



Netaji Subhas Open University
DD-26, Sector-I, Salt Lake
Kolkata-700064



Commonwealth Educational Media Centre for Asia
7/8 Sarv Priya Vihar,
New Delhi-110016



Tailoring and Dress Designing • Apparel and Textile Design

Tailoring and Dress Designing

Apparel and Textile Design



©2016, NSOU & CEMCA



NETAJI SUBHAS OPEN UNIVERSITY

Unit 4 □ Basic Idea : Human Figures and Measuring Techniques

Structure

4.1 Introduction

4.2 Figure Proportion

4.2.1 Different parts of human body and measuring techniques

4.3 Relative girth measures for male figures

4.4 Relative girth measures for female figure

4.5 Different types of Pleats, Darts, Tucks etc.

4.6 Self Assessment Questions

4.7 Assessment

4.1 Introduction

Study of human figures and figure proportions in tailoring and dress designing is necessary and important to us as the construction and designing of the human dress related to size, proportion, balance ultimately fittings completely depend on human body structure, proportions as well as size of the figure.

The silhouette or general outline should follow the lines of the figure but not too closely is to be kept in mind.

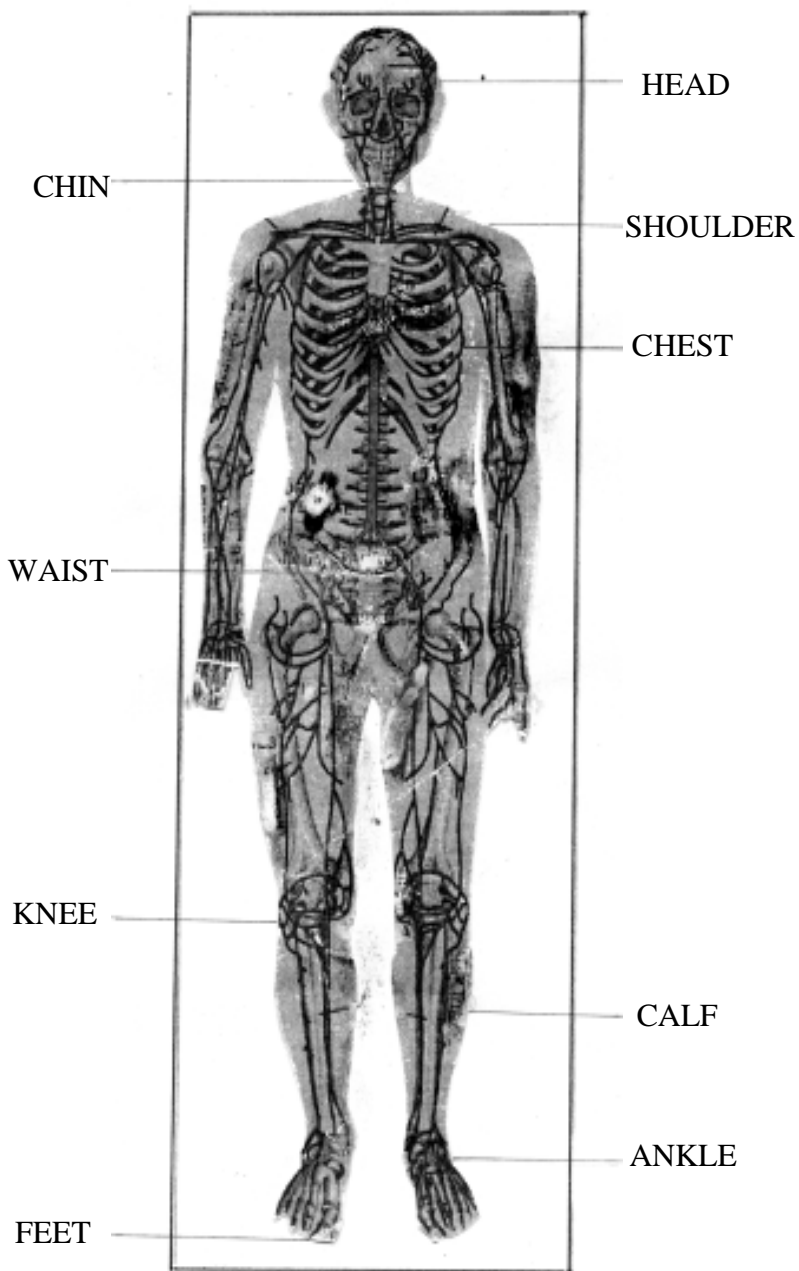
All the curved lines of the human figure is the line of balance, force and beauty.

So, human dress should be constructed in such a manner making some degree of curve as the design and construction of the dress made up of parts that show a proper fits to the human figure.

The steps involved in construction and designing of a dress that must be taken into consideration.

- (a) The study of human figure, figure proportion and structural lines.
- (b) Measuring technique in different portions of human body as per lengthwise and around.
- (c) The selection of materials with reference to quality, colour, Texture and weave etc.
- (d) Detailing including ornamentation of the dress.

Now, to understand in a better way, a full flesh human figure and its skeleton system is shown in **figure no.1**—for necessary identifications of different parts including joint portions of the body.



Full Flesh Human figure and its skeleton

Fig. No. 1

With the blessing of god, Human body is the frame structure of Bones and the size of the skeleton varies as per height and shape of the figure.

From the practical point of view, Human body can be divided into various types like.

- (1) **Normal figures** : The general human figure found normal as they are under standard size and fit to wear any type of dress, looks better.
- (2) **Abnormal figures** : The type of the figures under this category is different from normal human figures as they differentiate from standard fittings.
- (3) **Stooping figures** : The average structure of the figure under this found bent and stooping in front side. The backside vertebrae under the shoulder found excess and size of chest is low that measures across chest large.
- (4) **Tall and slim figures** : As the average height found large under this category and they may be thin or fatty. So, the size of the dresses alters from normal sizes and quantity of cloth also large.
- (5) **Short and stout figures** : As the figures found short and stout, so the quantity of fabric for their garments required as per body measurements that also differentiate from standard sizes.

4.2 Figure Proportions

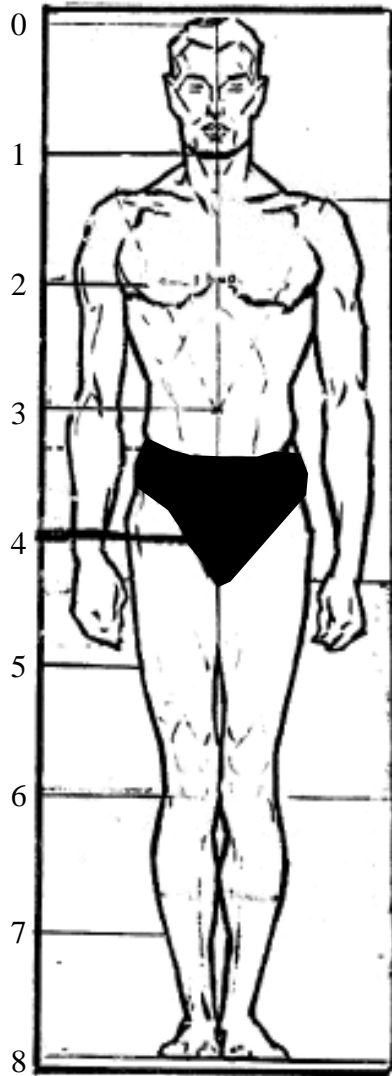
The proportion of the human figure with structural lines based on the head as an unit of measurement.

The height of the human figure helps to estimate the number of heads into the body.

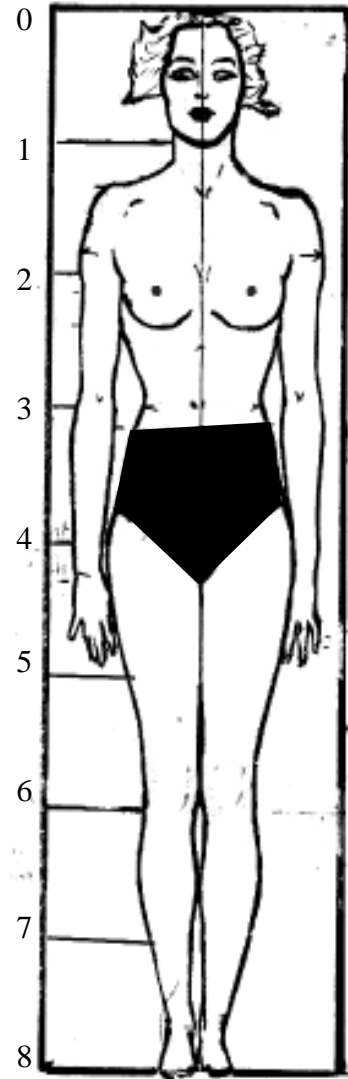
The height of the normal average figure from top of head to feet is of 8 heads (In fashion figures the height is of 9-10 Heads).

The body from the chin to waist line is of 2½ to 3 Heads and across the shoulder is 1½ to 1¾ heads.

In **figure no. 2** the name of the parts of eight divisions are shown and marked for understanding the location and area of measurements as follows :



Male Figure Eight Heads



Female Figure Eight Heads

Fig. No. 2

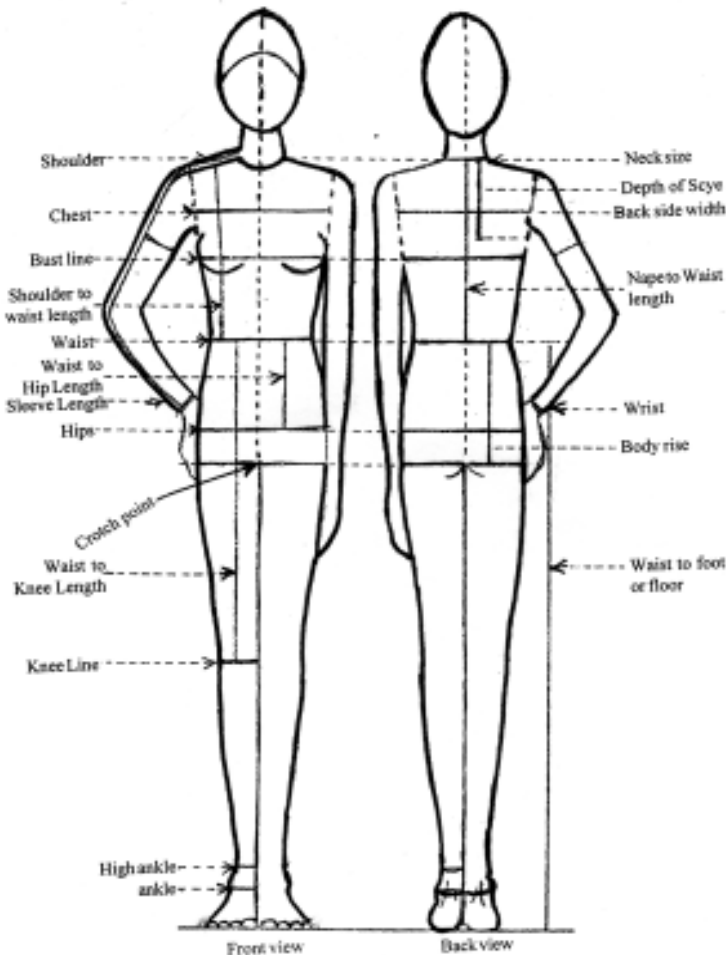
- | | |
|--------------------------------|---------------------------------|
| (1) Head to chin | (2) Chin to chest / Bust |
| (3) Chest to waist | (4) Waist to hip |
| (5) Hip to knee | (6) Knee to calf |
| (7) Calf to upper part of heel | (8) Upper part of heel to foot. |

4.2.1 Different parts of human body and measuring techniques

Measurements to be taken in different parts of the human body accurately and systematically and also to clear the ideas and conception. Good fittings depends on accurate body measurements and it is important and necessary to get good results in garment constructions, apparel manufacturing and also to purchase readymade garments from Apparel markets.

So, it is necessary for a dress maker as well as a dress designer to gather adequate knowledge and methods of taking measurements in different parts of the human body with proper utilization of measuring equipments.

A picture of full figure of human body front and back side shown in **figure no. 3** for identification and way of measuring technique in sole areas like neck, chest or full bust, across shoulder, arm length, seat, depth of size etc.



Standard Body Measurement Fig. No. 3

Basic lines of the body are to be taken into consideration while measuring body parts.

Moreover, The dress designer and the dress maker should have at least minimum knowledge about the type of fabric or fabric quality, either woven or knitted as the amount of ease needed at the time of apparel construction and also should have knowledge that more ease kept for woven fabric than on knitted fabric.

Different parts of human body and technique of measurements taken are noted below :

1. **Neck :** Measurements to be taken with the help of measuring tape around the neck starting at the base of the neck.
2. **Shoulder Length (Half) :** Measurement to be taken from base of neck to armpit socket.
3. **Chest or Full bust :** Measurements to be taken round the fullest part of bust. Here one must make sure that the tape is straight across the back and record the measurement.
4. **Waist :** Measurements to be taken round the waist keeping the tape tight but not too tight.
5. **Arm length :** It is the length from arm socket to wrist bone. The length is to be recorded through measuring tape.
6. **Wrist circumference :** The measurement should be taken by placing a measuring tape around the wrist, just at the end of wrist bone.
7. **Knee round :** The measurement is taken round the knee, using the same procedure as mentioned above.
8. **Body rise :** It is the length of difference between outside and inside leg. The length is measured through a measuring tape.
9. **Hip on Seat :** The measurement to be taken around high hip through circular way over the hip which is below 8"—8.5" below waist line.
10. **Depth of Scye :** The measurement is to be taken round the armpit through a measuring tape with an ease.
11. **Waist to hip :** The length is measured through a measuring tape.
12. **Waist to knee and waist to foot length :** The length is to be taken in a straight way through measuring tape.
13. **Height :** The person should straight way stand against a wall and in stocking feet. Make a mark on the wall over the top of head accurately and record the length from the head mark to feet.

4.3 Relative girth measures for male figures

Human figure is curved in nature. So the measurements of different portions of human figure in different in size. Before taking the measurements it is to be kept in mind that the measuring tape should be in good quality and the tape must be hold parallel to the ground, especially at the time of girth-measurements in some body portions like high bust, chest, waist, seat etc. as shown in **Fig. 4.**

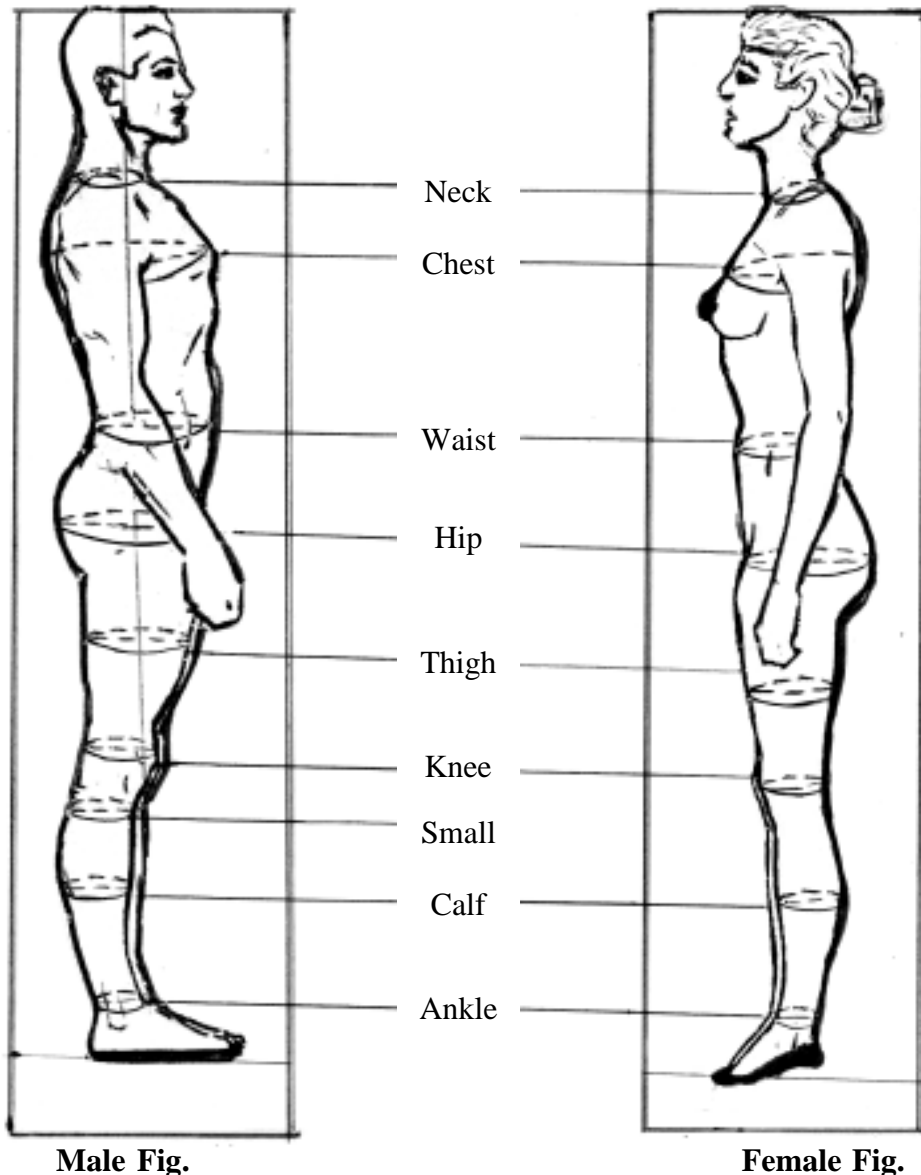


Fig. No. 4

Among all, the measurement of chest is important as the girth measurements in some portions may be derived from the chest size.

The relative girth measurements of a matured male figure are as follows :

- [1] **Neck** : $\frac{1}{3}$ rd of chest plus 6.5 to 7.5cm (2.5" to 3").
- [2] **Shoulder (Half)** : $\frac{1}{4}$ th of chest or less 1.5 to 2 cm (0.5" to 0.75").
- [3] **Armhole round (Scye round)** : $\frac{1}{2}$ of chest or less 0.25 to 0.5".
- [4] **Across chest** : $\frac{1}{4}$ th of chest minus 2.5 to 4cm. (1" to 1.5").
- [5] **Waist** : Chest size minus 10cm to 12.5cm (4"-5").
- [6] **Hip girth (Seat)** : Chest size plus 2.5 to 5cm (1" to 2").
- [7] **Small round** : $\frac{1}{3}$ rd of seat (about).
- [8] **Knee round** : Small round plus 2.5 to 4cm (1" to 1.5").
- [9] **Calf round** : Same as knee round (approx).
- [10] **Bottom round** : Knee round minus 2.25 to 2.5cm (0.9" to 1").
- [11] **Depth of Scye (from neck)** : $\frac{1}{4}$ th of chest (For chest size of 28" to 36").

4.4 Relative girth measures for female figure

The detailed study of a female figure and the idea of relative girth measures of a matured female figure (**Fig. No. 4**) is helpful and to extend knowledge for apparel manufacturing and dress designing.

The relative girth measures are as follows :

- [1] **Neck** : $\frac{1}{3}$ rd of Bust length plus 5.5 to 6.5cm (2" to 2.5").
- [2] **Shoulder (half)** : $\frac{1}{5}$ th of Bust length plus 5 to 6cm (2" to 2.5").
- [3] **Chest/High bust** : Length taken roundwise through bustline.
- [4] **Across Chest** : $\frac{1}{8}$ th of Bust Length plus 5 to 6cm (2" to 2.5").
- [5] **Waist** : Chest length minus 12 to 18cm (5" to 7").
- [6] **Seat** : Bust length plus 5 to 10cm (2" to 4").
- [7] **Depth of scye** : $\frac{1}{8}$ th of Bust length plus 5.5 to 6.5cm (2" to 2.5").
- [8] **Round upper arm** : $\frac{1}{4}$ th of Bust length plus 5.5 to 6.5cm (2" to 2.5").

4.5 Different types of Pleats, Darts, Tucks etc.

Fullness : An application of darts, pleats, tucks, gathers and smocking etc. all are art and creative items by the dress designer for apparel designing that provide fittings and fullness. They impart decorative addition as well as important feature of style in well fitted garment.

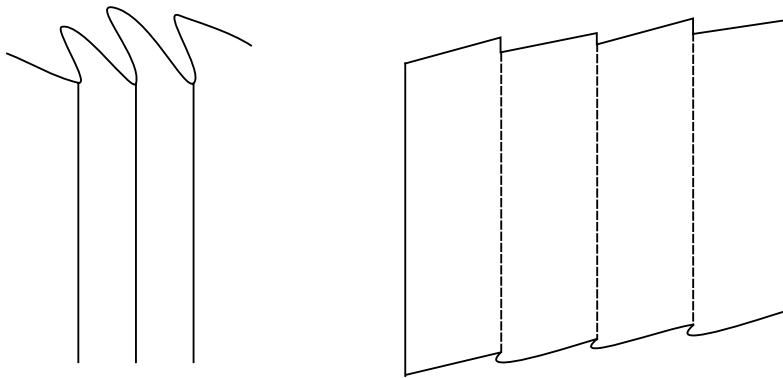
[1] **Pleats :** Pleats are the folds of fabric that add control fullness and give fashion and interest to the garments.

Pleats may be single, groups or all over. They also may be pressed or folded unpressed, stitched or unstitched. The depth of the pleat may be single, double or triple.

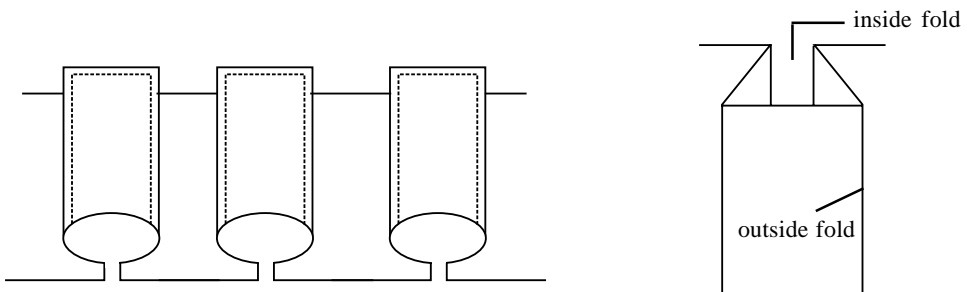
The application of pleats found generally on skirts, Bodice, Sleeves, pockets, jackets and so on.

Pleats are of various types but the most commonly known are as follows :—

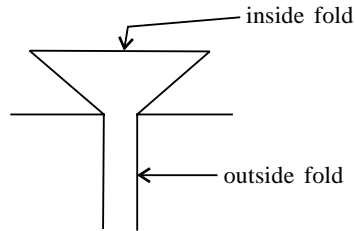
(a) **Knife Pleats or Side pleats :** They are grouped and faced in one direction.



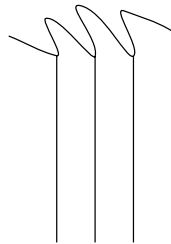
(b) **Box Pleats :** In right side of garments pleats are folded away from each other.



- (c) **Inverted box pleat** : In this case pleats are folded to meet each other on right side of garments.

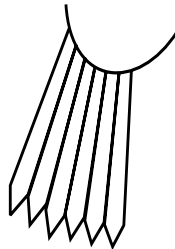


- (d) **Accordion pleats** : In this case folds looks like of an accordion.



- (e) **Sunburst pleats** : The structure of Sunburst pleats is that it originates from the waist and fall out.

The application of it generally found on circular skirt of female babies and Teenagers.



[2] **Tuck** : A tuck is a fold that stitched on right side of the fabric to provide shaping and good fit for the garment.

Tucks are of various types like pin tucks, space tucks, corded or piped tucks, cross tucks etc. Their application on garments as a design detail and generally found on skirts, Baby dresses, pants, tops and blouses. In some positions like waistlines, yolkes, pockets, cuff of sleeves, their application also noticed.

[3] **Dart** : Dart is the 'V' shaped fold to achieve proper fit of a garment by providing fullness in body curves.

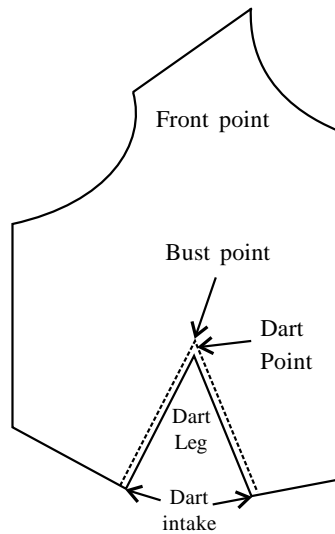
So, to achieve a proper fit, darts must be correctly located, stitched, finished and pressed.

Darts are of various types like 'V' shaped dart, Fish shaped dart or double point dart etc.

In practical application dart also may be placed in different positions like side dart, waist dart, bust dart, shoulder dart etc.

An Application of Darts generally found in Blouses, skirts, pants, coats, jackets etc.

A view of Dart leg, Dart point and dart intake has been shown in the figure.



[4] **Gather** : Gather is the folds of fabric in cloth made by drawing a thread or giving stitch together. It can be made by hand or machine. Elastic attach gathering can be made by attaching a narrow piece of elastic and giving stitch on the part of right side of the garment which is to be gathered.

Application of gathers generally found in few garments like Tops, Skirts, Frocks in Fancy dresses and in bridal gowns also. It can also be seen even in some particular position like sleeve, bust, waist etc.

Different views of gathers has been shown below for understanding and proper application in dress materials.

4.6 Self Assessment Questions

Q. Why we do wear clothes ?

In human life it is necessary to wear clothes as we can not survive without clothes for their importancy like :

- (1) They afford protection to the body from natural calamities like extreme temperature.
- (2) Clothes protect the body from external injuries.
- (3) They assist in the maintenance of body heat.
- (4) They provide decency and personal decorum in social life.
- (5) It is also used to identify sexual differences.

4.7 Assessment

1. How do you calculate the measurement of a male shirt.
2. What are the different types of measurement technique of a female figure.
3. What are relative girth measures of male and female figures.
4. What is pleat? What are the different types of pleats?
5. What is tuck?
6. What is Dart? Show the view of a dart with names of different points.
7. What is gathers? What role it plays in garments?