PRACTICALS

PRACTICALS


SINGER


100% COTTON


40°C MACHINE WASH
WARM IRON
DO NOT BLEACH
DO NOT TUMBLE DRY
WASH AND DRY DARK COLOURS SEPARATELY

Practical - 1

SEWING TOOLS AND ACCESSORIES

Stitching clothes involves the use of a vaiety of sewing tools and accessories. We must know about different tools and accessories available, their function and method of use. This will help us make proper selection of the tool required for a particular job. The differnt sewing tools can be classified according to their use in the following way :

Chart No. 1.1 Sewing Tools & accessories

Measuring Equipments
measure tape
ruler
tailor's square

Sewing Tools & Accessories

Marking Equipments
tailor's chalk
french curve
tracing wheel

Cutting Equipments
shears
scissors

Stitching Equipments
needles
threads
thimble

Finishing Equipments
pinking shears

1. **Measuring Equipments :**

a) **Measuring Tape : Used for taking body measurements or measuring fabrics**. It is 60 inches or 152 cms long. It is made of plastic or rexin, is flexible and marked on both sides.

b) **Rulers :** A ruler can be 12 or 6 inches long, made of wood, plastic or metal and has measuremnts marked in inches as well as centimeters.

c) **Tailor's square :** This is a 'L' shaped instrument made of wood, plastic or metal. It helps in measuring straight lines and right angles on pattern layouts.

2. **Marking Equipments :**

a) **Tailor's chalk :** This is a soft, flat piece of chalk which is thick in the middle and taper at sides. It is available in different colours and shapes. **It is used for marking on fabrics**. Marking with this chalk is easy and the markings rub off easily too.

b) **French Curve : These are used for drawing curves while drafting designs.** They are made of plastic and are available in different shapes and sizes.

c) **Tracing wheel :** This is a small saw-toothed wheel made with steel with a wooden or plastic handle. It is used to mark perforations in the fabric to indicate seams, positions of pockets, necklines, pleats etc. It can be used alone or along with a carbon paper. **We can mark more than one layer of fabrics at the same time, using tracing wheel.**

d) **Dressmaker's Carbon :** These are carbon papers available in red or yellow colour. They do not leave dark smudges on the fabric. **They are used along with tracing wheel to mark more than one layers of fabrics at the same time.**

e) **Coloured Pencil :** Also known as tailor's pencil. It is half red and half blue. Used for marking on the fabrics. It is not so popular nowadays.

f) **Brown Paper : This is used for making drafting patterns before marking and cutting the fabric.**

3. **Cutting Equipments :**

a) **Shears : Shears are two bladed cutting tools used for cutting fabrics**. They can be 9-12 inches long. One of the handle is round for inserting thumb and the other is long which can permit 3-4 fingers for better control while cutting. They are available in different sizes. The blades are made of iron or steel and the handles can be brass, plastic or steel. The shears used for cutting fabrics should not be used for other purposes otherwise they will lose their sharpness.

b) **Scissors : These are small sized cutting tools also known as clippers**. They are 6-9 inches long and made of steel. The handles are

made either with steel or plastic. Both the handles are round to insert thumb and forefinger. **These are used to cut paper, threads etc.**

4. Stitching Equipments :

a) Thimble : This is a small cap which is worn on finger to protect it from needle prick while hand stitching. Thimbles are available in plastic, steel or brass.

b) Hand sewing Needles : These are used for hand stitching. They are available in different sizes and in assorted packages. No. 9 needle is ideal for home stitching.

c) Threads : For regular stitching, threads should match the fabric in colour, lustre, and yarn size . They very in size from No. 10-150. **For normal home stitching cotton thread of No. 40-50 is used.**

d) Pins : The pins are used to hold the pieces of fabrics together while stitching. They help in faster stitching and avoiding mistakes. They are a must for beginners but are used by experts too for greater efficiency. They should be of steel and have fine, sharp points so that they do not spoil the fabric. Attractive dressmakers pins with pearl heads are also available.

5. Finishing Equipments :

a) Pinking Shears : These shears have zigzag edges which are used to finish seams so that threads do not ravel from the open edge of the fabric. They are heavier and costlier than other shears.

Table No. 1.1 Threads and Needles for Sewing

Fabric	Cotton Thread	Hand Needle	Machine Needle
Fine, sheer fabrics- Chiffon, Lace etc.	80-100	9-10	9
Light weight fabrics – Muslin, Voile etc.	60-80	8-9	11
Medium weight fabrics – Poplin, Woollen, Shirting etc.	40-50	6-7	14
Heavy weight fabrics – Denim, Drill, Khaki, Curtains, Bed sheets etc.	30-40	4-6	16-19
Canvas, Fabrics with heavy weaves like Jacquard etc.	20-30	3-4	21

Practical - 2

PARTS OF SEWING MACHINE, THEIR FUNCTIONS AND CARE

The sewing machine is the most important equipment required for stitching. It is essential for us to know about its different parts, their functions and how to take care of it.

- **Parts of sewing Machine and their Functions :**

Many types of sewing machines are available in the market. They have different designs and facilities. Certain basic parts are given below :

1. **Thread tension regulator - This regulates the tension on the spool thread.** It is on the extreme left side of the machine and it is turned clockwise or anticlockwise to increase or decrease the tension on the spool thread.The tension on the spool thread must match with the tension on the bobbin thread, otherwise stitches will be improper.

2. **Take up lever -** This moves up and down as the machine runs and **controls the flow of spool thread. Without its movement, the spool thread will not reach up to the fabric.**

3. **Needle bar -** This is a bar going vertically through the machine and it keeps on moving up and down when the machine is running. **The machine needle is attached at the lower part of this bar. Without its movement, the needle will not reach up to the fabric.**

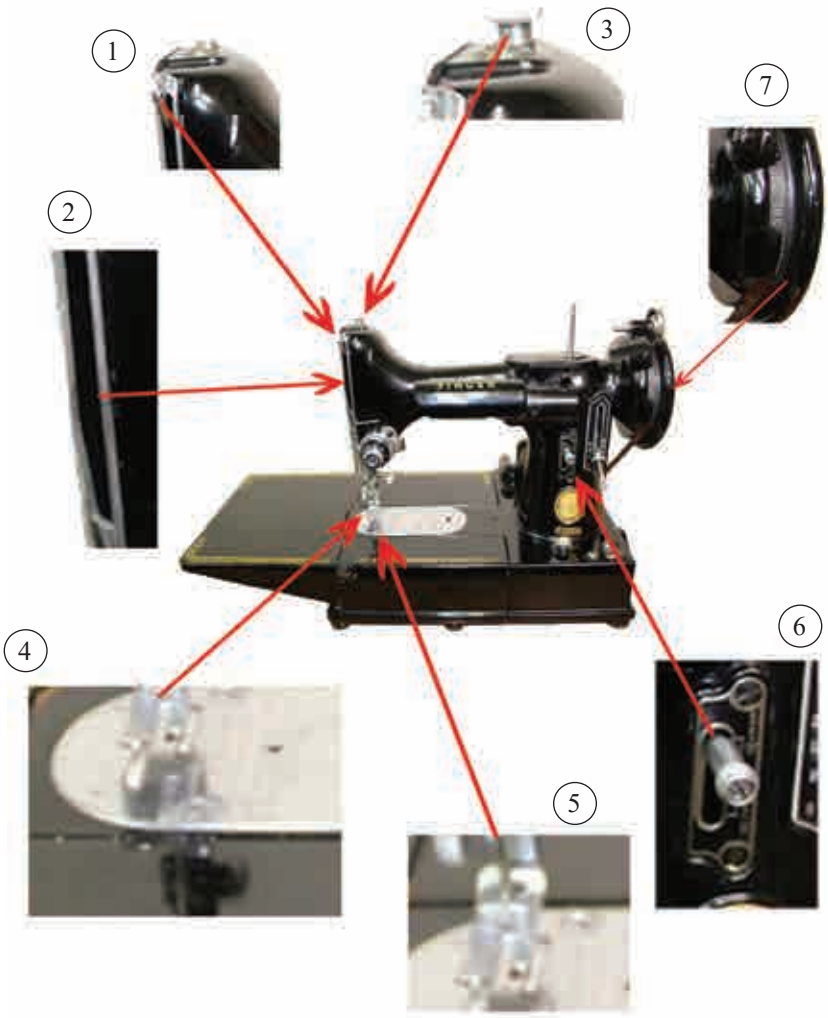
4. **Presser foot -** This is a very important part of sewing machine. This is a small shoe-like device attached at the lower end of the presser bar. **This holds the fabric in place while stitching**. Because of this, the machine stitching is always in one straight line.

5. **Feed dog -** This is also a very important part of sewing machine. It is situated just below the needle plate. It is a small device with teeth**. It pushes the fabric forward while stitching**. If this stops moving, stitching will not be possible.

6. **Stitch regulator -** It is in the front at the right side of the machine. **It regulates the length of stitches**. It has numbers and we can set it at a desired number to get corresponding size of the stitches. It is connected from below to the feed dog. The feed dog moves less or more according to the number selected, thus pushing less or more fabric after every stitch. This results in smaller or bigger stitches.

7. **Fly Wheel or Hand wheel -** This is the wheel at the extreme right of the machine. When this wheel moves, it moves the needle bar, thread take - up lever and feed dog. This enable the machine to stitch. In hand machines, there is a handle attached to this wheel to more it easily.

Picture No. 2.1 Parts of Sewing machine



These are the parts which will be there in any sewing machine. If the machine is a Foot machine, certain additional parts are added below the table.

1. **Drive Wheel:-** This is a bigger wheel below the table. It is connected to the fly wheel with the help of a belt. **This drive wheel is rotated to rotate the fly wheel and run the machine.**

2. **Belt:- This is leather belt which connects the drive wheel and the fly wheel.** It transfers the motion of drive wheel to the fly wheel.

Picture No. 2.2 Foot Operated Machine

3. **Treadle:** It is at the bottom near the feet of the person who is operating the machine. **It is passed with both feet in an up and down movement to run the machine.**

4. **Pitman rod:-** This is a small rod of the treadle and drive wheel which connects the two. It is responsible for transferring the up 4 down movement of the treadle to circular movement of the drive wheel.

Internet my friend!

1) Find out the names, position and functions of other parts of sewing machine?
2) Also find out about the important parts below the table in case of Foot Machines.
3) Find out about the different kinds of sewing machines available nowadays.

Something Interesting

- **Inventors and their Inventions :**
- **Thimmonier, Barthelemy**
- This Frenchman was the first to receive recognition for a sewing machine in 1830. However his machine were destroyed by workers, who feared that the sewing machine would cause the to loose their jobs. His machine was of the chain-stich type and he was interested in making uniforms for the armies of french on a mass production basis. Opposition however, caused him to give up his plans.
- **Siger Isaac :**

  Invented his sewing machine in 1846 and this was the year in which these machines were used in factories.

Care of Sewing Machine :

1. Machine should be cleaned regularly to keep it running smoothly.
2. Machine should be kept covered when not in use, to keep it safe from dust & dirt
3. All loose threads, dirt and lint should be removed with the help of a brush.
4. **Machine should be oiled once a week** with a good brand of oil for lubrication. This is to reduce friction and to avoid rusting.
5. Machine should be wiped thoroughly after oiling to avoid oil stains on the fabric to be stitched.
6. If the machine is not used for a long time, the oil dries up making the machine hard to run. In such case, a drop of liquid paraffin should be put into each of the oiled parts and the machine should be ran without fabric.

Practical - 3

STICHING OF TABLE CLOTH

Size of Tablecloth = 90 cm X 90 cm

Casement Material. = 1 meter

Finish all four sides by machining.

Then all four sides can be finished with a lace or crochet.

Pic No. 3.1 Table Cloth

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Practical - 4

SEAMS

Any dress or piece of clothing is made by joining a number of differently shaped fabric pieces together. These 'joints 'of fabric pieces are called 'Seams'.

A seam is a line of stitching which joints two or more pieces of fabrics or sections of a garment.

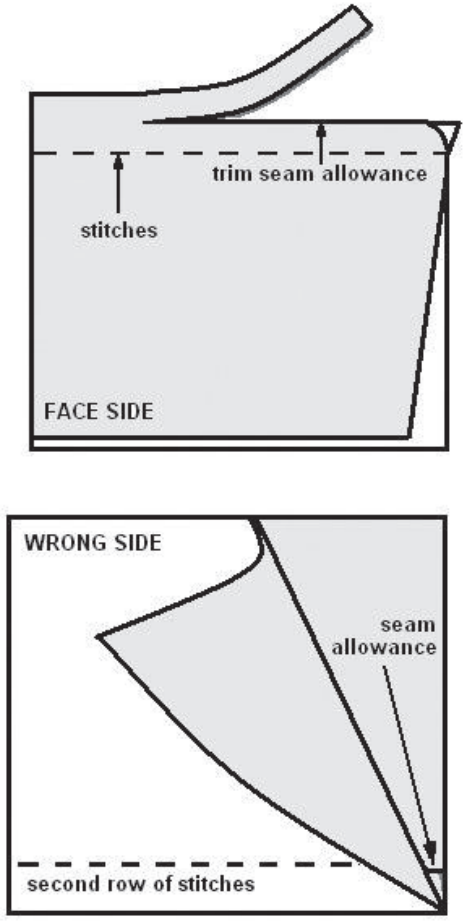
A good seam must possess certain characteristics.

1. It should be strong and secure.
2. It should be neat.
3. It should not be bulky.

❖ **Seams can be made in many different ways. A few important seams are as follows.**

1) **Plain or Simple Seam :**Two pieces of fabric are put with their wrong sides out and right sides facing each other. The edges are matched perfectly, 0.5 cm or 1 cm seam allowance is taken and the machine is run to make the seam. The edges can be finished by cutting them with pinking shears, or by overcasting. This seam is most commonly used in making dresses. (Diag. No. 4.1)

2) **French Seam:**Two pieces of fabric are put with their right sides out and wrong sides facing each other and a plain seam is made at a distance of 0.5 cm. the edges are trimmed and then the fabrics turned so that now right sides will be facing each other. Another seam is made at a distance of 1 cm. thus the first seam gets enclosed with the second seam. This seam is extensively used in children's clothing, saree blouses and for sheer materials like voile, organdy etc. (See diag. no. 4.1)



Diag. no. 4.1 French Seam

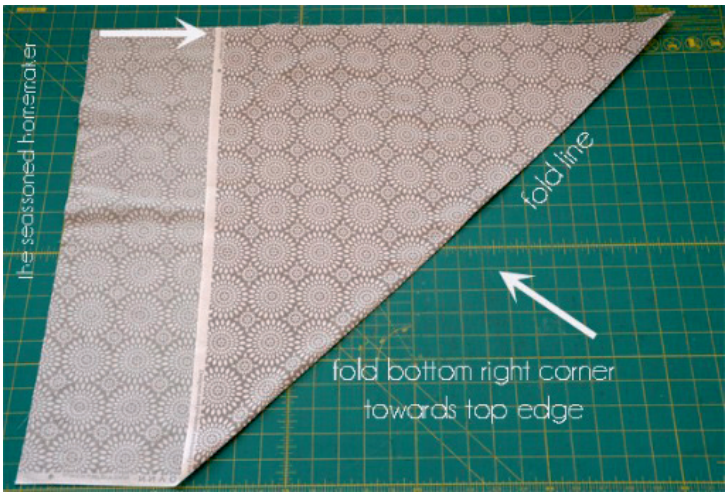
Practical - 5

NECKLINES

❖ **Necklines are finished by using facing or bindings.**

1. **Fitted Facing: A facing is a strip of fabric which is stitched along the neckline to finish it and then folded completely on the wrong side.** It is not visible on the right side. The fitted facing is cut in the same shape as the neckline. It is usually about 4-5 cms wide. The facing is put on the right side of the garment and stitched. Then it is folded completely on the wrong side and finished by hemming. Square or fancy necklines are mostly finished by this facing.

2. **Bias Facing:** Too cut bias we need an angle of 45° going exactly in the middle of the two grain lines of fabric. For achieving this, the fabric is folded in such a way that the wrap yarn fall in the direction of the weft yarns (see pic 5.1). The folded diagonal line is cut and taking even width, bias strip of 2-3 cms are cut. The bias trip is stitched along the neckline, giving latitude for the shape of the neckline. Then it is folded completely on the wrong side and finished. This is used very commonly in ladies and children's dresses.



Picture No. 5.1 Cutting of bias strips

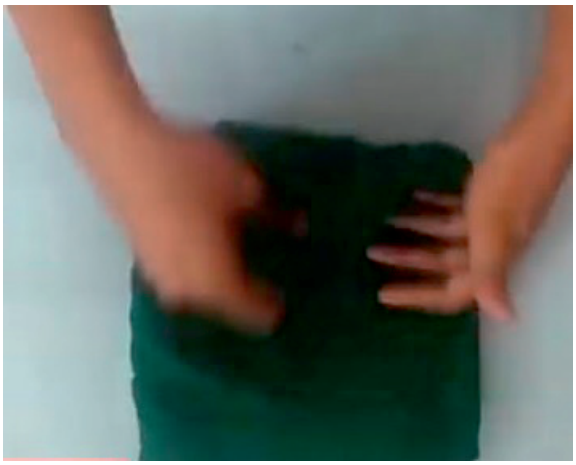
Practical - 6

6. IRONING

A) Ironing of a saree blouse

1. Iron the sleeves from the back and then from the right side.
2. Iron the body part that is the left front and right front.
3. Iron the back.

4. **Folding**
   a. Fold the blouse vertically into half keeping the buttons open.



Picture No. 6.1 Folding of Saree blouse

B) Ironing of kameez

1. Adjust the temperature of the iron according to the garment.
2. Iron the double part first, seams, neckline, Hem etc.
3. Iron by using vertical strokes of the iron, do not move the iron constantly on one part.
4. Iron the front side of the kurta first.

5. Folding :

a. Place the kurta on the ironing board with back side uppermost.

b. Fold the sides towards the centre.

c. Fold the sleeves down straight and see that it forms a triangle.

d. Fold the kurta horizontally, such that it forms a rectangle.

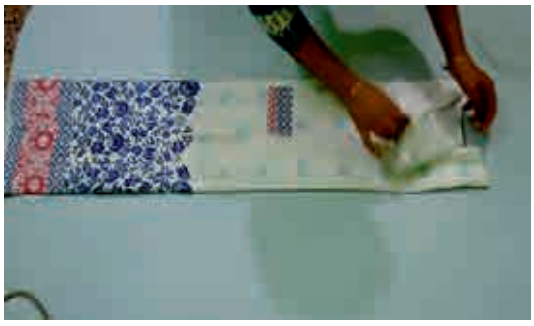
1.

2.

3.

4.

5.



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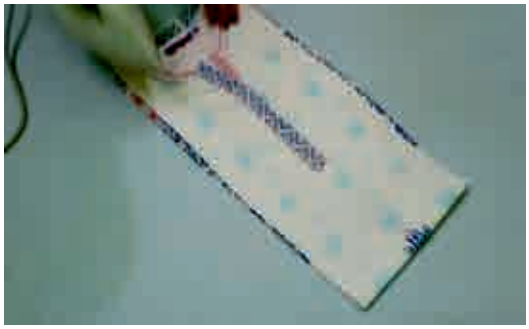


Picture No. 6.2 Folding of Kameez

C) Ironing of salwar

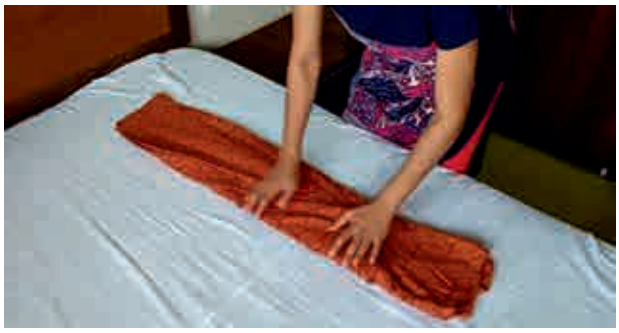
1. Adjust the temperature of the iron according to the fabric of salwar.
2. Iron the hem (poncho) of the salwar first.
3. Then iron the belt if it is a belted salwar.
4. Iron with the toe (pointed part) of the iron, the gathers/pleat (the inside part).
5. Always move the iron from the flair or hemline towards the waist band.

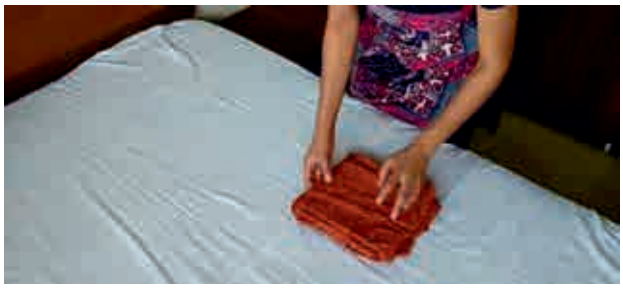
6. Folding

a. Join the two legs of the salwar together.

b. Fold the extra part of salwar horizontally such that it becomes a perfect rectangle.

c. Fold the length of salwar into half.



Picture No. 6.3 Folding of Salwar

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Practical - 7

COLLECTION OF TEXTILE LABELS AND IDENTIFICATION

Informative, Permanent care, Brand and Certification Labels.

- ❖ Student should collect & stick labels in the journal.
- ❖ Student should observe Labels carefully.
- ❖ Students should notice the characteristic of each label.

(A) Informative labels :

A typical informative label on a fabric may give following information.

1. Manufactures's name
2. Logo of the manufactures
3. Fabric's commercial name
4. Fiber content
5. Yarn used
6. Fabric construction / count
7. Finishes applied
8. Batch Number / date
9. Length & Width
10. Price / meter

(B) Permanent Care labels :

These can be in written form or in the form of symbols.

Washing, Drying, Ironing, Dry cleaning, Bleaching instructions may be seen on the labels.

(C) Brand labels :

A distinctive design or symbol may be seen. It may also Lave a combination of words with these design ie. Trade work or Trade Name.

(D) Certification Labels :

This label itself is a assurance of quality. eg. – Silk Mark, wool Mark, Handlooms mark or any similar certification label.

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Practical - 8

IDENTIFICATION OF FIBRES BY MICROSCOPIC TEST

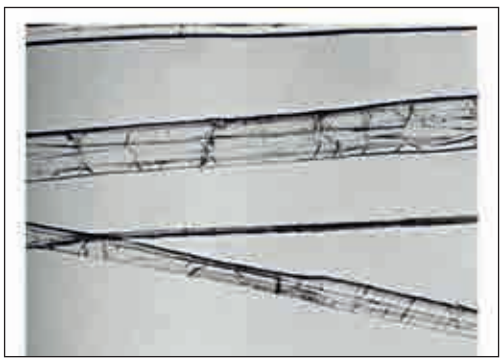
One of the ways to identify fibres is viewing them through microscope. The microscopic test reveals the inner structures of fibres which are remarkably different from each other. Microscopic test is an authentic test to identify a given fibre.

(A) Microscopic Test of Cotton Fibre :

Pic. No. 8.1 Cotton fibre

1. Flat ribbon-like structure.
2. Uneven width.
3. Convolutions (twists) are seen

(B) Microscopic Test of Linen Fibre :



Pic. No. 8.2 Linen fibre

1. Striations are seen.
2. Nodes are seen.
3. Uneven width.
4. Slight lustre.

(C) Microscopic structure of Jute fibre :

Pic. No. 8.3 Jute fibre

1. Cylindrical fibre.
2. Uneven diameter.
3. Dark in colour.
4. Striations are seen.

Practical - 9

IDENTIFICATION OF FIBERS BY BURNING TEST

Qualitative identification of fibers is difficult and may require several tests. The burning test can be used to identify the general chemical composition of fiber such as cellulose, protein, mineral or man made fiber.

❖ **Test Procedure:**

1. Unravel a yarn from the fabric sample.
2. Untwist yarns so the fibers are in loose mass.
3. Hold the loosened fibers in forceps or tweezers, and move them towards the flame form the side.
4. Notice the odour given by the fiber during burning.
5. Observe the ash or residue formed.

Table 9.1

Buring Characteristic of Fibers

Fiber	Approaching the flame	In the flame	Removed from the flame	Odour	Residue
Natural Cellulosic Cotton Linen/ Jute	Does not shrink away; ignites upon contact	Burns quickly	Continues burning, after glow	Similar to burning paper	Light feathery. Light or charcoal gray in colour.

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Practical - 10

MAINTENANCE OF THE JOURNAL

❖ **Students should maintain journal and write all the practicals serially as per the syllabus.**

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Practical - 11

PROJECT WORK

Students are supposed to do one project work during the academic year. This project should be based on the syllabus. The suggested topics are listed after every chapter. The student can choose any one of them or can find out a new topic for project subject to teacher's approval. The format of the project i.e. how it is to be presented is given below.

Format of the Project

- Title page – Title of the project. Name of the student, Class, Division, Roll No. / Seat No. Name of the College.
- Acknowledgement
- Index / Table of Contents
- Introduction
- Main body of the Project with suitable photographs, illustration, tables, graphs, diagrams etc.
- Conclusion
- Bibliography
- Annexure
- Websites

GLOSSARY

Term : Definition / Meaning

- **Balanced yarn :** Yarns in which twist is such that yarn will hang in poop without kinking. Doubling or twisting upon itself.
- **Bias :** Any direction in the fabric which does not follow exactly warp yarns or weft yarns.
- **Bleaching :** A Chemical process that makes fabrics, yarns or fibers white or prepares them for dyeing or printing.
- **Boucle yarn :** A novelty yarn charaterized by light loops projecting form the body of the yarn of regular intervals.
- **Carding :** An initial process in yarn making of removing impurities and arranging the fibers into parallel fashion and convert them into card sliver.
- **Cellulosic fibres :** Fibres having cellulose as their basic component. All natural vegetable fibres are cellulosic fibers. Rayon is a regenerated cellulosic fibre.
- **Chenille yarn :** A novelty yarn which resembles a hairy caterpillar.
- **Cohesiveness :** The ability of fibres to stay together and adhere to each other.
- **Combing :** A process involved while manufacturing high quality yarns, which separates long desirable fibres of same length from short, undesirable fibres and arranges them in parallel order in the form of sliver.
- **Cord Cable yarn :** A yarn made by twisting together two or more ply yarns.
- **Crepe yarns :** Variation of simple yarn, having a high degree of twist which tends to kink resulting in the rough texture.
- **Delusterning :** The process of dulling the luster of man – made fibre with chemicals usually titanium dioxide.
- **Density :** Mass / unit volume. It is expressed as gm/cc. The closeness with which the molecules of a substance are packed within it. Fabrics made with high density fibres are heavier than fabrics made with low density fibres.
- **Detergent :** A substance having cleaning ability.
- **Detergency :** The ability of a substance to clean.
- **Draperies :** Window covers which are thicker and longer than curtains and which are hung over curtains.
- **Drawing :** A process in yarn manufacture in which the sliver is elongated by passing through a series of pairs of rollers.
- **Durability :** The quality of a substance which makes it long lasting.
- **Elasticity :** The ability of a substance to change dimensions when force is applied and to come back to original position once the force is removed. Clothes made form fibers having good elasticity are easy to put on or take off.
- **Filament fibres :** Long, continuous, fibres whose length can be measured in meters or yards. All non- made fibres and silk are filament fibres.

- **Flammability :** The manner in which a fibre reacts to fire.
- **Flexibility :** The ability to bend without breaking.
- **Flock yarn :** A type of novelty yarn in which small tufts of fibres are inserted as irregular intervals and held in place by the twist of the base yarn.
- **Heat conductivity :** The ability of substance to allow the heart to pass through it. Fibres with good heat conductivity are more comfortable in summer and fibres with bad heat conductivity are more suitable for winter.
- **Household Textiles :** Fabrics which we use for various activities in our homes.
- **Knot or knob yarn :** A novelty yarn produced in the same way as nub yarn except that brightly coloured fibres are added to the enlarged knot.
- **Lustre :** The amount of light reflected back and reaching our eyes form the surface of a substance.
- **Man – made fibres :** Fibres which do not occur in fibrous form in nature and have to be made into fibers.
- **Monomer :** A single unit or molecule form which polymers are formed.
- **Natural Fibres :** A fibre which is available in nature in fibrous form.
- **Non – thermoplastic fibres :** Fibres which so not change shape or melt due to heat. Such fibres burn and turn to ash on contacting fire.
- **Novelty yarn :** A yarn characterized irregularities in size, twist and effect and creat an interesting novel effect or textural variation in the fabric.
- **Nub or spot yarn :** A novelty yarn in which the base yarn is held stationary while the effect yarn is wrapped around it several times to build up an enlarged segment.
- **Piles :** The loops formed on the surface of a fabric with the help of extra warp or weft yarn.
- **Ply yarn :** A yarn made by twisting two or more single yarns together.
- **Polymer :** A large molecule formed by linking together many monomers.
- **Polymerisation :** The linking of many monomers to form a polymer.
- **Regenerated fibres :** Fibres for which the raw material is taken form nature and then a new fibre is made by various chemical treatments. Rayon is a prime example.
- **Resiliency :** The ability of the fibre to recover after wrinkling or to save itself from wrinkling.
- **Simple yarn :** Yarn that is even in size, has equal twist throughout length and is smooth and uniform.
- **Single yarn :** A yarn which when it is untwisted will break apart into the individual fibres.
- **Sliver :** Round, continuous untwisted rope like strand of fibres.
- **Slub yarn :** A type of novelty yarn in which yarn is left untwisted or with slack twist at irregular intervals to produce soft, bulky sections.

- **Spinning :** A final process of yarn manufacturing where twist is imparted to the yarn to give strength and other desirable characteristics.
- **Staple fibres :** Short fibres whose length can be measured in cm or inches. All natural fibres except silk are staple fibres.
- **Suction Washing :** A method of laundry which uses a special instrument called suction washer. This method is used mainly for heavy and large clothes.
- **Synthetic fibres :** Fibres made form chemicals that were never in fibrous form.
- **Tenacity :** The tensile strength of a fibre expressed in gm / denier.
- **Textile fibre :** A thin, lomg, thread – like structure which is enough flexible and strong to be made into yarns fabrics.
- **Texture :** The touch or feel of a surface.
- **Thermoplastic fibres :** Fibres which start changing their shape or start malting beyond a certain temperature.
- **Twist :** The spiral arrangement of the fibres around the axis of the yarn.
- **Yarn :** A continuous strand of textile fibers, filaments or material in a form suitable for knitting, weaving or otherwise intertwining to form a textile fibre.

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