

Semester-III
Fundamentals of Textile Studies

Course Objectives:

1. To enable the students to study the textile fibers in detail.
2. To impart the knowledge of sources of fibers and properties.
3. Understanding weaving structures.
4. To understand knitting structures.

Course Outcome (CO)

1. Students will be able to analyze differences between yarns and yarn properties. Analyze the basic components of fibers and their relationship to performance.
2. Understand the performance and suitability of fabric for apparels.

Time allowed: 3 hrs.

Max. Marks: 70

External Assessment: 50

Pass marks: 35%

Internal Assessment: 20

Instructions for paper setter

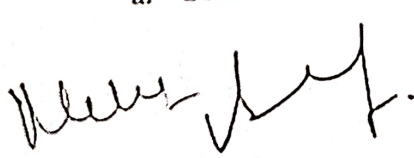
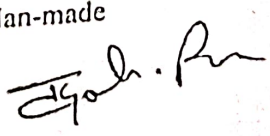
The question paper will consist of three sections A, B & C. Section A & B will have four questions each from the respective sections of the syllabus and will carry 8 marks each. Section C will have 9 short-answer type questions which will cover the entire syllabus uniformly, carrying 2 marks each.

Instructions for the candidate

Candidates are required to attempt two questions each from sections A&B of the question paper and the entire Section C.

SECTION-A

1. Introduction to Textile Fibers
 - Definition and Importance of Fibers in Textiles
 - Classification of Fibers Based on:
 - a. Source: Natural and Man-made

 
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- b. Origin: Cellulose, Protein, Synthetic, and Mineral Fibers
- 2. **Fiber Manufacturing, properties and uses**
 - a) Natural Fibers: Cotton, Silk, Linen, Wool: Manufacturing Properties and Uses
 - b) Synthetic Fibers: Polyester and Nylon: Manufacturing, Properties, Uses
- 3. **Important Textile Terminologies: Linear Density, Strength, Thermal Conductivity, Static Charge, Twist, Count, Ply, Tenacity, Crease Recovery, Abrasion Resistance, Drapability, Tensile Strength**

Section B

- 4. **Fabric Construction Techniques**
 - Weaving: Definition
 - Types of Weaves
 - a. Basic Weaves: Plain, Twill, Satin
 - b. Fancy Weaves: Jacquard, Dobby, Leno, Pile
- 5. **Knitting: Definition**
 - Difference between Knitting and weaving
 - Types of Knitting
 - a. Warp Knitting
 - b. Weft Knitting
 - c. Introduction to basic Knitting Machines - Flat bed & Circular
- 7. **Introduction to Non-Woven Fabrics: Bonding, Felting, Knotting**

References:

- 1. Frings, Gini Stephens, Fashion Concept to consumer, Prentice Hall Career & Technology 2. "Text book of clothing and textile" by Sushma Gupta and Neeru Garg, publisher Kalyani.
- 3. Bernard P. Corbman, "Textiles: Fiber to Fabric", McGraw Hill Edu, 6th edition, 1985.
- 4. Gohl B.P.G. Velensky, L.D, "Textile Science" CBS Pub., 2nd edition, 2005
- 5. Gordon Cook J, "Hand Book of Textile Fibres", Woodhead Pub, 5th revised edition, 1984.
- 6. Mishra S.P., "A text book of fiber science and technology, New Age Intt., Delhi 2000.
- 7. Pizzoto's J.J., "Fabric Science", Fairchild publication, New York.

