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CLUSTER UNIVERSITY SRINAGAR

Academic Session 2018-2019

B.Sc Home Science

Semester II

Core Course UG-HSC17206

Fundamentals of Textiles

Credits: Theory-4, Practical-2

UG-HSC17206!
CORE COURSE 6 : (HSCG-CC6) FUNDAMENTALS OF TEXTILES
(CREDITS: THEORY-4, PRACTICAL-2)

Unit 1 Textile fibres and their properties

- Characteristics and properties of textile fibres
- Molecular structure of fibres
- Classification of fibres
- Origin, production and properties of various fibres: Natural-cotton, linen, wool, silk. Man-made-rayon, polyester, polyamide (nylon 6,6) acrylics, elastomeric fibres

Unit 2 Yarns

- Basic principle of yarn making: Mechanical spinning (cotton system, wool system, worsted system), Chemical spinning (wet, dry and melt)
- Types of yarns: Staple, Filament, Simple, complex
- Properties of yarns: Yarn numbering systems and twist
- Textured yarns: Classification, manufacture and properties
- Blends: Types of blends and purpose of blending

Unit 3 Fabric construction

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

Unit 4 Dyeing, Printing and Finishing

- Classification of dyes
- Stages of dyeing

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- Printing methods and style
- Classification of finishes
 - Preparatory finishes
 - Finishes affecting appearance and texture
 - Finishes for enhancing special characteristics

PRACTICAL

1. Fibre Identification tests – Visual, burning, microscopic and chemical
2. Yarn Identification – Single, ply, cord, textured, elastic, monofilament, multifilament and spun yarn
3. Thread count and balance
4. Dimensional stability

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5. Weaves- Identification and their design interpretation on graph
6. Fabric analysis of light, medium & heavy weight fabrics (five each)

- Fibre type
- Yarn type
- Weave
- GSM
- End use
- Trade name

7. Tie and Dye : Different methods

RECOMMENDED READINGS:

- Corbman, P.B., (1985) Textiles- Fiber to Fabric (6th Edition), Gregg Division/McGraw Hill Book Co., US.
- Joseph, M.L., (1988) Essentials of Textiles (6th Edition), Holt, Rinehart and Winston Inc., Florida.
- Sekhri S., (2013) Textbook of Fabric Science: Fundamentals to Finishing. PHI Learning, Delhi.
- Tortora, G. Phyllis, Understanding Textiles, McMillan Co. USA.
- Vilensky G., (1983) Textile Science, CBS Publishers and Distributors, Delhi.

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