

**TEXTILE TECHNOLOGY****Total Marks.100****1. TEXTILE FIBRE TECHNOLOGY: 13 Marks**

Classification of textile fibers, polymerization, Natural fibers: cotton, wool, silk, bastfibers, Manmade fibers: Viscose rayon, Acetate rayon, Nylon 6, Nylon 66, Polyester, Acrylic. High performance fibers: Carbon, Kevlar, Nomex and teflon.

**2. YARN MANUFACTURE: 13Marks**

Ginning, opening, cleaning, mixing and blending. Modern developments in blow room. Carding, drawing, combing, roving, Ring Spinning, Rotor spinning, Friction spinning, Air jet spinning, doubling, Spinning calculations.

**3. FABRIC MANUFACTURE AND FABRIC STRUCTURE: 17 Marks**

Preparatory process- Warp and weft winding, warping, sizing, shedding- Tappet, dobby and jacquard., picking, beat up, let off, take up, weft and warp protector mechanisms. Automatic looms, box motions, and shuttleless looms. Elements of structure, Simple weaves- plain and its derivatives, twill and its derivatives, satin and sateen. Honey comb, huckaback, mock leno, bed ford cord, pique, distorted thread effects.

**4. CHEMICAL PROCESSING OF TEXTILES: 17 Marks**

Water purification, preparatory process- Singeing, Desizing, bleaching, mercerization, degumming, dyeing- theories, acid dyes, basic dyes, direct dyes, reactive dyes, vat dyes, azoic dyes, sulfur dyes, metal complex dyes, disperse dyes and their applications. Printing- Methods, styles, printing paste ingredients and curing. Finishing- Mechanical finishes and chemical finishes. Pollution control and Effluent treatment. Eco-labelling and ecoprocessing.

**5. TEXTILE TESTIING: 17 Marks**

Fiber testing:- Sampling, moisture relations, Fibre dimensions, strength. Yarn testing-Yarn count, twist, irregularity, and strength. Fabric testing-Dimensions, strength, fabric handle and drape, water and air permeability, thermal comport, crease and wrinkle recovery, serviceability, and fastness. Statistical quality control-central tendency measures, dispersion measures, probability distributions, significance tests and control charts.

**6. KNITTING AND APPAREL MANUFACTURE:****13 Marks**

Knitting: - weft knitting- elements, machines and structures. Warp knitting- Tricot and Rachel machines. Calculations related to Knitting.

Apparel Manufacture: Fashion designing, Fabric sourcing, pattern making, spreading, cutting, sewing, fusing, pressing, packing, merchandising, Industrial engineering, apparel testing and QC.

**7. PROFESSIONAL ETHICS AND MANAGEMENT:****10 Marks**

Professional ethics: - Morale and Integrity, engineering ethics, safety and responsibilities, human rights.

Management: - Principles, Functions, Planning, types of organization, Leadership, Motivation. Interpersonal skills and Communication, Recruitment and training, wages and incentives, TQM, Preventive maintenance and Industrial safety, Eco standards and Eco management