

FTEAM05 TEXTILE SCIENCE

UNIT-1 RATIONALE

- 1.1 The knowledge and skills related to textile science is essential to provide a comprehensive insight into the basic knowledge about fibers,
- 1.2 Yarns and relevant properties affecting the ultimate performance and use of fabrics by the consumer, hence the subject is included in the curriculum

UNIT-2 THEORY PRACTICAL EXERCISE

- 2.1 Textile fibers - a) Classification of important textile Physical analysis of fabrics composed of fibres based on their origin and different fibres like cotton, wool, silk, Constituents polyester.
- 2.2 b) Important properties of fibres: cotton, Visual examination of fibres and yarns wool, silk, polyester, rayon, acrylic
- 2.3 Physical and Chemical properties Identification of fibres in a fabric sample through:- Burning test- Microscopic test
- 2.4 c) Man-made fibre production- Chemical test (Solubility Test)- Wet spinning- Dry Spinning- Melt spinning
- 2.5 Yarn Manufacturing a) - Elementary knowledge of spinning Visit to Spinning Mill or show of cotton relevant video films to understand the various systems of yarn spinning- staple, filament and spun filament yarns
- 2.6 b) Type of yarns To analyze and understand fabric texture (appearance and hand) on the- Simple yarns: single, ply, cord basis of the yarns used: - Novelty yarns: slub, boucle, chenille, nubs, corkscrew, Fabrics using simple yarns grindelle
- 2.7 Fabrics using novelty yarns - Fabrics using filaments: textured, non-textured, spun filaments
- 2.8 c) Yarn properties - To determine fabric count. - Twist - Yarn numbering system
- 2.9 3. Fabric Manufacturing- a) Different techniques of fabric manufacture, definition of weaving, knitting, non-wovens.
- 2.10 b) Weaving: 1. working of looms-primary, secondary and auxiliary motions.
- 2.11 2. Types of looms-conventional, automatic and shuttleless.
- 2.12 3. Basic weaves-plain, twill, satin and sateen
- 2.13 4. Weaving defects
- 2.14 Prepare a catalogue of fabric samples made by using different methods of construction
- 2.15 Visit to Mill units producing wovens and non-wovens to understand type of looms and processes or relevant video film may be shown- To identify the woven fabrics for:
- 2.16 a) Warp and weft b) Face and back c) Prepare a point-paper diagram of basic weaves and their variations d) Prepare a list of fabrics available under each category of weave

UNIT-3 INSTRUCTIONAL STRATEGY

- 3.1 The teacher may develop master samples to demonstrate various processes.
- 3.2 The students may be asked to prepare swatch files.
- 3.3 The students should be taken for a visit to spinning mills to show the various processes or relevant video films may be screened.

Reference Books:

1. Understanding Textiles by Phyllis Tortora, Macmillan publishing co. New York
2. Modern Textiles by Rothy Siekert Lyle, Wiley, John & Sons, Incorporated (USA)
3. Encyclopedia of Textiles, Fibres and Non-woven Fabrics, Kohli Publishers, 34 Industrial Area, Phase –II, Chandigarh
4. Textiles Fiber to Fabric – P Corbman, A Wynne, Mac Milan Publishers, London

