

FIRST ALLIED COURSE-1 - TEXTILE SCIENCE

Unit I: -

Fiber and Yarn manufacturing

Fiber – Definition, Classification of Fiber.

Yarn – Definition, Conventional ring spinning method- Passage of material through carding, doubling, combing, drawing, roving, and spinning. Yarn twist, yarn count. Types and characteristics of yarns – ply yarns, cable yarns, double yarns and novelty yarns and its types.

Unit II: -

Yarn manufacturing

Modern spinning methods – Passage of material through open end spinning, Friction spinning, Electrostatic spinning, Airjet spinning, Twistless spinning. Filament yarn spinning methods wet spinning, dry spinning, melt spinning, (Bicomponent spinning, film splitting).

Sewing thread – construction of threads, thread sizes, thread selection

Unit III: -

Weaving

Preparation for weaving (warping, sizing, looming) Basic loom structure. Weaving- Definition, Primary motion – shedding – Definition and a brief explanation, picking (shuttle and shuttle less looms), beating up. Secondary motion – Definition and Ancillary motion. Types of selvages. Construction of cloth designs - Design, draft and pegplan. Classification of weaves – plain weave, twill, Satin, Crepe, Pile, double cloth, (Climax) dobby and Jacquard, (double lift double cylinder) Identification of woven fabric defects.

Unit IV: -

Knitting

Knitting – Definition, Comparison between woven fabrics and knitted fabric. Classification of knitted fabrics weft knitting – plain knit stitch, Rib stitch, Warp knitting - Tricot knit, Raschel Knit, Milanese Knit, (Jacquard knit, pile knit, Terry knit, velour knit) Identification of knitted fabric defects.

Unit V: -

Felted and Non woven fabrics

Felted fabrics – Felting process. Types of felt, properties and uses of felt. Non woven – Definition, classification of non-woven fabrics, web forming techniques, bonding techniques, and finishing techniques. Characteristics of non-woven, uses of non-woven fabrics.

References:

1. Corbman B.P Fibre to Fabric, International Students Edition Mc Graw Hill Book Co- Singapore, 2000.
2. Smith, J.L. Textile processing, Abhishek Publications, Chandigarh, 2003.
3. Gokarneshan U, Fabric Structure and Design, New age International Publishers 2004.
4. Kate Wells, Fabric Dyeing and Printing, Conran Octopus 2000.
5. Sara J. Radolph and Anna L. Lang Ford, Textiles, Prentice hall, New York, 2002.