer its colour, design, texture and material by late teenage girls.

iii) Collection of data:

Fifty late teenage girls were selected at random from Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore. They were met by the investigator during their leisure times and the information regarding the type of garments preferred for summer casualwears, design of the material, colour of the material, texture of the material, type of material were collected by casually talking to them and was noted down carefully.

iv) Consolidation of data:

The collected data was then systematically consolidated. From the data collected it was found that the late teenage girls mostly preferred skirt and skirt top, salwar and kameez, parallel/bermuda and T-shirt for summer casualwears. The designs mostly preferred were plain, small floral and geometrical designs. The colours mostly preferred by them were shades of red, blue and neutral colours. The

textures preferred were soft and medium. It was also found that they preferred pure cotton and cotton blends for summer casualwears.

B. Standardising body measurements for late teenage girls:

i) Selection of sample:

Gupta (1997) remarks that sampling is simply the process of learning about the population on the basis of a sample drawn from it. Thus sampling technique instead of every unit of the universe only a part of the universe is studied and the conclusions are drawn on that basis for the entire universe. Spence, Underwood, Cotton and Duncan (1990) define sample as any number of cases less than the total number of cases in the population from which it is drawn. Boniface (1995) opines that random sampling requires that each individual member of the population has the same chance of being selected for inclusion in the sample. Random sampling provides estimates which are essentially unbiased and have measurable precision thinks Gupta (1994). Considering the above 200 late teenage girls between the age of 17-19 years were selected at random from Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore for the study.

ii) Taking body measurements:

The success in garment construction depends upon taking accurate body measurements. For taking body measurements the girls were requested to stand erect in a natural pose and measurements are taken over a foundation garment. According to Mathews (1996) all the measurements were taken with the tape pulled firmly, not loose and not too tight. The metal end of the tape was used to take vertical

measurements and the other end for horizontal measurements. The tape was placed parallel to the floor for horizontal measurements and perpendicular for vertical measurements. Viewing the rules of taking body measurements as suggested by Zarapkar (1996) and Bray (1990) the investigator took the following body measurements and recorded them carefully.

The list of body measurements taken for late teenage girls garments are as follows:

- i. Back width: Measure across the back from armhole to armhole about 7.5 centimeters below base of neck.
- ii. Half back: With arms resting at side measure from the centre back across the shoulder blades to sleeve hem.
- iii. Back waist length: Measure from the base of the neck at the centre back to waistline.
- iv. Neck round: Measure round the base of the throat.
- v. Neck depth: Measure from the shoulder line close to the neck to the desired neck depth of the garment.
- vi. Chest round: Measure round the fullest part of the chest just under the arms and straight across the back, keeping the tape parallel to the floor.
- vii. Distance between bust points: Measure in the horizontal direction the distance between the two bust points.
- viii. Waist round: Round the natural waist, measuring only as tightly as a skirt band should fit.
- ix. Hip round: Measure around the widest part of the hips usually for normal figures 18-20 centimeters below waist line.

- x. Front waist length: It is taken from the highest point of the shoulder over the fullest part of the bust to the waist.
- xi. Shoulder to bust: Measure down from highest point of shoulder to tip of bust.
- xii. Shoulder to hip: Measure down from highest point of shoulder to hip.
- xiii. Shoulder to knee: Measure down from highest point of shoulder to knee.
- xiv. Sleeve length :-
 - a. Short sleeve: Measure down from tip of shoulder at top of arm to elbow point.
 - b. Three-fourth sleeve: Measure down from tip of shoulder at top of arm to half the distance between elbow and wrist.
 - c. Full sleeve: Bend the elbow slightly and measure down from top of arm to back of wrist passing the tape over the elbow point.
- xv. Armhole circumference: Measure round the fullest part of the arm passing the tape high under the arm and joining it on the top at the tip of the shoulder.
- xvi. Upper arm circumference : Measure around the fullest part of the arm passing the tape high under the arm and joining it on the top 10-12 centimeters below the point of the shoulder.
- xvii. Lower arm circumference : Measure around the arm at desired level corresponding to lower edge of sleeve.
- xviii. Elbow round : Measure around the arm at elbow.
- xix. Wrist round : Measure around the wrist.
- xx. Waist to ankle : Measure down from the waist to the ankle.
- xxi. Waist to thigh : Measure down from the waist to the mid thigh.
- xxii. Waist to knee : Measure down from the waist to the knee.
- xxiii. Waist to calf : Measure down from the waist to the calf.
- xxiv. Inside leg : Measure from the fork to the desired length of the garment.

- xxv. Thigh round : Measure around the fullest part of thigh.
- xxvi. Knee round: Measure around the knee.
- xxvii. Small round: Measure around the small, which is nearly 5 to 6.5 centimeters below knee.
- xxviii. Calf round: Measure around the calf, which is nearly 7.5 to 9 centimeters below small.
- xxix. Bottom round: Measure round the bottom of pants. This measure varies according to current fashion.
- xxx. Bodyrise: The difference between the outside and inside leg measure is known as bodyrise.

iii) Standardising body measurements:

Kothari (1984) feels that standards are tools that optimises and streamlines the effect of any standardising activity. The main objective of statistical analysis in standardisation is to obtain a single value that represents the characteristics of the entire universe says Gupta (1991). Standardisation is done with aim of being able to compare widely different sets of data by placing all of them on the scale opines Epstein (1982).

In order to standardise the body measurements of late teenage girls each body measurement was divided into ranges with class interval of five centimeters and number of candidates with these body measurements were noted. Standardisation was done using mode in statistics. Gupta (1997) defines mode of a distribution is the value at the point around which the items tend to be most heavily concentrated. It may be regarded as the most typical of a series of values.

Mode is the value corresponding to the highest frequency. The formula used in the calculation of mode is

$$M_o = L + \frac{\Delta_1}{\Delta_1 + \Delta_2} \times i$$

where L = lower limit of the modal class;

Δ_1 = difference between the frequency of the modal class and the frequency of the pre-modal class;

Δ_2 = the difference between the frequency of the modal class and the frequency of the post - modal class;

i = the class interval of the modal class.

The mode obtained in each body measurement was taken as the standard measurements.

The standardised body measurements are grouped and presented in chapter IV Results and Discussion.

C. Designing summer casualwears for late teenage girls:

1) Selection of basic garments:

From the unstructured interview conducted the investigator found out that the teenage girls preferred skirt, skirt top, salwar, kameez, parallel/bermuda and T-shirt as being comfortable for summer casualwear. Hence the investigator has selected skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda(F) and T-shirt(F) as the basic garments for the study.

ii) Preparing the basic patterns for selected garments:

Aldrich (1987) explains that shaping for the body foundations is based on two rectangle blocks. These blocks are determined by bust measurements and shaping within these blocks by figure measurements. Alexander (1977) says that in order to understand the principles of fitting, standardised body measurements have to be followed to develop patterns, since patterns assists one to have good looking and well fitting garments. Erwin and Kinchen (1970) state that drafting is a system of drawing patterns with mechanical precision based on body measurements.

The investigator carefully reviewed the instructions given by Mathews (1996), Zarapkar (1996), Campbel (1994), Doongaji (1986), Foster (1988) for skirt, skirt top, salwar, kameez, parallel/bermuda and T-shirt. Paper patterns for these garments were prepared using the authors instructions. These paper patterns were studied and the best features of each instructions were combined together and a new set of instructions were drafted for each of the basic garments.

Using the developed instructions and standardised body measurements paper patterns for skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F) were prepared.

iii) Preparation of muslin patterns for the basic garments:

In order to get comfortable correct fitting garments it is always necessary to prepare a muslin pattern with a fabric similar to that of the final garment. The muslin garments helps one to correct the defects. Bane (1974) opines that in order to eliminate hazards in construction and fitting it is necessary to construct a muslin

pattern of the entire garment. Muslin is used almost exclusively for test or sample garments because it is an inexpensive cotton fabric woven in a firm weave and is available in a great variety of weights.

Viewing the above points the investigator planned to construct muslin patterns for all the basic garments.

This was carried out in the following steps:

- a) Selection of fabric for muslin patterns.
- b) Preparation of the fabric for muslin patterns.
- c) Laying the patterns.
- d) Cutting the materials.
- e) Construction of the muslin patterns for basic garments.

a) Selection of fabric for muslin patterns:

For the construction of basic garments muslin materials which was an inexpensive, bleached cotton fabric, woven in a firm weave was selected by the investigator for the study. The weight of the muslin materials was in such a way that it was approximately as that of the fabric which was used for the construction of the selected garment designs.

b) Preparation of the fabric for muslin patterns:

All fabrics will give satisfactory service if prepared carefully before the sewing process, say Lyle and Brinkly (1983). Bray (1978) opines that preparation of the fabric is an important step in garment construction. Doongaji and Deshpande (1986) feels that the fabric must be grain perfect. Keeping all the above factors in mind the materials was preshrunk and straightened.

Deulkar (1983) opines that detergents are superior to soap in many ways. From the study conducted by Rani (1975), Thomas (1990) and Esther (1991) it is evident that surf is the best detergent powder for washing. Hence the investigator immersed the selected fabric in lukewarm water with five per cent surf solution. After one hour the fabrics were rinsed thoroughly, then squeezed without wringing it, straightened and allowed to dry. Then the materials were pressed to remove all the creases. For straightening the fabric a crosswise thread or yarn was pulled from the material and cutting was done along this line. Thus the material was prepared for cutting the basic garments skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F).

c) Laying the patterns:

Laying the pattern pieces on the fabric before cutting is very important. Following to the rules as suggested by Mathews(1996) as the length of the garment has to be taken lengthwise in the fabric the patterns were placed lengthwise of the fabric. Care was taken in such a way that the pattern pieces were placed on the straight grain of the fabric (ie) the central lengthwise line of the pattern being parallel to the selvedge.

The layout was adjusted according to the width of the fabric. In the placement of the skirt pattern (A) the front and back skirt pattern was kept on a double fold with an onfold in the centre. Planning for the placement of paper pattern was done in such a way that enough materials were allowed for facing and binding for plackets and for the waist bands.

Following the same procedure the layout was done on the fabrics for the other basic garments skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F).

d) Cutting the materials:

Cutting is very important if a well fitted, good looking garment is desired feels Mathews(1991). The material on which the pattern pieces for skirt (A) were layed was placed on a long wide table. Pins were placed at right angles to the cut edges. Marking was done by using dress makers carbon paper between the material and the paper pattern. The tracing wheel was moved smoothly on the paper pattern in order to transfer the pattern in the paper to the fabric. Care was taken to mark all the pattern details on the wrong side of the material. Cutting was done by making use of shears with long strokes. Big pieces were cut first and then small pieces were cut. Waist band and placket pieces were also cut simultaneously and kept aside.

Following the same procedure skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F) were cut.

e) Construction of the muslin patterns for basic garments:

i. Construction of skirt (A):

- Darts were stitched.
- Side seams were finished.
- Two piece placket was finished on the left side seam of the garment.
- Waist band was attached.

- Bottom hem lines were finished.
- Fasteners were attached for the placket opening and waist band.

ii. Construction of Skirt top (B):

- Two piece placket was attached from top to bottom of the skirt top front patterns.
- Front and back shoulders were attached.
- Necklines were finished with shaped facing.
- Sleeves were attached to the body.
- Side seams of sleeve and body were attached.
- Bottom hem and sleeve hem was done.
- Fasteners were attached for the placket opening.

iii. Construction of Salwar (C):

- Bottom of salwar was finished with facing.
- Casing was done on the yoke part.
- Yoke and bottom of salwar were attached together.
- Crotch seam and inner leg seam were attached.

iv. Construction of Kameez (D):

- Front and back shoulders were attached.
- Placket and necklines were finished using shaped facing.
- Sleeves were attached to the body.
- Side seams of sleeve and body were attached.
- Sleeve hem and bottom hem were stitched.
- Fastener was attached for placket opening.

v. Construction of Parallel (E):

- Bottom fold was finished by machining.
- Inner leg seam was attached.
- Crotch seam were finished.
- Top casing was finished using elastic.

vi. Construction of T-shirt (F):

- Placket opening was done using two piece placket on the front and back of left shoulder seam.
- Right shoulder seam was finished.
- Neck line was finished by bias facing.
- Sleeves were attached to the body.
- Side seams of sleeve and body were attached.
- Bottom hem and sleeve hem were finished.
- Fasteners were attached for placket opening.

All the constructed muslin patterns are presented in Plates I, II and III.

iv) Evaluation of the muslin patterns:

Twenty five late teenage girls who have the same body measurements as that of the standardised body measurements were requested to wear the constructed basic muslin garments skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F) in order to evaluate the basic garments. A proforma was prepared to evaluate the construction of muslin patterns. All the fitting aspects of the basic garments like full length of the garment, sleeve length, bust

MUSLIN PATTERNS

PLATE No : 1

PLATE No : II

PLATE No : III



SKIRT AND SKIRT TOP
(A B)



SALWAR AND KAMEEZ
(C D)



PARALLEL AND T-SHIRT
(E F)

circumference, waist circumference, hip circumference, neck circumference, upper arm sleeve circumference, knee circumference, ankle circumference, bottom circumference, armscye depth and shoulder width of skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F) were included in the proforma respectively. The investigator evaluated the fitting aspects. The defects of all the basic garments were noted down. The data collected was consolidated and analysed and it is presented in the chapter IV Results and Discussion. From the consolidated data it was found that the front and back armscye depths had some slight defects. The required alterations were made and new instructions were developed according to this altered pattern. The newly developed instructions for basic garments are given in Appendix - I. The proforma used for the evaluation of the constructed muslin patterns is given in Appendix - II.

v) Creating summer casualwear designs:

A designer creates and arranges garments and accessories so as to make them functional as well as visually pleasing opines Neera (1990). Creation of dress is a unique talent which requires right guidance and maturity says Goyal (1995).

Keeping this in mind the investigator studied many fashion magazines like Femina, Womens era, Clothesline, Otto burlingtons' and also observed clothing practices of teenage girls to create summer casualwear designs. Sixty set of designs were sketched - twenty sets of skirt and skirt top, twenty sets of salwar and kameez and twenty sets of parallel/bermuda and T-shirt and the designs were numbered in a proper order.

vi) Selection of the garment designs:

Twenty five late teenage girls were selected at random from Avinashilingam Institute for Home Science and higher education for women, Coimbatore. They were requested to number the designs in their order of preference. The data collected was consolidated and analysed. From this analysed data the best four most preferred summer casualwear designs were selected for the study. The designs are presented in Appendix III. The nomenclature of the selected designs were presented in Table I.

TABLE I
NOMENCLATURE OF THE SELECTED DESIGNS

S.No.	Name of the garment	Design Number
1.	Skirt (A ₁) Skirt top (B ₁)	A ₁ B ₁
2.	Skirt (A ₂) Skirt top (B ₂)	A ₂ B ₂
3.	Skirt (A ₃) Skirt top (B ₃)	A ₃ B ₃
4.	Skirt (A ₄) Skirt top (B ₄)	A ₄ B ₄
5.	Salwar (C ₁) Kameez (D ₁)	C ₁ D ₁
6.	Salwar (C ₂) Kameez (D ₂)	C ₂ D ₂
7.	Salwar (C ₃) Kameez (D ₃)	C ₃ D ₃
8.	Salwar (C ₄) Kameez (D ₄)	C ₄ D ₄
9.	Parallel (E ₁) T-shirt (F ₁)	E ₁ F ₁
10.	Parallel (E ₂)T-Shirt (F ₂)	E ₂ F ₂
11.	Bermuda (E ₃)T-Shirt (F ₃)	E ₃ F ₃
12.	Bermuda (E ₄)T-shirt (F ₄)	E ₄ F ₄

vii) Selection of material,colour and designs for selected summer casualwears:

From the unstructured interview conducted it was found that plain cotton and cotton blended materials were mostly preferred for summer casualwears. Red, blue and neutral shades, small floral and geometrical designs were considered best with regard to colour and design for summer casualwears. Considering the above

factors the investigator selected these type of materials for the selected summer casualwears. The selected fabrics were presented in Appendix - IV.

viii) Drafting paper patterns for selected summer casualwear designs:

Mathews (1991) says that the basic pattern may be modified to develop patterns for varied styles. Keeping this in mind the investigator used the basic patterns and modified it by using pattern alteration techniques. The modified designs according to the designs selected for summer casualwears were then transferred to another paper. Each of these modified patterns for all the selected summer casualwear designs were used in construction of the garments.

ix.) Construction of selected summer casualwear designs:

In order to construct the selected summer casualwear designs the investigator prepared all the fabrics. The various patterns were layed, marked and cut on the respective fabrics and kept aside for construction.

i. Construction of Skirt (A_1):

- Gathers were done to the three layers of the skirt by machining with long stitches and pulling the bobbin thread.
- All the three layers were attached one below the other both in the front and back of the skirt.
- Side seams were attached and two piece placket opening was done on the left side seam of the skirt.
- Waist band was attached.
- Bottom was finished using zig zag stitches.

ii. Construction of Skirt top (B_1):

- Shoulder seams of front and back were attached.

- As the neck was wide enough to go through the head no placket opening was kept.
- Side seams were attached.
- Bottom hem and sleeve hem were finished.
- Fastener was attached to the placket opening.

iii. Construction of Skirt (A₂):

- Side seams were attached.
- Gathers were created by doing casing and inserting elastic within the casing.
- Bottom of the skirt was finished by zig zag stitches.

iv. Construction of Skirt top (B₂):

- Overlapped front left pattern placket was finished with facing.
- Shoulder seams were attached.
- Necklines were finished using shaped facing.
- Sleeves were attached to the body.
- Side seams of sleeves and body were attached.
- Sleeve hem and bottom hem were finished.
- Fasteners were attached for the front placket opening.

v. Construction of Skirt (A₃):

- Box pleats were arranged and machining was done on top of the skirt to make the pleats stand in position.
- Side seams and two piece placket opening were finished.
- Waist band was attached to the skirt.
- Bottom hem was finished by machining.
- Fasteners were attached to the placket opening and the waist band.

vi. Construction of Skirt top (B₃):

- Two piece placket was attached from top to bottom of the skirt top front patterns.
- Front and back shoulders were attached.
- Necklines were finished with shaped facing.

- Sleeves were attached to the body.
- Side seams of sleeve and body were attached.
- Bottom hem and sleeve hem were stitched.
- Fasteners were attached for the placket opening.

vii. Construction of Skirt (A₄) :

- Placket opening was finished with two piece placket.
- Side seams were attached.
- Waist band was attached to the skirt with canvas interfacing.
- Bottom of the skirt was finished with zig zag stitches.
- Fasteners were attached for the placket opening and the waist band.

viii. Construction of Skirt top (B₄) :

- Kalies of front and back pattern were attached.
- Front placket opening was finished with two piece placket.
- Neckline was finished using shaping facing.
- Sleeves were attached.
- Side seams of sleeves and body were attached.
- Side slits were finished with facings.
- Bottom and sleeve hems were stitched.
- Fasteners were attached for placket opening.

ix. Construction of Salwar (C₁):

- Bottom of salwar was finished with facings.
- Casing was done on the top of the yoke part.
- Yoke and bottom of salwar were attached.
- Crotch seam and inner leg seam were attached.

x. Construction of Kameez (D₁):

- Two pieces of the front pattern were attached together at the centre.
- Shoulder seams were attached.
- Placket opening and necklines were finished using shaped facing.
- Sleeves were attached to the body.

- Side seams of sleeves and body were attached.
- Side slits were finished with facings.
- Bottom hem and sleeve hem were finished.
- Fasteners were attached for placket.
- Embroidery was done on the centre front part of the kameez.

xi. Construction of Salwar (C₂):

- Bottom of salwar was finished with facings.
- Casing was done on the top of the yoke part.
- Yoke and bottom of salwar were attached.
- Crotch seam and inner leg seams were attached.

xii. Construction of Kameez (D₂):

- Front placket was finished using two piece placket.
- Two front pieces were joined below the placket to some extent.
- Shoulder seams were attached.
- Neck line was finished using shaped facing.
- Sleeves were attached to the body.
- Side seams of sleeves and body were finished.
- Front and side slits were finished with facings.
- Bottom hem and sleeve hem were finished.
- Fasteners were attached.

xiii. Construction of Salwar (C₃):

- Bottom of salwar was finished with facings.
- Casing was done on the top of the yoke part.
- Yoke and bottom of salwar were attached.
- Crotch seam and inner leg seams were attached.

xiv. Construction of Kameez (D₃):

- Front placket opening was finished with two piece placket.
- Shoulder seams were attached.
- Neckline was finished using shaped facing.

- Side seams of sleeves and body were attached.
- Side slits were finished with facings.
- Bottom hem and sleeve hem were finished.
- Fasteners were attached.
- Embroidery was done on the neck line of the kameez.

xv. Construction of Salwar (C₄):

- Bottom of salwar was finished with facing.
- Casing was done on the top of the yoke part.
- Yoke and bottom of salwar were attached.
- Crotch seam and inner leg seams were attached.

xvi. Construction of Kameez (D₄) :

- Front and back shoulder seams were attached.
- As the neck was wide enough to go through the head, no placket opening was kept.
- Front and back necklines were finished with facing.
- Side seams of sleeve and body were attached.
- Sleeve and bottom hem were stitched.
- Fasteners were attached.
- Fabric painting was done on the kameez.

xvii. Construction of Parallel (E₁):

- Bottom fold was finished by machining.
- Inner leg seam and crotch seam were finished.
- Casing on top was finished by placing elastic inbetween for fullness.

xviii. Construction of T-shirt (F₁) :

- Placket opening was finished at the left shoulder seams using two piece placket.
- Neck line was finished with shaped facing.
- Sleeves were attached to the body.
- Side seams for sleeves and body were attached.
- Bottom hem and sleeve hem were finished.

- Side slits were finished with facings.

xix. Construction of Parallel (E₂):

- Bottom fold was finished by machining.
- Inner leg seam and crotch seam were finished.
- Casing was finished on top.
- Two rows of machine stitches were done with two centimeters gap inbetween.
- Two button holes were done on either sides of the centre on the casing inbetween two stitches.
- Cord was inserted through the button holes.

xx. Construction of T-shirt (F₂):

- Front placket opening was finished using two piece placket.
- Shoulder seams were attached.
- Neck line was finished using shaped facing.
- Side seams of sleeves and body were attached.
- Bottom hem and sleeve hem were stitched.
- Fasteners were attached.

xxi. Construction of Bermuda (E₃):

- Bottom fold was finished by machining.
- Inner leg seam and crotch seam were finished.
- Casing on top was finished by placing elastic inbetween for fullness.

xxii. Construction of T-shirt (F₃):

- Front opening was finished by two piece placket.
- Shoulder seams were attached.
- Neckline was finished using shaped facing.
- Sleeves were attached to the body.
- Bottom hem and sleeve hem were stitched.
- Side slits were finished with facings.

xxiii. Construction of Bermuda (E₄):

- Bottom fold was finished by machining.

- Inner leg seams and crotch seams were finished.
- Casing was finished on top.
- Two rows of machine stitches were done with two centimeters gap inbetween.
- Two button holes were done on either sides of the centre on the casing inbetween two stitches.
- Cord was inserted through the button holes.

xxiv. Construction of T-shirt (F₄):

- Shoulder seams were attached.
- As the neck was wide enough to go through the head no placket opening was kept.
- Side seams of sleeves and body were finished.
- Bottom hem and sleeve hem were stitched.

All the constructed garments were pressed neatly at the seams and kept aside for evaluation. The constructed summer casualwears are presented in Plates IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XIV and XV.

x) Evaluation of the constructed summer casualwears:

A late teenage girl with standardised body measurements was selected. She was requested to wear the constructed summer casualwears one after the other for evaluation. A proforma was prepared to evaluate the fitness, general appearance, comfort, suitability, colour combination and material selection of constructed summer casualwears.

Twenty five late teenage girls mastering Textiles and clothing major and Diploma in Dress Making were selected as judges to evaluate the constructed summer casualwears. The prepared score card was given to the judges requesting them to evaluate the garments.

The data was collected, consolidated and analysed systematically. The results of the evaluation of constructed summer casualwears are discussed under the chapter IV Results and Discussion. The proforma used for evaluation of the constructed summer casualwears is given in Appendix - V.

SKIRT AND
SKIRT TOP



PLATE No: IV

A₁B₁

PLATE No: V

A₂B₂





PLATE No : VI

A₃B₃

PLATE NO : VII

A₄B₄



SALWAR AND
KAMEEZ

PLATE No : VIII

C₁D₁



PLATE No : IX

C₂D₂





PLATE No : X

$C_3 D_3$

PLATE No: XI

$C_4 D_4$





PARALLEL AND
T-SHIRT

PLATE No : XII

$E_1 F_1$

PLATE No : XIII

$E_2 F_2$



BERMUDA AND
T-SHIRT

PLATE No: XIV

E₃F₃



PLATE No: XV

E₄F₄



Results and Discussion

IV. RESULTS AND DISCUSSION

The results and discussion of the study are presented below under the following major headings:

- A. Grouping of body measurements for late teenage girls.
- B. Standardising body measurements.
- C. Evaluation of the constructed muslin patterns.
- D. Evaluation of the constructed summer casualwears.

A. GROUPING OF BODY MEASUREMENTS FOR LATE TEENAGE GIRLS:

Based upon the body measurements taken for late teenage girls the various body measurements were grouped.

TABLE II
GROUPED BODY MEASUREMENTS OF LATE TEENAGE GIRLS

S.No.	Body Measurement	Range	No.of Candidates
1	Back width	30-35	1
		35-40	105
		40-45	94
2	Half back	10-15	19
		15-20	179
		20-25	2
3	Back waist length	25-30	1
		30-35	69
		35-40	126
		40-45	4
4	Neck round	30-35	105
		35-40	95
5	Neck depth	5-10	54
		10-15	146
6	Chest circumference	65-70	1
		70-75	12
		75-80	47
		80-85	65

S.No.	Body Measurement	Range	No.of Candidates
		85-90	50
		90-95	17
		95-100	6
		100-105	2
7	Distance between bust points	10-15	2
		15-20	198
8	Waist circumference	60-65	6
		65-70	30
		70-75	50
		75-80	43
		80-85	33
		85-90	29
		90-95	7
		95-100	2
9	Hip circumference	80-85	11
		85-90	37
		90-95	61
		95-100	58
		100-105	12
		105-110	8
		110-115	9
		115-120	4
10	Front wasit length	30-35	37
		35-40	135
		40-45	27
		45-50	1
11	Shoulder to bust	20-25	141
		25-30	59
12	Shoulder to hip	40-45	110
		45-50	79
		50-55	7
		55-60	4
13	Shoulder to knee	80-85	17
		85-90	56
		90-95	68
		95-100	56
		100-105	3
14	Half sleeve	15-20	12
		20-25	159
		25-30	29
15	Three-fourth sleeve	35-40	4
		40-45	92

S.No.	Body Measurement	Range	No.of Candidates
		45-50	95
		50-55	9
16	Full sleeve	50-55	4
		55-60	87
		60-65	99
		65-70	10
17	Armhole circumference	30-35	53
		35-40	75
		40-45	63
		45-50	9
18	Upper arm circumference	20-25	44
		25-30	110
		30-35	37
		35-40	8
		40-45	1
19	Lower arm circumference	15-20	9
		20-25	130
		25-30	61
20	Elbow round	20-25	147
		25-30	50
		30-35	3
21	Cuff round	10-15	16
		15-20	184
22	Waist to ankle	80-85	3
		85-90	45
		90-95	79
		95-100	65
		100-105	8
23	Waist to thigh	30-35	22
		35-40	106
		40-45	63
		45-50	9
24	Waist to knee	45-50	13
		50-55	104
		55-60	81
		60-65	2
25	Waist to calf	60-65	70
		65-70	98
		70-75	29
		75-80	3
26	Inside leg	55-60	33
		60-65	73

S.No.	Body Measurement	Range	No.of Candidates
		65-70	63
		70-75	31
27	Thigh circumference	35-40	22
		40-45	89
		45-50	63
		50-55	16
		55-60	10
28	Knee round	30-35	39
		35-40	104
		40-45	47
		45-50	7
		50-55	3
29	Small round	25-30	29
		30-35	129
		35-40	29
		40-45	13
30	Calf round	25-30	18
		30-35	125
		35-40	45
		40-45	12
31	Bottom round	25-30	37
		30-35	162
		35-40	1
32	Body rise	20-25	124
		25-30	76
33	Height	145-150	18
		150-155	57
		155-160	77
		160-165	38
		165-170	10
34	Weight	35-40	16
		40-45	61
		45-50	67
		50-55	30
		55-60	16
		60-65	10

In the above table each of the body measurements were grouped into different ranges with five centimeters as difference and the number of candidates who had the body measurements within that range were noted.

B. STANDARDISING BODY MEASUREMENTS:

In order to standardise the body measurements the modal value was calculated and presented in the table below:

TABLE III
STANDARDISED BODY MEASUREMENTS OF LATE TEENAGE GIRLS

S.No.	Body measurements	Modal value (in centimeters)
1	Back width	37
2	Half back	17
3	Back waist length	37
4	Neck round	35
5	Neck depth	12
6	Chest circumference	83
7	Distance between bust points	17
8	Waist circumference	74
9	Hip Circumference	94
10	Front waist length	37
11	Shoulder to bust	23
12	Shoulder to hip	44
13	Shoulder to knee	93
14	Half sleeve	23
15	Three fourth sleeve	45
16	Full sleeve	61
17	Armhole circumference	38
18	Upper arm circumference	27
19	Lower arm circumference	23
20	Elbow round	23
21	Cuff round	17
22	Waist to ankle	94
23	Waist to thigh	38
24	Waist to knee	54
25	Waist to calf	66
26	Inside leg	64
27	Thigh circumference	44
28	Knee round	38
29	Small round	33

S.No.	Body measurements	Modal value (in centimeters)
30	Calf round	33
31	Bottom round	32
32	Body rise	24
33	Height	157
34	Weight	46 Kilograms

From the above table it is understood that the standard body measurements were 37 cm, 17 cm, 37 cm, 35 cm, 12 cm, 83 cm, 17 cm, 74 cm, 94 cm, 37 cm, 23 cm, 44 cm, 93 cm, 23 cm, 45 cm, 61 cm, 38 cm, 27 cm, 23 cm, 23 cm, 17 cm, 94 cm, 38 cm, 54 cm, 66 cm, 64 cm, 44 cm, 38 cm, 33 cm, 33 cm, 32 cm and 24 cm for back width, half back, back waist length, neck round, neck depth, chest circumference, distance between bust points, waist circumference, hip circumference, front waist length, shoulder to bust, shoulder to hip, shoulder to knee, half sleeve, three-fourth sleeve, full sleeve, arm hole circumference, upper arm circumference, lower arm circumference, elbow round, cuff round, waist to ankle, waist to thigh, waist to knee, waist to calf, inside leg, thigh circumference, knee round, small round, calf round, bottom round and body rise respectively. The standardised height and weight were 157 cm and 46 kilograms respectively.

C. EVALUATION OF THE CONSTRUCTED MUSLIN PATTERNS:

TABLE IV
EVALUATION OF THE CONSTRUCTED MUSLIN PATTERNS

S.No.	Particulars	Good	Poor	Very Poor
1.	Skirt (A)			
	Length of the skirt	100	-	-
	Waist circumference	100	-	-
	Hip circumference	100	-	-
2	Skirt top (B)			

S.No.	Particulars	Good	Poor	Very Poor
	Length of the top	100	-	-
	Neck circumference	100	-	-
	Shoulder width	100	-	-
	Armseye depth	52	48	-
	Chest circumference	100	-	-
	Waist circumference	100	-	-
	Upper arm sleeve circumference	96	4	-
	Sleeve length	100	-	-
3	Salwar (C)			
	Length of the salwar	100	-	-
	Waist circumference	100	-	-
	Hip circumference	100	-	-
	Knee circumference	100	-	-
	Ankle circumference	100	-	-
4	Kameez (D)			
	Length of the kameez	100	-	-
	Neck circumference	100	-	-
	Shoulder width	100	-	-
	Armseye depth	80	20	-
	Chest circumference	100	-	-
	Waist circumference	100	-	-
	Hip circumference	100	-	-
	Upper arm sleeve circumference	80	20	-
	Sleeve length	96	4	-
5	Parallel (E)			
	Length of the parallel	100	-	-
	Waist circumference	100	-	-
	Hip circumference	100	-	-
	Bottom circumference	100	-	-
6	T-Shirt (F)			
	Length of the T-shirt	100	-	-
	Neck circumference	100	-	-
	Shoulder width	100	-	-
	Armseye width	80	20	-
	Chest circumference	100	-	-
	Waist circumference	100	-	-
	Upper arm sleeve circumference	100	-	-
	Sleeve length	100	-	-

From the above table it is clear that the armscye depth for shirt (B), kameez (D) and T-shirt (F) scored 52 per cent, 80 per cent and 80 per cent good respectively. The upper arm sleeve circumference scored 96 per cent good for skirt top(B). The upper arm sleeve circumference and sleeve length for kameez (D) scored 80 per cent and 96 per cent good respectively. All the other aspects for the muslin patterns skirt (A), skirt top (B), salwar (C), kameez (D), parallel (E)and T-shirt (F) scored 100 per cent good. Hence the investigator modified the upper arm sleeve circumference, arm scye depth and sleeve length patterns for skirt top (B), kameez (D) and T-shirt (F) respectively. Corrections were also made on the muslin garments.

D. EVALUATION OF THE CONSTRUCTED SUMMER CASUALWEARS:

From the following table it is clear that summer casualwears skirt and skirt top (A_1B_1), skirt and skirt top (A_3B_3), salwar and kameez (C_2D_2), parallel and T-shirt (E_1F_1) and bermuda and T-Shirt (E_4F_4) scored 100 per cent good for all the aspects namely general appearance, fitness, selection of material, suitability, colour combination, comfort, grain, balance and line.

Summer casualwears skirt and skirt top (A_2B_2) scored 96 per cent good for the aspects namely fitness, suitability, comfort and balance. And the garment was 100 per cent good for general appearance, selection of material, colour combination, grain and line.

TABLE V
EVALUATION OF THE CONSTRUCTED SUMMER

Design No	A ₁ B ₁			A ₂ B ₂			A ₃ B ₃			A ₄ B ₄			C ₁ D ₁			C ₂ D ₂		
	G	F	P	G	F	P	G	F	P	G	F	P	G	F	P	G	F	P
General appearance	100	-	-	100	-	-	100	-	-	100	-	-	100	-	-	100	-	-
Fitness	100	-	-	96	4	-	100	-	-	96	4	-	100	-	-	100	-	-
Selection of material	100	-	-	100	-	-	100	-	-	100	-	-	100	-	-	100	-	-
Suitability	100	-	-	96	4	-	100	-	-	100	-	-	100	-	-	100	-	-
Colour combination	100	-	-	100	-	-	100	-	-	100	-	-	96	4	-	100	-	-
Comfort	100	-	-	96	4	-	-	-	100	-	-	100	-	-	100	-	-	
Grain	100	-	-	100	-	-	100	-	-	-	-	100	-	-	100	-	-	
Balance	100	-	-	96	4	-	-	-	100	-	-	100	-	-	100	-	-	
Line	100	-	-	100	-	-	100	-	-	100	-	-	100	-	-	100	-	-

Summer casualwear skirt and skirt top (A_4B_4) scored 96 per cent good for fitness aspect and it was 100 per cent good for all the other aspects namely general appearance, selection of material, suitability, colour combination, comfort, grain, balance and line.

The summer casualwears salwar and kameez (C_1D_1), (C_3D_3) and (C_4D_4), parallel and T-shirt (E_2F_2) and bermuda and T-shirt (E_3F_3) scored 96 per cent good for colour combination, comfort and balance aspects. These casualwears scored 100 per cent good for all the other design and fitting aspects.

From the above table we could conclude that all the constructed summer casualwears scored above 96 per cent for the various design and fitting aspects. Hence it could be concluded that these summer casualwears were deisrably accepted by the late teenage girls.

Summary and Conclusion

V. SUMMARY AND CONCLUSION

"One is known from one's dress and address". Clothing is one of the most personal and important components of daily life. Thus clothing was created by people in response to physical needs. The right clothes free the spirit and bring a sense of poise and adequacy. Such 'right' clothes help us to protect our body from seasons like summer, winter, autumn and spring. India is a country where people suffer mostly the severity of summer than any other seasons.

Among all the age groups, teenagers are very self-conscious and it became important to provide suitable clothing to meet teenage activity needs. Since teenagers activities centre mostly around informal activities they prefer mostly casualwears for the need of comfort. Cotton clothing is preferred by people during summer as it gives coolness and comfort for the wearer.

Based on the above factors the investigator conducted the study with the following objectives:

- i) Standardising body measurements of late teenage girls (17-19 years).
- ii) Conducting an unstructured interview to collect information regarding teenage girls preference for casualwears.
- iii) Designing casualwear patterns to suit late teenage girls.
- iv) Constructing the best designed casualwears to suit late teenage girls.
- v) Evaluating the constructed garments.

The procedure in conducting the study was as follows:

A. Finding out late teenage girls preferences in the choice of summer casualwears:

The investigator selected fifty late teenage girls from 17-19 years and conducted an unstructured interview individually to find out their preferences in the choice of summer casualwears and its design, colour and texture.

B. Standardising body measurements:

The investigator selected two hundred late teenage girls and recorded their body measurements. Then each body measurements were standardised using modal value.

C. Designing summer casualwears for late teenage girls:

Based on the unstructured interview, the investigator selected skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F) as basic garments for summer casualwears. The basic patterns for skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F) were drafted by the investigator.

The investigator selected the white muslin material for preparing the basic muslin garments. Following the principles of pre-shrinking, straightening, marking and cutting the fabric, the investigator cut the muslin pattern on selected cotton material using the newly developed instructions.

The constructed muslin garments were evaluated by the investigator for fitness aspects by trying it on twenty five selected late teenage girls whose body measurements were same as the standardised measurements.

Sixty sets of summer casualwear designs were sketched by the investigator for skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F).

Twenty five late teenage girls were requested to rank these designs in their order of preference. The best four designs for each basic garments were selected for the study.

Paper patterns were prepared for all the selected summer casualwear designs, by using pattern alteration techniques.

Based upon the unstructured interview conducted plain, small floral and geometrical designed materials were selected. Colours ranged from red, blue and neutral shades. These materials were prepared and selected summer casualwear garments were constructed.

The constructed summer casualwear garments were evaluated for the aspects of fitness, general appearance, selection of material, suitability, colour combination, comfort, grain, balance and line by using a proforma.

The findings of the study are:

A. Grouping of body measurements for late teenage girls:

Each of the body measurements were grouped into different ranges with five centimeters difference and the number of candidates within each range was noted.

B. Standardising body measurements:

The standardisation was done by calculating the modal value. The back width 37 cm, half back 17 cm, back waist length 37 cm, neck round 35 cm, neck depth 12 cm, chest circumference 83 cm, distance between bust points 17 cm, waist circumference 74 cm, hip circumference 94 cm, front waist length 37 cm, shoulder to bust 23 cm, shoulder to hip 44 cm, shoulder to knee 93 cm, half sleeve 23 cm, three - fourth sleeve 45 cm, full sleeve 61 cm, armhole circumference 38 cm, upper arm circumference 27 cm, lower arm circumference 23 cm, elbow round 23 cm, cuff round 17 cm, waist to ankle 94 cm, waist to thigh 38 cm, waist to knee 54 cm, waist to calf 66 cm, inside leg 64 cm, thigh circumference 44 cm, knee round 38 cm, small round 33 cm, calf round 33 cm, bottom round 32 cm, body rise 24 cm, height 157 cm, and weight 46 kilograms were the standardised body measurements of late teenage girls.

C. Evaluation of the constructed muslin patterns:

On evaluating the muslin patterns skirt (A), skirt top (B), salwar (C), kameez (D), parallel/bermuda (E) and T-shirt (F), it was found that their upper arm sleeve circumference, armscye depth and sleeve length needed modifications in the skirt top (B), kameez (D) and T-shirt (F). All the other aspects length of the skirt, waist circumference and hip circumference for skirt (A), length of the top, neck circumference, shoulder width, chest circumference, waist circumference and sleeve length for skirt top (B), length of salwar, waist circumference, hip circumference, knee circumference and ankle circumference for salwar (C), length of the kameez, neck circumference, shoulder width, chest circumference, waist circumference and hip circumference for kameez (D), length of the parallel, waist circumference, hip

circumference, and bottom circumference for parallel (E), length of the T-shirt, neck circumference, shoulder width, upper arm sleeve circumference and sleeve length for T-shirt (F) scored 100 per cent good.

D. Evaluation of the constructed summer casualwears:

On evaluation of the constructed summer casualwears it was found that the skirt and skirt top (A_2B_2) scored 96 per cent good for the aspects namely fitness, suitability, comfort and balance, skirt and skirt top (A_4B_4) scored 96 per cent good for fitness aspect, salwar and kameez (C_1D_1) scored 96 per cent good for colour combination aspect, salwar and kameez (C_3D_3) scored 96 per cent good for colour combination aspect, salwar and kameez (C_4D_4) scored 96 per cent good for the aspect of comfort, parallel and T-shirt (E_2F_2) scored 96 per cent good for balance aspect and bermuda and T-shirt (E_3F_3) scored 96 per cent good for the aspect namely colour combination. All the other aspects such as general appearance, selection of material, grain and line scored 100 per cent good for skirt and skirt top (A_2B_2) and (A_4B_4), salwar and kameez (C_1D_1), (C_3D_3) and (C_4D_4), parallel and T-shirt (E_2F_2) and bermuda and T-shirt (E_3F_3) respectively.

The summer casualwears skirt and skirt top (A_1B_1) and (A_3B_3), salwar and kameez (C_2D_2), parallel and T-shirt (E_1F_1) and bermuda and T-shirt (E_4F_4) scored 100 per cent good for all the design and fitting aspects.

Hence it could be concluded that all the constructed summer casualwears were desirably accepted by the late teenage girls.

LIMITATIONS OF THE STUDY:

- i) Due to lack of time the investigator has to restrict her sample size to 200 for standardising body measurements.
- ii) Lack of time prevented the investigator from constructing more number of summer casualwears.

RECOMMENDATIONS:

- i) Similar studies can be carried out for various age groups.

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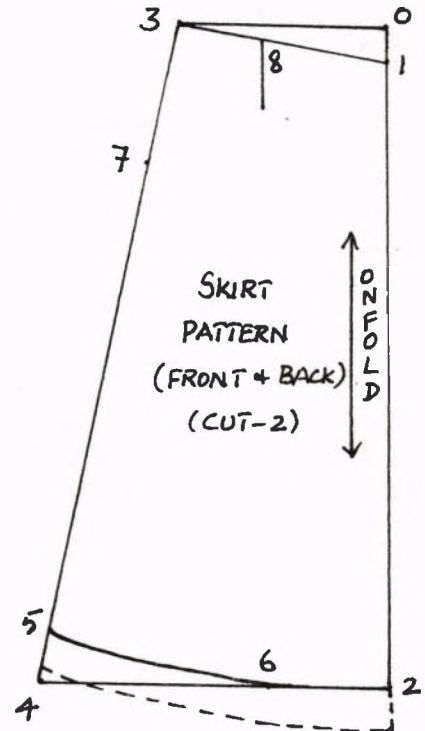
Appendix

APPENDIX I

Instruction for Skirt (A):

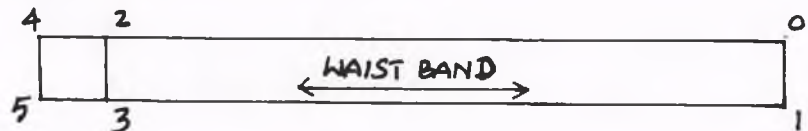
Front and back pattern:

Square lines from 0. 1 - 0 = About 3.25 cm. 1 - 2 = Full length less beltwidth + 1cm. 3 - 0 = One - fourth waist + 1 cm for seam + 2.5 cm for a dart. 4 - 2 = Half waist. Join 3 - 4. 5 - 3 = Same as 2 - 1. 6 - 2 = one - third of 4 - 2. Shape bottom 6 - 5 as shown. 7 - 3 = One - sixth seat for side placket opening. 8 - 3 = One - eighth waist (mark point 8 for dart.). Take 2.5 cm wide and 7.5 cm long dart at 8. Keep 4 cm inturns at 2 - 6 - 5.



Waist band:

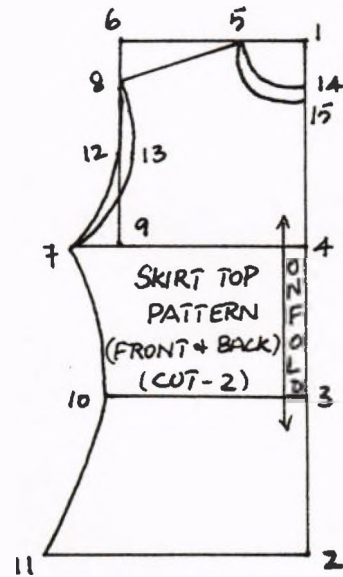
Square lines from 0. 1 - 0 = 4 cm or to taste. 2 - 0 and 3 - 1 = same as waist. 2 - 4 = 3 - 5 = 4 to 5 cm for extension. Join 4 - 5.



Instruction for Skirt top (B):

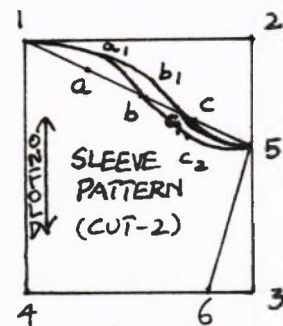
Front and back pattern:

$1 - 2 =$ Full length of the top. $1 - 3 =$ Front waist length. $1 - 4 =$ shoulder to bust. $1 - 5 = 1/12$ chest + 2.5 cm. $1 - 6 =$ half of shoulder. Draw line $4 - 7$ parallel to $1 - 6$ with $4 - 7 = 1/4$ chest + 2.5 cm (for ease). $3 - 10 = 1/4$ waist + 2.5 cm and $2 - 11 = 1/4$ hip + 2.5 cm. Shape 7,10,11 as shown in the figure for side seams. Square down from 6 and extend the line to meet $4 - 7$ at 9. $6 - 8 = 2.5$ cm. Connect $5 - 8$ for shoulder seam, $8 - 12 = 1/3$ of $8 - 9$. $12 - 13 = 1.5$ cm. Join 8, 12, 7 for back armscye and 8,13,7 for front armscye lines. $1 - 14 = 3$ cm, $1 - 15 = 1/12$ chest + 1cm. Shape $5 - 14$ for back neckline and $5 - 15$ for front neckline.



Sleeve pattern:

Draw rectangle 1234 with $1 - 2 = 1/4$ chest + 3.75 cm. $1 - 4 = 2 - 3 =$ sleeve length. $2 - 5 = 1/2$ of $1 - 2$. Join $1 - 5$ by a straight line. Divide $1 - 5$ into 4 equal parts and mark a,b,c as shown. Mark $aa_1 = 1.25$ cm, $bb_1 = 0.5$ cm, $cc_1 = 0.5$ cm and $cc_2 = 1$ cm in the directions as shown in the figure. Connect $1, a_1, b_1, c_1$ and E for back sleeve cap seamline. Connect $1, a_1, b, c_2$ and E for front



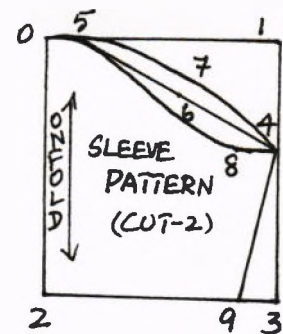
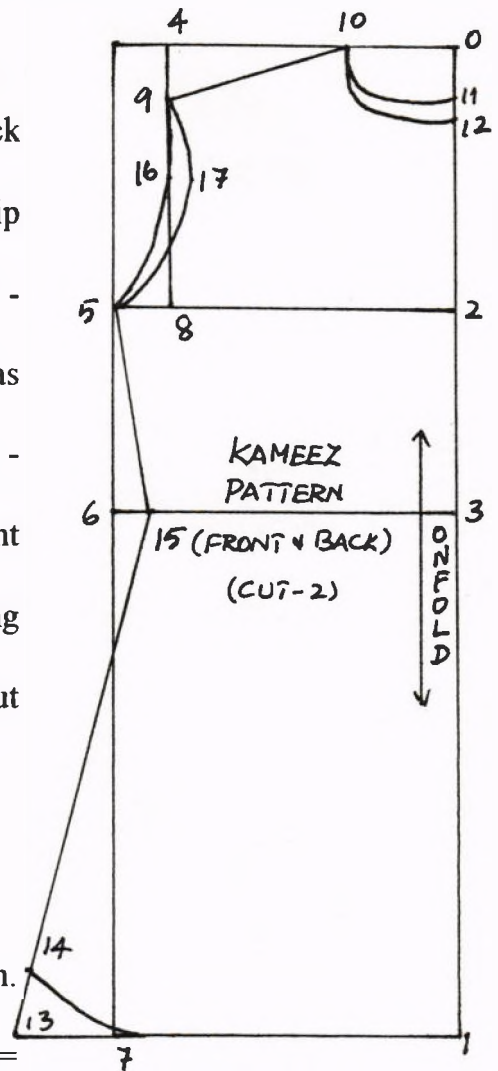
3cm. $0 - 12 = 1/12 \text{ chest} + 1\text{cm}$. Shape 10 - 11 for back neckline and 10 - 12 for front neckline. $1 - 13 = 1/2 \text{ hip circumference}$. $13 - 14 = 5 \text{ cm}$. $6 - 15 = 3\text{cm}$. Join 5 - 15 and 14 - 15 with straight lines and shape 14 - 1 as shown. $9 - 16 = 1/3 \text{ of } 9 - 8$. $16 - 17 = 1.5 \text{ cm}$. Join 9 - 16 - 5 for back armscye and 9 - 17 - 5 for front armscye lines. For back pattern cut along 10,11,1,14,15,5,16,9 and 10. For front pattern cut along 10,12,1,14,15,5,17,9 and 10.

Sleeve pattern:

Square lines from 0 where $0 - 1 = 1/4 \text{ chest} + 3.75 \text{ cm}$. $0 - 2 = \text{Sleeve length}$. $1 - 3 = 0 - 2$. Join 2 - 3. $1 - 4 = \text{Half of } 0 - 1$. $0 - 5 = 2.5 \text{ cm}$. 6 is midway of 4 to 5. $7 - 6 = 2 \text{ cm}$. Shape back armscye 4,7,5 and 0. $4 - 8 = 5 \text{ cm}$. Join 4,8,5 and 0 for front armscye. $9 - 2 = \text{Half lower arm circumference} + 4.5 \text{ cm}$. Join 4 - 9 with a straight line.

Instruction for Parallel (E):

$0 - 1 = \text{Full length of the parallel}$. $0 - 2 = \text{Body rise} + 4 \text{ cm}$. $0 - 3 = 1/4 \text{ waist} + 6 \text{ cm}$. $1 - 4 = 2 - 5 = 0 - 3$.



Square down from 3 to 5. $2 - 6 = 1/4 \text{ hip} + 10 \text{ cm}$. $5 - 7 = 2 \text{ cm}$. $7 - 8 = 3.5 \text{ cm}$. Shape 6,8,3 and 6,4 as shown in the figure for front and back crotch seam and innerleg seam respectively.

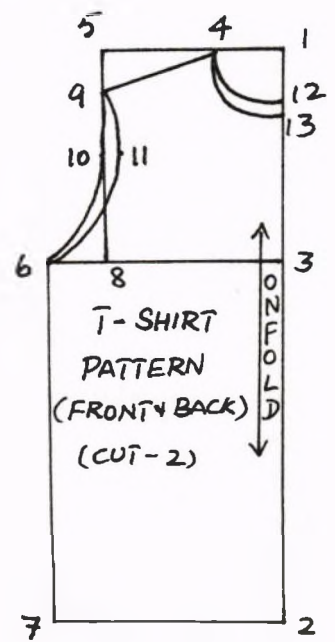
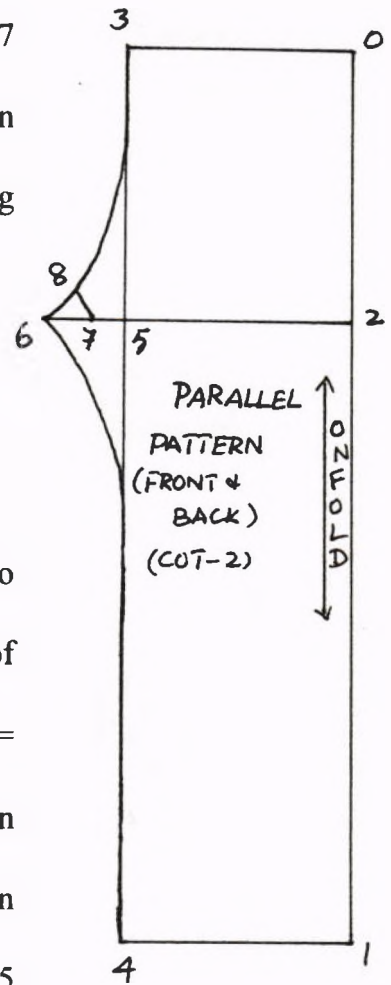
Instruction for T - Shirt (F):

Front and back pattern:

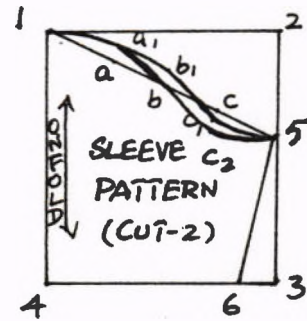
$1 - 2 =$ Full length of the T - Shirt. $1 - 3 =$ Shoulder to bust. $1 - 4 = 1/12 \text{ chest} + 2.5 \text{ cm}$. $1 - 5 =$ Half of shoulder. Draw line 3 - 6 parallel to 1 - 5 with $3 - 6 = 1/4 \text{ chest} + 5 \text{ cm}$ (for ease). $2 - 7 =$ same as 3 - 6. Join 6 - 7 with a straight line for side seam. Square down from 5 and extend line to meet 3 - 6 at 8. $5 - 9 = 2.5 \text{ cm}$. Join 4 - 9 for shoulder seam. $9 - 10 = 1/3 \text{ of } 8 - 9$. $10 - 11 = 1.5 \text{ cm}$. Join 9,10,6 for back armseye and 9,11,6 for front armseye lines.

$1 - 12 = 3 \text{ cm}$, $1 - 3 = 1/12 \text{ chest} + 1 \text{ cm}$. Shape 4 - 12 for back neckline and 4 - 13 for front neckline.

Sleeve pattern: Draw rectangle 1234 with $1 - 2 = 1/4 \text{ chest} + 3.75 \text{ cm}$. $1 - 4 = 2 - 3 =$ sleeve length. $2 - 5 =$



$\frac{1}{2}$ of 1 - 2. Join 1 - 5 by a straight line. Divide 1 - 5 into 4 equal parts and mark a,b,c as shown. Mark $aa_1 = 1.25$ cm, $bb_1 = 0.5$ cm, $cc_1 = 0.5$ cm and $cc_2 = 1$ cm in the directions as shown. Connect 1, a_1 , b_1 , c_1 and E for back sleeve cap seamline. Connect 1, a_1 , b , c_2 and E for front sleeve cap seam line. 4 - 6 = Half lower arm circumference + 4.5 cm. Join 5 - 6 with a straight line.



APPENDIX II

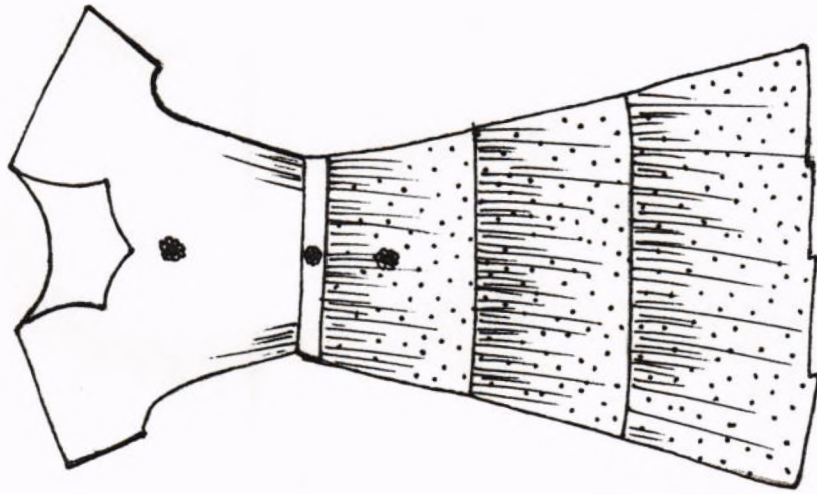
PROFORMA TO EVALUATE THE CONSTRUCTED MUSLIN PATTERNS

S.No.	Name of the garments	Good	Poor	Very poor	
1	Skirt (A)				
	Length of the skirt				
	Waist circumference				
2	Skirt top (B)				
	Length of the skirt top				
	Neck circumference				
	Shoulder width				
	Armhole depth				
	Chest circumference				
	Waist circumference				
	Upper arm sleeve circumference				
	Sleeve length				
	3	Salwar (C)			
		Length of the salwar			
		Waist circumference			
Hip circumference					
Knee circumference					
Ankle circumference					
4	Kameez (D)				
	Length of the kameez				
	Neck circumference				
	Shoulder width				
	Armhole depth				
	Chest circumference				
	Waist circumference				
	Hip circumference				
	Upper arm sleeve circumference				
	Sleeve length				
5	Parallel (E)				
	Length of the parallel				
	Waist circumference				
	Hip circumference				
	Bottom circumference				
6	T-shirt (F)				
	length of the T-shirt				
	Neck circumference				
	Shoulder width				
	Armhole depth				
	Chest circumference				
	Waist circumference				
	Upper arm sleeve circumference				
Sleeve length					

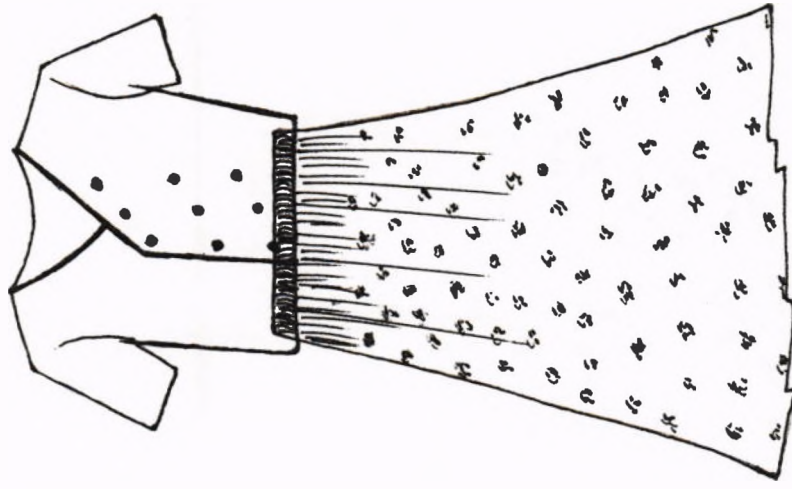
APPENDIX III

DESIGNS SELECTED FOR THE CONSTRUCTION OF SUMMER CASUALWEARS

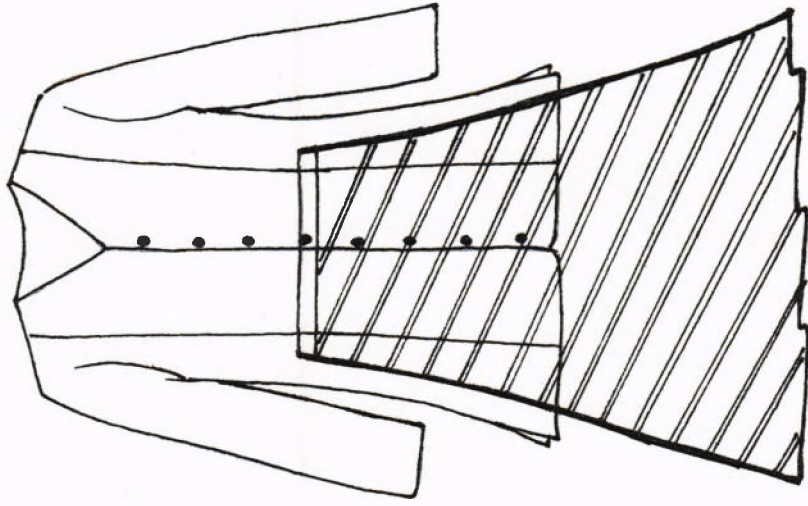
A₁B₁



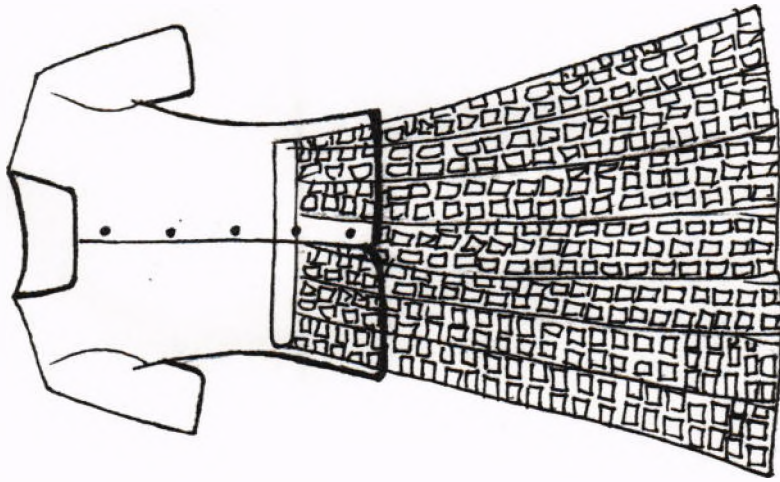
A₂B₂



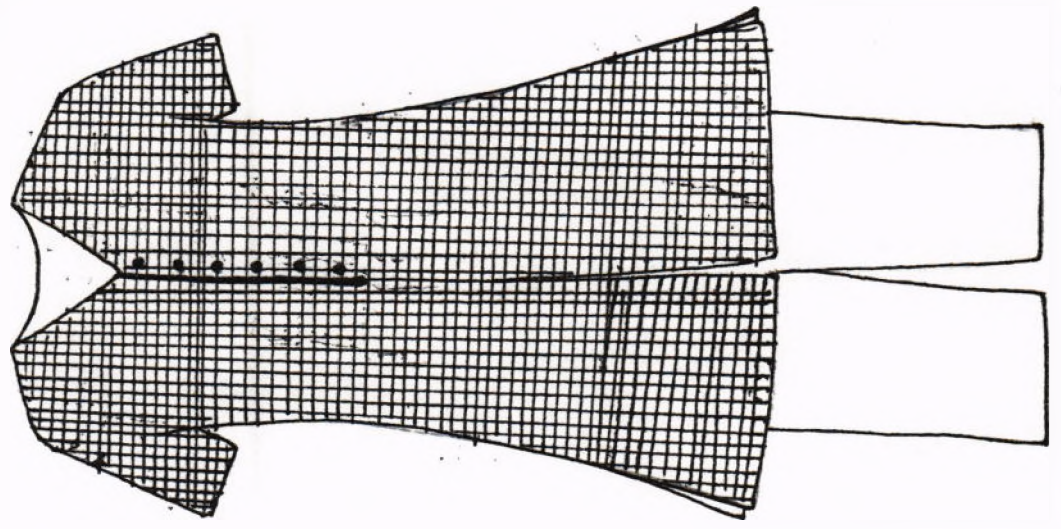
A₄ B₄



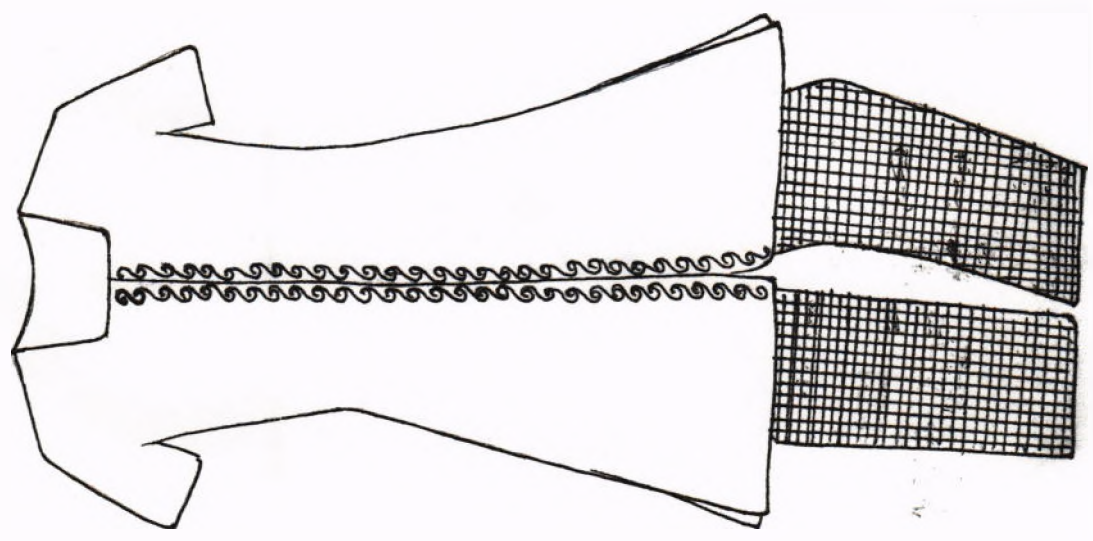
A₃ B₃



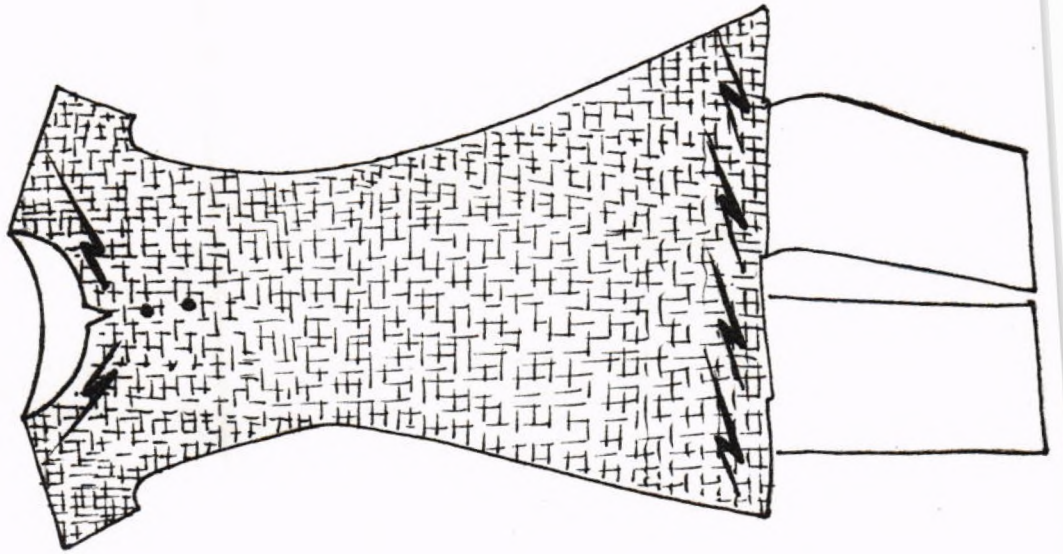
C₂D₂



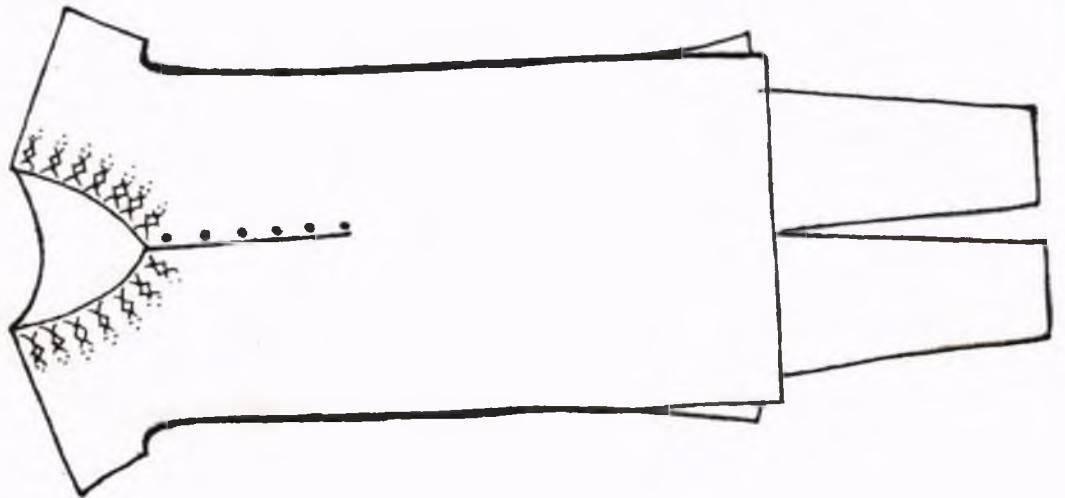
C₁D₁



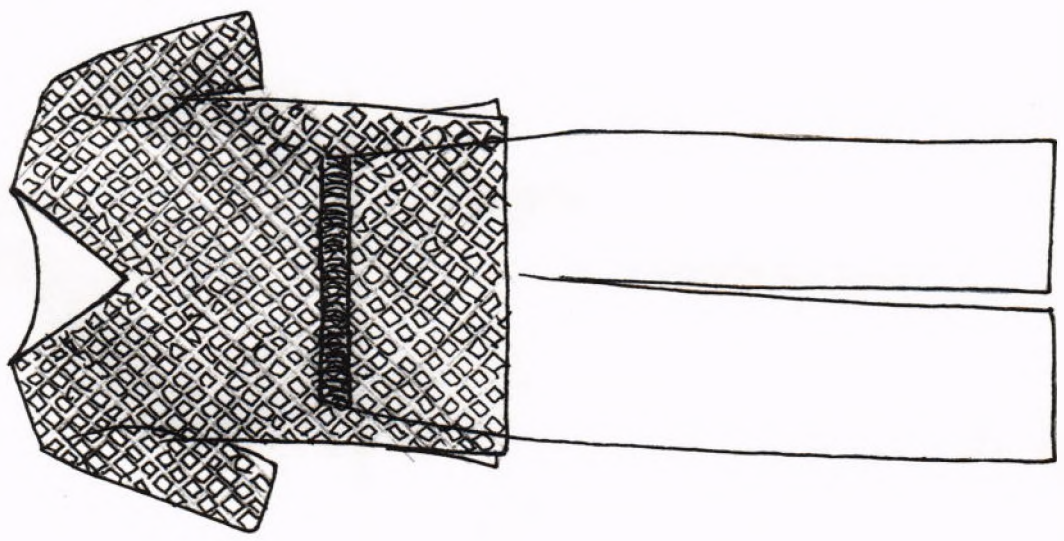
C4 D4



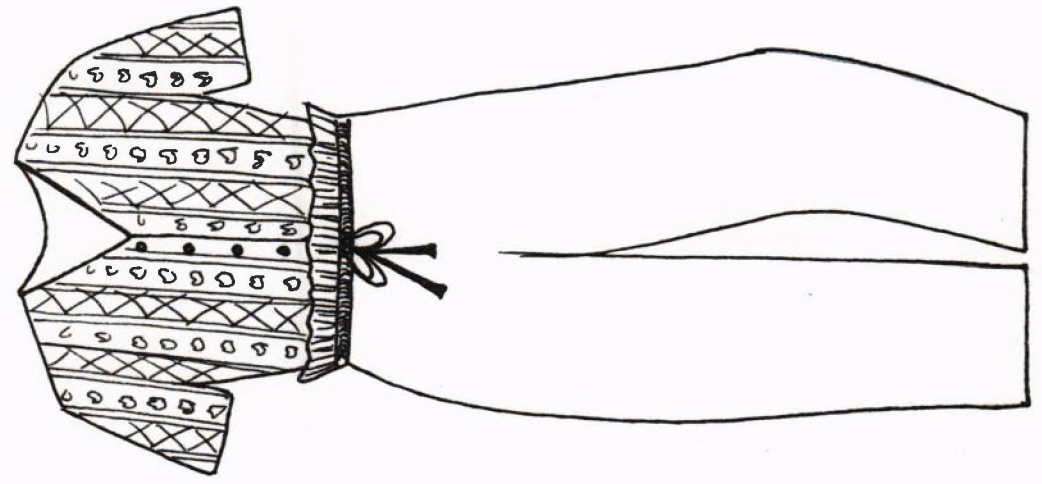
C3 D3



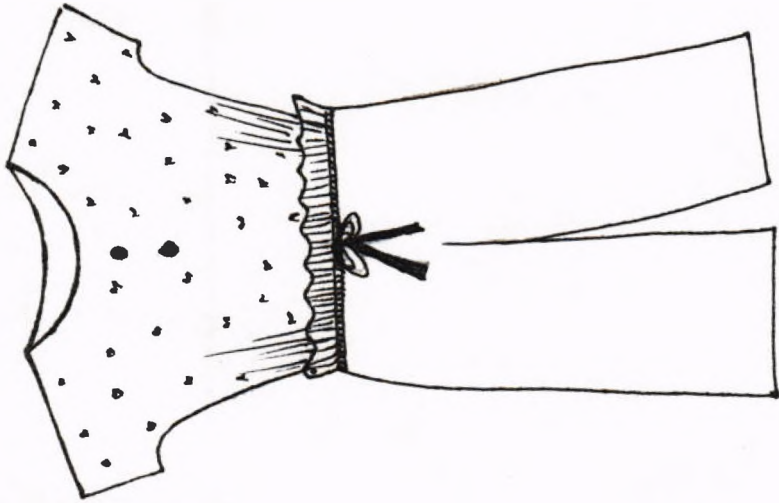
E₁ F₁



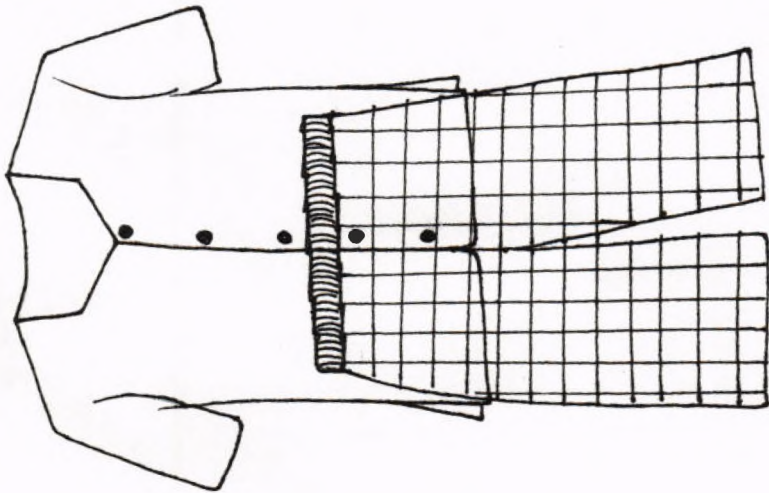
E₂ F₂



E4 F4



E3 F3



APPENDIX IV

FABRICS SELECTED FOR THE CONSTRUCTION OF SUMMER CASUALWEARS

