NIOS lesson adaptation project

by Embrace Volunteers

(A community initiative of Harchan Foundation Trust)

CHAPTER -11

FABRIC FINISHES

This project is aimed at supporting children with different needs. Information provided is adapted to the best of knowledge by the volunteers. For complete information please refer to the NIOS resources in https://www.nios.ac.in/online-course-material/secondary-courses.aspx.

FABRIC FINISHES

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KWL Chart

K - What does the child KNOW	W - What does the child WANT to know	L - What has the child LEARNT
	Difference between **Finished** and **Unfinished** fabric.	
	Classification of **finishes.:** a) Functional; b) Performance; & c) Chemical and Mechanical	
	Types of **finishes:** (a) Basic (b) Special	
	Types of Dyes	
	Application of Dyes	
	Decorative/Resist Dyeing: (1) Tie and Dye, (2) Batik	

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Keywords and meanings

	MEANING
Lustrous	Shining
Aesthetic	Appreciation of beauty
Dyeing	Application of dyes or pigments on textile material ex: Yarn
Resistant	The act of opposing or withstanding
Mercerization	Process where textile is treated with a caustic solution
Shrink	Become or make smaller in size.
Scouring	Clean or brighten the surface by rubbing it hard with detergent
Sanforisation	Treatment process mainly applied for cotton fabrics.
Parchmentization	Textile finishing treatment for cellulose fabric .

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MAJOR DIFFERENCES BETWEEN UNFINISHED AND FINISHED FABRIC

Unfinished/Grey fabric	Finished fabric
Dull looking, available only in natural colours- off white, brown, black, etc.	Lustrous, attractive, available in different tints and shades of colours, prints, etc.
Wrinkled, stained, with broken threads, uneven in width, etc.	Smooth and wrinkle-free, no defects on the surface, even width, free from stains, etc.
Relatively less expensive.	Cost of fabric depends upon the type of the fibre along with the number and type of finishes applied.
Lack customer appeal, are purchased only for rough work, packaging, etc.	Customers get attracted and buy

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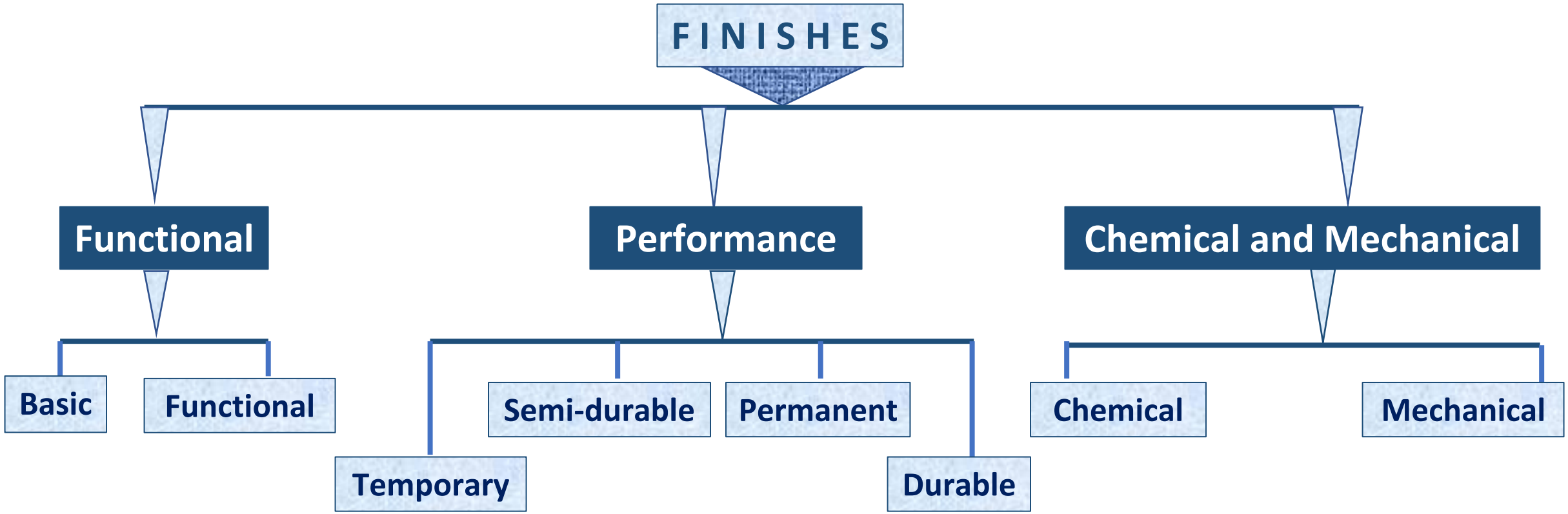
CLASSIFICATION OF FINISHES



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FUNCTIONAL FINISHES – A COMPARISON

BASIC

- Applied to almost all finishes to improve their appearance, feel and body;
- Bleaching is done to improve the whiteness;
- Starch is applied to increase its weight and shine;
- Steam ironing, **Calendaring** (industrial ironing) is a basic finish;
- Dyeing and printing is also done to enhance the aesthetic appearance of the fabrics

FUNCTIONAL

- Special finishes to improve the performance of the fabric. E.g.,

- **Fireproof** finish prevents burning of fabrics used by fire brigade;
- **Waterproof** finish makes fabric water repellent for umbrellas and raincoats;
- **Bulletproof** finish saves people from bullets – used by defence and police;
- **Crease-resistant finish** makes cotton/wool fabric wrinkle-resistant.

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PERFORMANCE FINISHES

Temporary finishes which are not durable and run off after first washing. E.g., Starching, bluing.

Semi-durable finishes stay on the fabric for several washings. E.g., bleaching

Durable finishes lasts throughout the life of the fabric or garment. E.g., permanent pleats

Permanent finishes are usually given by a chemical treatment. It changes the structure of the fabric permanently. E.g., water-proofing

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CHEMICAL/WET FINISH

- It is given on fabrics, either to change its appearance or basic properties.
- They are usually durable and permanent.
  E.g., fire proof, crease
  resistance, etc.,

MECHANICAL/DRY FINISH

- Process consists of application of moisture, pressure and heat or a mechanical device to finish a fabric.
- These finishes are temporary or semi-durable.
- beating, brushing, calendaring, filling are some of the finishes.

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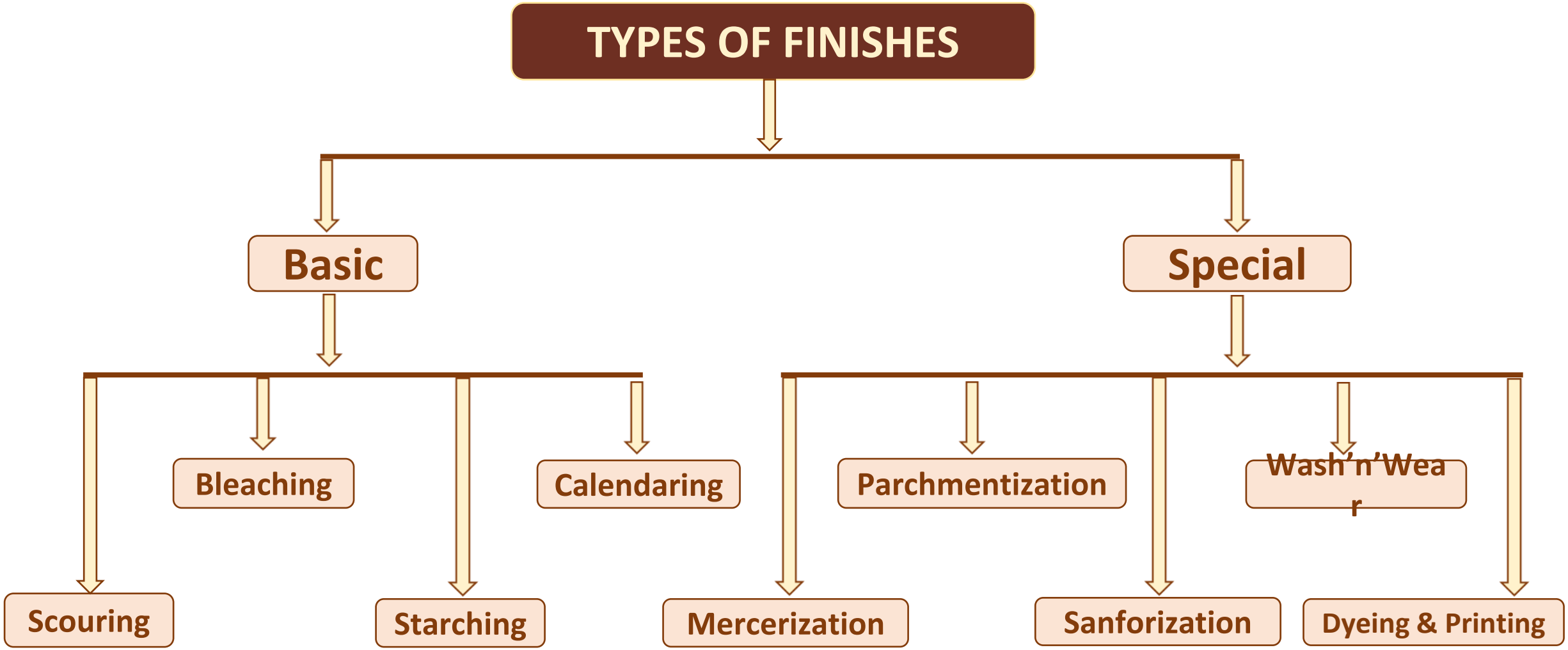

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TYPES OF BASIC FINISHES

Scouring/cleaning: is the process of industrial cleaning of fabrics with the help of warm water and soap solution. It cleans the fabric and makes them more absorbent.

Bleaching: is a chemical treatment given to fibres, yarns or fabric to remove paleness or colour and make them white.

Starching/Stiffening: makes the fabric heavier, stiff, and crisp. It also adds shine and smoothness to the fabric.

Calendaring or industrial ironing: A fabric is passed through a series of smooth hot rollers to remove wrinkles and to make it smooth. It makes the fabric lustrous, and improves its appearance.

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SPECIAL FINISHES

Mercerization

> Cotton is basically a dull fibre which wrinkles easily and is difficult to dye.
> Mercerizing is a process where the fabric is treated with sodium hydroxide to make it strong, lustrous and absorbent.
> It improves the dye uptake of fabrics.

Parchmentization

- The cotton fabric is treated with a mild acid that partially eats away the fabric, resulting in a transparent and stiff fabric called organdy.
- You don’t need to apply starch to organdy fabric.

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SPECIAL FINISHES

Pre-shrinking/Sanforisation

- Almost all fabrics or garments made of natural fibre reduce in size (length and width) after it is washed or dipped in water.
- The pre-shrinking of good quality cottons, linens and wools is called **sanforisation**.
- It is done to prevent further shrinkage after washing.

Wash 'n' Wear

- All cotton fabrics get crushed very easily.
- **Wash 'n' wear** finish, when applied on cotton fabrics completely changes its nature.
- If dried and stored properly, **wash 'n' wear** fabrics can be worn without ironing or with a little ironing.
- Besides cotton, **wash 'n' wear** finish is also given to linen and wool.

Dyeing and Printing

- To improve appearance of fabric and add diversity to our dresses through colours and designs.
- We usually distinguish one fabric from another by its colour, print, etc.
- Different types of dyes are used for textiles finishing.

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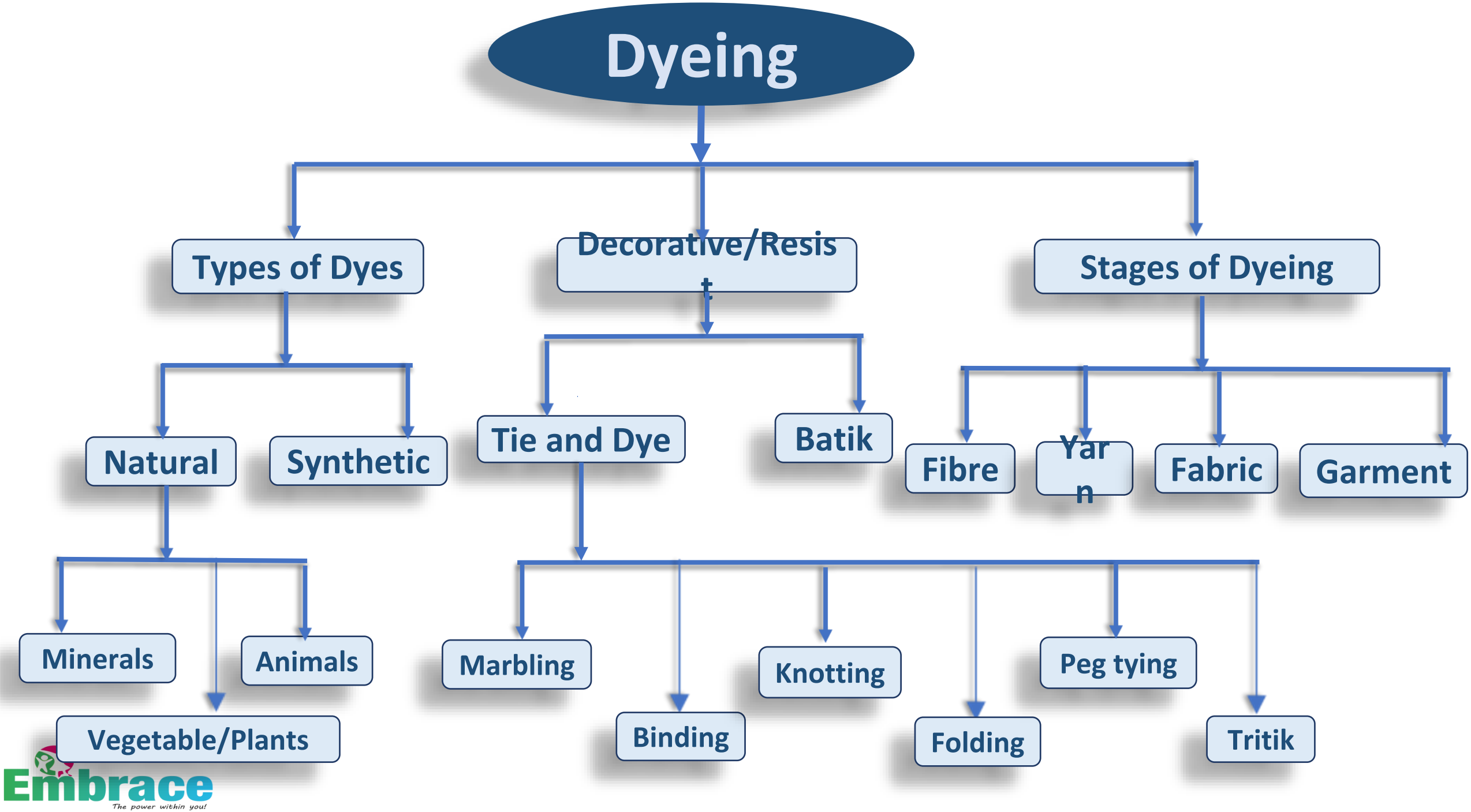

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TYPES OF DYES

NATURAL DYES

- These eco-friendly dyes are obtained from natural sources, i.e., from
  a) **Vegetables/plants:** E.g., turmeric, henna (mehndi), indigo (neel), etc.,
  b) **Animals:** E.g., Tyrian purple, lac, etc.,
  c) **Minerals:** E.g., khaki
- The residue of these dyes can be safely used as fertilizer in the fields.

SYNTHETIC DYES

- These are prepared by using different chemicals.
- These dyes, like **azo** cause a lot of pollution and skin allergies, etc.,
- Synthetic dyes are very easy to use and have better fastness than natural dyes.
- They also give a brighter and larger colour range.

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Stages at which textiles can be dyed

(i) **Fibre stage:** Most popular method for dyeing man-made fibres. It gives uniform dyeing and it is colourfast.

(ii) **Yarn stage:** on fibres after spinning into yarns. Knitting yarns and all types of threads – sewing, embroidery, etc., are dyed at this stage.

(iii) **Fabric stage:** Most of the dyeing in the textile industry is done at this stage. It gives uniform colouring. This method is suitable for dyeing blended fabrics.

(iv) **Garment/piece dyeing:** i.e., after the garments have been stitched. Since a garment is dyed, there is no wastage. However, the colour may not be uniform around seams, pleats, etc.

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Definitions

Decorative/Resist dyeing:

When the process of dyeing is carried out in a selective way to get different designs, it is called **decorative** or **resist dyeing**.

The term **resist dyeing** is used because in these techniques, some resist materials (threads, yarns or wax) are used on specific areas to prevent them from being dyed.

The two most popular techniques of **decorative** or **resist dyeing** are:-

(i) **Tie and Dye** (ii) **Batik**

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Definitions

Tie and Dye:

In tie and dye, threads are used as a resist material to stop the dye from entering the selected areas of the fabric.

Tying of the fabric is done according to the design to be made.

Patola fabrics of Gujarat and **bandhani** of Rajasthan are two famous traditional textiles of India made by tie and dye technique.

Batik:

A mixture of Bees wax and paraffin wax is used as **resist** material on the fabric to prevent the dye from colouring certain areas according to the design. The wax is later removed.

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Tie and Dye

a) Marbling: Take the fabric and crumble it to form a ball. Tie it with a thread at different areas, randomly. Then dye the fabric. Open it and dry. The dyed fabric will have a marble effect.

b) Binding: Pick up the fabric (Dupatta, table cloth or bed sheets) from one point and tie with a thread at intervals and dye it.

c) Knotting : Put knots on the fabrics wherever desired and dye it

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Tie and Dye

- Folding
  - > Put the fabric flat on a table. Pleat and fold it uniformly in lengthwise direction.
  - > Tie it with a yarn at regular intervals, to get widthwise lines while dyeing.
  - > For horizontal lines, pleat and fold widthwise.
- Peg_tying
  - ~ You can use cloth pegs or clamps as resist materials.
  - ~ Fold the fabric and put the pegs at regular intervals.
- Tritik
  - * Make design of your choice on the fabric with running stitch, pull the thread tightly and tie it.

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Printing

Printing:

This is a process of colouring the fabric .The colour is applied only in the selected areas to create designs which decorate the fabric surface.

- ✔ Dyeing is done in fibre,yarn or at fabric stage .
- ✔ Printing is done only on the fabric surface.
- ✔ Printing is also called as selective dyeing.

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Printing

Popular methods or techniques of printing are :

- Block printing.-Wooden blocks are used which has a design engraved on it , which is pressed into a thick dye paste and then stamped on to the fabric .
- Screen printing.
- Roller printing .
- Stencil printing .

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List of Volunteers
Embrace-NIOS lesson adaptation project
(A community initiative of Harchan Foundation Trust)

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Slide No.	Subject	U R L
8	Starching	https://sc01.alicdn.com/kf/HTB1FoznfwnH8KJjSspcq6z3QFXaO/200081768/HTB1FoznfwnH8KJjSspcq6z3QFXaO.jpg
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	Permanent pleats	https://www.bing.com/images/search?view=detailV2&ccid=iQxAMGTo&id=3B510F2FAD2E1CEBFE619FC657CD615D24A80BA3&thid=OIP.iQxAMGToH_whz-BdNlBwwgHaH0&mediaurl=https%3A%2F%2Fi.pinimg.com%2Foriginals%2Fed%2F94%2F3d%2Fed943ddbe929944c82e321d24b0b4869.jpg
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9	Fire-proofing	https://presspack.rte.ie/wp-content/blogs.dir/2/files/2015/01/Dublin-Fire-Brigade-team.jpg
	calendaring	https://i.ytimg.com/vi/WcZP-OpQO54/maxresdefault.jpg
11	Scouring	https://2.bp.blogspot.com/-aXsAkXhm6fk/WSB-rO5q1iI/AAAAAAAAgE8/aZMhgpIRtMsa0p_BA9FJf4sKufrz3BwPACLcB/s1600/scouring%2Bprocess.jpg
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U R Ls of images used in this presentation

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	Parchmentization	https://historicalsewing.com/wp-content/uploads/Organdy-485x363.jpg
16	**Fibre stage**	http://4.bp.blogspot.com/_Q26X2Lu4e0w/TFWL5_pdCKI/AAAAAAAABVo/Y1gzADRYd3U/s1600/Felting+Fiber+Dyeing4.JPG
	Yarn stage	http://4.bp.blogspot.com/-aLLrYU31MGc/Us7QCeXH9WI/AAAAAAAAAV8/vVlzFqXTpnM/s1600/IMG_0276.JPG
	Fabric stage	http://1.bp.blogspot.com/-w-DIwofUOxI/UOOR-2OlxsI/AAAAAAAABwk/PFtzA9dS-d0/s1600/Baby+Blue,+Citrus+Yellow,+Raspberry,+Imperial+Purple,+Jade+Green,+Coral+Pink+with+Wet+Sands,+Avacado,+Moss+Green.jpg
	Garment dyeing	https://i.pinimg.com/originals/32/eb/02/32eb021486c8638cb14a25d348ea2d38.jpg

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19	Marbling	https://i.pinimg.com/236x/40/ae/32/40ae32684c86cbd467e932ebbf7bbaa6.jpg
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