

## TEXTILE ENGG. DEPT.

### Course Outcomes of all Courses

Four Year Degree Course in Bachelor of Textile Engineering

#### SEMESTER: THIRD

3 TX 01 - Yarn Manufacturing – I	
After completion of this course student will	
Co1	Understand the technology and process parameters of ginning
Co2	Understand the Processes involved in the conversion of bale cotton to lap
Co3	Understand process variables to produce variables for better blowroom performance
Co4	Able to identify and analyze lap faults & their causes
Co5	Able to understand the objectives, process & basics functions of carding
Co6	Able to calculate the production & cleaning efficiency of blowroom & carding machine

3 TX 02- Fabric Manufacturing – I	
After completion of this course student will	
Co1	Understand concepts of winding, warping and sizing process.
Co2	Able to calculate the production and efficiency of winding, warping and sizing process.
Co3	Able to analyse the fundamental difference in direct and indirect warping process
Co4	Understand importance and technology sizing process
Co5	Understand the various concepts and systems used on sizing machine

3 TX 03- Textile Fibre – I	
After completion of this course student will	
Co1	Understand the essential and desirable properties of fibre and classification of fibre
Co2	Understand the physical, chemical and biological properties of cotton, bast fibre and leaf fibres
Co3	Understand the physical, chemical and biological properties of jute and flax
Co4	Understand the physical, chemical and biological properties of wool, silk, mohair, camel alpaca
Co5	Understand the methods of fibre formation and physical, chemical properties of regenerated fibres
Co6	Understand the physical, chemical and biological properties of cuprammonium rayon, acetate and triacetate fibres

3 TX 04- Machine Drawing	
After completion of this course student will	
Co1	Understand the design details and able to draw the conventional representation of machine

	components and types of materials
Co2	Understand the design details and able to draw the keys, cotter joints and couplings.
Co3	Understand the design details and able to draw and develop of surfaces like cylinders, cubes, prisms, pyramids and cones.
Co4	Understand the design details and able to draw the couplings, riveted joints, and welded joints.
Co5	Understand the design details and able to draw the parts and assembly of knuckle joints, screw jacks, Cross head, Stuffing box, Eccentric, Plummer block, Connecting rod end, Foot step bearings etc.
Co6	Understand the design details and able to draw the bearings and bearing mountings.

3 TX 05- Thermal Science & air Conditioning	
After completion of this course student will	
Co1	Understand the properties of steam, Mollier chart and Steam table.
Co2	Understand the working of different types of boiler and to evaluate the performance of boiler.
Co3	Understand the function and working of different types of boiler mountings and boiler accessories.
Co4	Understand the function of different types of compressors and study of pneumatic systems.
Co5	Understand the different types of refrigeration systems and psychometric process.
Co6	Understand the different types of air conditioning systems and calculation of capacity of cooling and heating coil as per the seating capacity of hall.

### SEMESTER: FOURTH

4 TX 01- Yarn Manufacturing – II	
After completion of this course student will	
Co1	Understand the technology and process parameters of carding machine
Co2	Understand fundamental aspects & various developments of carding process
Co3	Understand the fundamental aspects & operating functions of drawframe
Co4	Understand fundamental aspects & operating functions of combing preparatory process
Co5	Understand fundamental aspects & operating functions of combing process
Co6	Understand the influence of comber setting, combing cycle & noil removal on combing performance

4 TX 02- Fabric Manufacturing – II	
After completion of this course student will	
Co1	Understands the basic concepts of weaving
Co2	Understands the objectives and operating principals of warping and sizing.
Co3	Understands the warp and single end sizing process.

Co4	Understands the objectives and operating principals of dobby
Co5	Understands the objectives and operating principals of jacquards.
Co6	Understand the process involved in figured design formation by weaving process

4 TX 03- Applied electronics & control System	
After completion of this course student will	
Co1	Understand the basic electronics and control system.
Co2	Understand the concept of basic electronic devices like diodes,transistors etc.
Co3	Understand the concept of different digital electronics devices like logic gats Flip-flops etc.
Co4	Understand the concept of different photoelectronic devices like LED,LDR etc.
Co5	To understand the concept of different tranducers.
Co6	Understand the concepts of different control systems.

4 TX 04- Textile Fibre – II	
After completion of this course student will	
Co1	Understand the synthesis, manufacturing, physical and chemical properties of nylon and polyester fibres.
Co2	Understand the synthesis, manufacturing, physical and chemical properties of PVA, PVC, acrylic, and polyolefine fibres
Co3	Understand the microscopic structure of fibres
Co4	Understand the micro and macro structure of natural and manmade fibres
Co5	Understand the fibre length, fineness, maturity and moisture relation of fibre
Co6	Understand the tensile, dielectric, tortional, thermal, static and flexural properties of fibre

4 TX 05- Garment Manufacturing Technology	
After completion of this course student will	
Co1	Understand the process involved in garment manufacturing such as cutting, planning, spreading, sewing.
Co2	Understand the various accessories used in apparels.
Co3	Understand standards norms for different size fits & drafts
Co4	Understand size block patterns for men, women & kids wear.
Co5	Understand the basic sewing techniques and pressing technology
Co6	Understand the garment finishing for quality inspections technology

### SEMESTER: FIFTH

5 TX 01- Yarn Manufacturing – III	
After completion of this course student will	
Co1	Understand fundamentals aspects & operating functions of speed frame process

Co2	Understand different mechanisms of speed frame machine
Co3	Understand fundamentals aspects & operating functions of ring spinning process
Co4	Understand Fundamentals related to drafting system of ring spinning machine
Co5	Able to calculate the production, efficiency and draft of ring spinning machine
Co6	Understand fundamentals & operating functions of doubling & blending process

5 TX 02- Fabric Manufacture – III	
After completion of this course student will	
Co1	Understand the introductory aspects of knitting technology
Co2	Understand the weft knitting technology
Co3	Understand the of warp knitting technology
Co4	Understand the aspects of nonwoven technology
Co5	Understand the raw material structure, properties, applications & different web formation techniques pertaining to nonwoven technology.
Co6	Understand the bonding technologies, properties & applications pertaining to various nonwoven types.
Co7	Understand the engineering design, manufacturing, properties & applications of various knitted & nonwoven textiles.

5 TX 03- Textile Testing – I	
After completion of this course student will	
Co1	Able to apply the statistical tools in textile testing
Co2	Able to apply the test of significance in textile testing
Co3	Able to perform the measurement and evaluation of basic fibre properties
Co4	Able to perform the measurement and evaluation of fibre moisture
Co5	Able to perform the measurement and evaluation of fibre fineness and maturity
Co6	Able to apply the sample selection technique for textile testing

5 TX 04- Textile costing and economics	
After completion of this course student will	
Co1	Understand the costing fundamentals and its different methods
Co2	Understand the industrial raw material procurement and storage process.
Co3	Understand the concept of inventory management systems.
Co4	Understand demand- supply and its interaction
Co5	Understand the different market types.
Co6	Understand the banking and taxation system
Co7	Understand the concepts of national income.

5FETX 05 – Fashion & Clothing Science (Free elective)
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After completion of this course student will	
Co1	Understand concept and promotion of fashion
Co2	Understand different aspects of fashion marketing
Co3	Understand analysis and developing of fashion resources and buying behaviour
Co4	Understand different mechanical and comfort properties of fabric
Co5	Understand quality parameters and properties of garment
Co6	Understand different methods, materials used for clothing care

5FETX 05 – Technical Textile (Free elective)	
After completion of this course student will	
Co1	Understand basics of technical textiles
Co2	Understand concept, application of filtration textile and its different terminologies
Co3	Understand concept, application of geotextile and its different terminologies
Co4	Understand concept, application of medical textile and its different terminologies
Co5	Understand concept, application of protective clothing and its different terminologies
Co6	Understand concept, application of sewing threads and its different terminologies

### SEMESTER: SIXTH

6 TX 01- Fabric Structure	
After completion of this course student will	
Co1	Understand the design details and able to draw the fabric structure of plain, twill, and satin sateen weaves
Co2	Understand the design details and able to draw the fabric structure of honeycomb, mockleno and felt
Co3	Understand the light and colour theory, colour and weave effect
Co4	Understand the design details and able to draw the fabric structure of backed, Bedford and double cloth structure
Co5	Understand the design details and able to draw the fabric structure of line and weft pile
Co6	Understand the design details and able to draw the fabric structure of the terry pile and multi axial weaving

6 TX 02- Advanced Yarn Manufacturing Technology	
After completion of this course student will	
Co1	Understand the significance of various developments in Blowroom
Co2	Understand the significance of various developments in Card
Co3	Understand the rotor spinning and friction spinning technology
Co4	Understand the air jet spinning and air vortex spinning technology
Co5	Understand the fundamental related to other new spinning systems
Co6	Understand the structure & properties of yarn produced on new spinning systems

6 TX 03- Textile Testing-II	
After completion of this course student will	
Co1	Able to perform the measurement and evaluation of hairiness and friction properties of yarn
Co2	Able to perform the measurement and evaluation of tensile properties.
Co3	Understand the concept and factors influencing load elongation characteristics of textile material.
Co4	Able to perform the measurement and evaluation of yarn irregularities.
Co5	Able to perform the measurement and evaluation of yarn classimat faults
Co6	Able to perform the measurement and evaluation of fabric dimension.

6 TX 04- Apparel Merchandising	
After completion of this course student will	
Co1	Understand the organisation of apparel industry & business etiquettes
Co2	Understand responsibilities, objectives and strategies for apparel merchandising
Co3	Understand the role and responsibilities of merchandiser
Co4	Understand various sourcing systems used in apparel merchandising
Co5	Understand the procedures, rules and documentation related to exports business
Co6	Understand the basic requirements for ISO registration

6 TX 06- Communication Skill	
After completion of this course student will	
Co1	Understand importance and basic of communications.
Co2	Demonstrate the various modes of communication
Co3	Demonstrate the types of listening, speaking, interviews performance and group communications.

6FETX05 – Computer Aided Textile & Fashion Design (Free elective)	
After completion of this course student will	
Co1	Understand about textile
Co2	Understand fashion and their different terminologies
Co3	Understand different fashion related software
Co4	Understand different ways of fashion display
Co5	Understand uses of different software in textiles
Co6	Understand demonstration of software applications in textile

6FETX05 – Fashion Technology (Free elective)	
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After completion of this course student will	
Co1	Understand the different terms of fashion
Co2	Understand the different categories of fashion and its adoption
Co3	Understand about fashion research and its analysis
Co4	Understand concept and promotion of fashion
Co5	Understand different aspects of fashion marketing
Co6	Understand analysis and developing of fashion resources and buying behaviour

### SEMESTER: SEVENTH

7 TX 01- Textile Mathematics	
After completion of this course student will	
Co1	Able to calculate the fibre dimensions, trash and lint content in fibre
Co2	Able to calculate the opening, cleaning and drafting related calculations
Co3	Able to calculate the speedframe and ring frame calculations
Co4	Able to calculate the winding calculations
Co5	Able to calculate the warping and sizing calculations
Co6	Able to calculate the weaving mechanisms

7 TX 02 - Textile Testing-III	
After completion of this course student will	
Co1	Able to perform the measurement and evaluation of fabric serviceability.
Co2	Able to perform the measurement and evaluation of fabric comfort properties related to thermal, moisture and air permeability properties.
Co3	Able to perform the measurement and evaluation of fabric handle
Co4	Able to perform the measurement and evaluation of fabric flammability and dimensional stability.
Co5	Able to perform the measurement and evaluation of fabric colour fastness properties.
Co6	Able to perform the measurement and evaluation of technical textile materials.

7 TX 03- Chemical processing – I	
After completion of this course student will	
Co1	Understand the wet processing sequence
Co2	Understand the different preparatory processes required for dyeing
Co3	Understand different dye class
Co4	Understand the various dyeing machineries
Co5	Understand the dyes applied on various cellulose fiber
Co6	Understand the dyes applied on various synthetic and protein fiber

7 TX 04- Textile Mill Management	
After completion of this course student will	
Co1	Understand the site selection for textile mill
Co2	Understand the management consents and manpower planning for textile industry
Co3	Understand the marketing and finance management for textile industry
Co4	Understand the machine and labour allocation for yarn
Co5	Understand the machine and labour allocation for fabric

7 TX 05- Advance Knitting Technology (Professional Elective)	
After completion of this course student will	
Co1	Understand the yarn quality preparation for knitting process.
Co2	Understand the various modern developments in weft knitting technology.
Co3	Understand the various modern developments in warp knitting technology.
Co4	Understand the technological principle of figured warp knitted fabric production.
Co5	Understand the need, properties and manufacturing of speciality knitted fabric.
Co6	Understand the computer aided design and computer aided manufacturing in knitting.

7 TX 05- Advanced Nonwoven technology (Professional Elective)	
After completion of this course student will	
Co1	Understand the scenario of development and application of technical textiles
Co2	Understand fabric formation preparation by electros spinning process and spunlace technologies.
Co3	Understand manufacture technologies of evolon and airlaid fabric and its applications
Co4	Understand the nonwoven fabric finishing processes
Co5	Understand the measurement parameters of nonwoven fabric
Co6	Understand the nonwoven fabric behaviour under various conditions

### SEMESTER: EIGHTH

8 TX 01- Process control in textile manufacturing	
After completion of this course student will	
Co1	Understand the process variables of blowroom & carding
Co2	Understand the process variables of drawframe & combing
Co3	Understand the process variables of speed frame & ring spinning
Co4	Understand the process variables of winding & warping
Co5	Understand the process variables of sizing
Co6	Understand the process variables of weaving

8 TX 02- Advanced Fabric Manufacturing Technology	
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After completion of this course student will	
Co1	Understand the scientific & technical background behind the invention of shuttle less weaving Technology
Co2	Understand the projectile weaving technology
Co3	Understand the rapier weaving technology
Co4	Understand the jet weaving technologies
Co5	Identify and analysis of important fabric types
Co6	Understand the concepts of narrow, multiphase, multiaxial & multidimensional fabric manufacturing
Co7	Understand the techno commercially different weaving technologies

8 TX 03- Chemical Processing – II	
After completion of this course student will	
Co1	Understand the textile printing
Co2	Understand the textile printing processes .
Co3	Understand the printing recipe for different dyes
Co4	Understand the various functional finishes
Co5	Understand the evaluation of various functional finishes
Co6	Understand the concept of computer colour matching

8 TX 04- New Fibre Science (Professional Elective)	
After completion of this course student will	
Co1	Understand the transition of new generation fibers
Co2	Understand the High Tech fibres.
Co3	Understand the High Tenacity fibres
Co4	Understand the specialty applications of fibre
Co5	Understand the new developments in fibre manufacturing.
Co6	Understand about next generation fibre

8 TX 05- Technical Textile (Professional Elective)	
After completion of this course student will	
Co1	Understand the difference between conventional and technical textiles in the form of applications, fibers & its scope
Co2	Understand the requirement and applications of filtration textiles.
Co3	Understand the concept of geotextile
Co4	Understand the essential properties & application of medical textile
Co5	Understand the textile application in protective clothing and automobile area
Co6	Understand the sport and industrial applications of textile material