

## 634. Textile Technology

### 1. Conventional Textile Manufacture

- a. Yarn Formation: Selection of fibres for Opening & Cleaning. Machine parameters, Quality parameters in relation to conventional and modern system. Spin Plan for Cotton. Blends and 100% Synthetics, Doubling needs. Machines, Count calculation.
- b. Fabric Formation. Package requirements, Winding principles, Selection of parameters and machines, Tailing % Quality control procedures and Production planning, Warping creel design aspects, Sizing calculations, recipes, zones, problems, new set planning, post sizing process, new developments and quality of warp drawn selection weaves and of loom parameters, loom motions, settings, production planning and problems, Safety aspects.

### 2. Un-Conventional Textile Manufacture:

- a. Yarn Formation: Ring frame limitations, New Spinning Systems (Rotor, DREF, Air Jet) process parameters and quality. Economics to scale, suitability & selection of fibres, recent developments.
- b. Fabric Formation: Yarn preparatory for modern weaving, Projectile, Rapier, Airjet principle, selection & Techno-economics, safety aspects, recent developments. Nonwovens in Technical sector, requirements of textile supplement.

### 3. Textile Testing:

Quality systems and their interpretation, new developments in fibre, yarn and fabric testing, role of statistics in results interpretation, Linking the manufacturing conditions and yarn properties and in relation to fabric response AFIS, KESF, FAST, interpretation, Nonwovens testing, Technical textiles testing, Knit fabric testing, parameters of washing and their effect on Testing, Moisture management of fabrics.

### 4. Textile Wet Processing:

Grey fabric inspection, choice of wet preparatory process, parameters, role of enzymes in Textile Wet processing, effect on treated fabric quality. Water requirements for complete house Faults in process, changes for cotton, Silk, jute, blends and 100% synthetics, safety aspects in wet processing, housekeeping, use of solar energy in wet processing, new designs of dyeing machines, Environmental issues related to textile wet processing, Selection of type of printing method and finishing recipes and machines. Quality control aspects.

### 5. Apparel Production:

Stages in apparel production, Conflict between RMG & Tailor made, Women Vs Knit Garments, Knit Vs Nonwoven Garments. Capacity of Garment unit, Sourcing dynamics, strategies, Fabric inspection, difference in conventional and eco-friendly garment production, share of support & raw materials, types of accessories selection and criterion production sections, Role of Garment CAD, lay preparation and parameters, marker efficiency optimization in cutting. Sewing Role of Ergonomics, concept of logistics and supply Chain, role of Human Resource & Material Management, types of Care labels.