



3055 BA SANGAM COLLEGE

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WORKSHEET 9

School: Ba Sangam College

Name: _____

Subject: Home Economics

Year:10

Strand	HEC 10.3: CLOTHING AND TEXTILES
Sub strand	HEC 10.3.1 Study of Fibres and Fabrics, Blends and Finishes; Decorations
Content Learning Outcome	Distinguish properties of Human – Modified fibres and synthetic fibres and relate properties of fibres to their care.

PROPERTIES OF SYNTHETIC FIBRES

1. **POLYESTERS** are popular for use in ‘wash n wear’ garments.

Characteristics	How Rayon Acquires these Characteristics	Uses
Crease resistance	Does not crease easily	Blouses, shirts, dresses, neck-ties, suits, curtains, upholstery
. Heat conductivity	Poor heat conductor and warmer than nylon.	
Effect of heat	Softens and finally melts. Thermoplastic. This nature permits heat setting of fabrics into permanent pleats.	
Pilling tendency	Pills readily, but small balls break away easily and are not noticeable	
Soil repellency	It attracts dirt but launders well.	
Flammability	It will burn with a yellow flame when ignited but will not easily flare, melt and shrink from the flame.	
Moisture absorbency	Not very absorbent or hydrophobic. Perspiration passes through and will evaporate quickly.	
Wet –strength	It is strong to very strong.	
. Abrasion resistance	Very good	
Effect of light	Does not discolor by sunlight.	
Effects of moths and mildew	It is highly resistant to all organisms.	
Shrink resistance	It does not shrink.	

2. POLYAMIDES / NYLON.

Trade names are: 1.Banlon 2. Helanca.

Characteristics	How Rayon Acquires these Characteristics	Uses
Crease resistance	Elastic and resilient therefore has good wrinkle recovery.	Lingerie, dresses, suits, beach wear, gloves,
. Heat conductivity	Poor heat conductor.	
Effect of heat	The thermoplastic nature softens and melts permitting permanent heat setting of the fabric.	
Pilling tendency	Staple- fibres will form pills but continuous-filament	

	fibres will not pill.	tights.
Soil repellency	It attracts dirt quickly because of its electrostatic nature.	
Flammability	It does not burn easily, melts away from flame.	
Moisture absorbency	Not very absorbent. Dries quickly but clammy in hot weather.	
Wet –strength	May lose some strength but immaterial as the fibre is so strong.	
. Abrasion resistance	Very good	
Effect of light	Prolong exposure to sunlight will turn yellow.	
Effects of moths and mildew	It is resistant	
Shrink resistance	It does not shrink.	

3. **ACRYLICS** obtained from natural gases, petroleum, limestone air and water.

Characteristics	How Rayon Acquires these Characteristics	Uses
Crease resistance	Does not crease therefore needs no ironing.	Cardigans, pullovers, socks, blankets, knitted women's suit, gloves,
. Heat conductivity	When made from staple fibres it is warm.	
Effect of heat	Thermoplastic therefore can be permanently pleated or creased.	
Pilling tendency	When surfaces rub together it will pill and get fluffy	
Soil repellency	Attracts dirt and dust but washes off easily.	
Flammability	Burns easily and melts; burning drops fall off.	
Moisture absorbency	Low absorbency therefore dries quickly	
Wet –strength	Equally strong, wet or dry. Can stretch when wet, therefore dry flat.	
. Abrasion resistance	Fairly strong, wears well.	
Effect of light	Not affected by sunlight.	
Effects of moths and mildew	Does not get affected	
Shrink resistance	It does not shrink.	

SUMMARY OF NON CELLULOSIC / SYNTHETIC FIBRES

Fibre	Properties	Advantages	Disadvantages	Uses
Polyester	1. very strong when wet 2. high resistance to abrasion 3. does not shrink or stretch .	1. wrinkle resistant 2. good dimensional stability 3. strong	1. low moisture absorption 2. discoloration of white 3. holds oily stain	1. carpets 2. upholsteries 3. knitted clothing 4. woven clothing
Polyamide	1. extremely strong and have a high resistance to abrasion	1. strong 2. quick drying 3. high wet strength	1. low moisture absorption 2. low resistance to sunlight	1. carpets 2. hosiery 3. underclothing 4. Lingerie

	2. does not absorb moisture and perspiration readily 3. tendency to build up static electricity, causing the garments to cling	4. resilient 5. heat sensitive 6. mildew and insect resistant 7. accepts heat setting	3. absorbs and holds body oils and perspiration 4. picks up stray dyes and grays easily	5. knitted clothing 6. woven clothing 7. swimwear 8. upholstery
Acrylics	1. very strong, hard-wearing and warm 2. resistant to creasing and abrasion 3. smooth and non-irritating	1. good strength 2. good elasticity 3. high bulking power 4. accepts heat setting 5. good dimensional stability	1. pilling 2. holds oily stains 3. low moisture absorption	1. draperies 2. carpets 3. upholstery 4. sweaters 5. skirts 6. suits 7. blankets

Activity

1. Why is nylon called an easy-care fabric? **(1 mark)**

2. What is the meaning of the term hydrophobic? **(1 mark)**

3. List three advantages of using polyester fabrics for clothing. **(3 marks)**

- a. _____
- b. _____
- c. _____

4. List two uses of: **(3 marks)**

- (i) polyamide: a. _____ b. _____
- (ii) acrylic: a. _____ b. _____
- (iii) viscose rayon: a. _____ b. _____