6. Understand the thread consumption

1. Define thread consumption.
2. State importance of thread consumption.
3. Describe thread consumption for lock Stitch.
4. Describe thread consumption Single Chain Stitch.
5. Discuss thread consumption muti thread Chain Stitch

Sewing Thread Consumption:

The quantity of thread that will be required for sewing a garment is called **sewing thread** consumption for that garment. It is generally expressed in length. To find out the consumption of thread for production of garment is very much important, because for determination of costing of garments, need to know or to find out the consumption of thread.

Fig: Sewing thread consumption

The sewing thread consumption is dependent on a number of factors, such as:

- Thickness of fabrics
- Plies of fabrics to be sewn
- Stitch type
- Stitch density
- Width of seam
- Garments size
- Design of the garments
- Whether automatic thread cutting system is available in the **sewing machine**
- Skillness of operators
- Quality of thread

The systems of finding out the quality of thread for each unit of length that for sewing of each inch or centimeter are shown below with diagram:

Stitch type-301 (Single needle lockstitch)

It is a specific stitch under stitch class-300 which is known as lockstitch. Two threads are required for making of this type of stitches, one is called the needle thread and the other is called the bobbin thread or under thread. For making a seam of one inch with stitch type-301, how much inches of thread will be required is explained with the below diagram:

Stitch type-301

Fig: Stitch type-301

Thread consumption for a stitch = 2 x stitch length + 2 x thickness

= 2N + 2T

Thread consumption for a seam of one inch = (2N + 2T) x stitch density

C = (2N + 2T) x S

$C = 2 + 2TS$ (as $N \times S = 1$)

Where,

N = Length of each stitch

T = Thickness of fabric or seam

S = Stitch density per inch

C = Thread consumption for each inch of seam

Therefore, it is found that in case of Stitch type-301, the thread consumption for each inch of a seam, $C = 2 + 2TS$. Using this formula in case of stitch type-301, a chart (Chart no-D/2) of thread consumption is made from where the thread consumption for each inch will be got directly.

Stitch type-101 (single needle chain stitch)

This is a specific stitch type of stitch class-1000, where the sewing is done by only one thread, no bobbin or looper thread is required. The unit length that means the required inches of thread for sewing an inch is described with the help of the below diagram:

Stitch type-101

Fig: Stitch type-101

The consumption of thread for a stitch = 3 x stitch length + 2 x thickness

For a seam of an inch C = (3N +2T) x the number of stitches per inch

C = (3N + 2T) S

C = 3 + 2TS To keep it in mind (NxS = 1)

Where,

N = the length of a stitch

T = Thickness of fabric/seam

S = the number of stitches per inch

C = Consumption of thread

The consumption of thread for Stitch type-101, C = 3 + 2TS.

Using this formula and finding out the consumption of thread for fabric or the thickness of seam and stitch density, is shown as a chart (Chart no-D/1). If the stitch type is 101, then thread consumption can be known directly from the chart, but the stitch density and thickness of seam need to be known.

Machine	Needs thread per inch stitch
Plain Machine- Single Needles	= 2.75 inches
2 Needles P/M (Plain Machine)	= 5.5 inches
3 Threads O/L (Over lock) Machine	= 15 inches

4 Threads O/L (Over lock) Machine	= 19 inches
5 Threads O/L (Over lock) Machine	= 23 inches
Safety stitch	= 20 inches
Flat lock Stitch	= 32 inches
Chain stitches - 1 Needle Kansai Machine - 2 Needle	= 11 inches = 12 inches
Button Hole	= 24 inches
Bar take Machine	= 26 inches
Button Stitch of 2 Eyes (holes)	= 3 inches
Button Stitch of 4 Eyes (holes)	= 6 inches