

HSC-RC-2016: FUNDAMENTALS OF TEXTILES
(CREDITS: THEORY-4, PRACTICAL-2)
THEORY LECTURES 60

Unit 1 Textile fibres and their properties

- Primary and secondary properties of textile fibres with reference to their effect on fibre characteristics 16
- Molecular structure of fibres 8-25
- Classification of fibres 24-8
- Origin, production and properties of various fibres:
 - Natural- cotton, linen, wool, silk.
 - Man-made- rayon, polyester, polyamide (nylon 6,6) acrylics, elastomeric fibres 8-25

Unit 2 Yarns

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- Basic principle of yarn making: 33-36
 - Mechanical spinning (cotton system, wool system, worsted system),
 - Chemical spinning (wet, dry and melt)
- Types of yarns: 36-45
 - Staple,
 - Filament,
 - Simple,
 - complex
- Properties of yarns:
 - Yarn numbering systems and twist
- Textured yarns: 40-
 - Classification,
 - manufacture

- properties
- Blends:
 - Types of blends
 - purpose of bending

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Unit 3 Fabric construction

- Weaving: Parts and functions of the loom
- Weaves :
 - Classification,
 - Construction,
 - Characteristics
 - Usage
- ✓ • Knitting: Classification, construction, characteristics and usage
- ✓ • Non woven and felts-construction, properties and usage

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Unit 4 Dyeing, Printing and Finishing

- ✓ • Classification of dyes
- ✓ • Stages of dyeing
- ✓ • Printing methods and style
- Classification of finishes
 - Preparatory finishes
 - Finishes affecting appearance and texture
 - Finishes for enhancing special characteristics