BBAI501 HUMAN VALUES AND PROFESSIONAL ETHICS

SUBJECT CODE	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
		THEORY			PRACTICAL		L	T	P	CREDITS
		END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BBAI501	Human Values and Professional Ethics	60	20	20	-	-	4	-	-	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based on following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Objectives

The objective of the course is to disseminate the theory and practice of moral code of conduct and familiarize the students with the concepts of "right" and "good" in individual, social and professional context

Course Outcomes

1. Help the learners to determine what action or life is best to do or live.
2. Right conduct and good life.
3. To equip students with understanding of the ethical philosophies, principles, models that directly and indirectly affect business.

COURSE CONTENT

Unit I: Human Value

1. Definition, Essence, Features and Sources
2. Sources and Classification
3. Hierarchy of Values
4. Values Across Culture

Unit II: Morality

1. Definition, Moral Behaviour and Systems
2. Characteristics of Moral Standards
3. Values Vs Ethics Vs Morality
4. Impression Formation and Management

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Unit III: Leadership in Indian Ethical Perspective.

1. Leadership, Characteristics
2. Leadership in Business (Styles), Types of Leadership (Scriptural, Political, Business and Charismatic)
3. Leadership Behaviour, Leadership Transformation in terms of Shastras (Upanihads, Smritis and Manu-smriti).

Unit IV: Human Behavior – Indian Thoughts

1. Business Ethics its meaning and definition
2. Types, Objectives, Sources, Relevance in Business organisations.
3. Theories of Ethics, Codes of Ethics

Unit V: Globalization and Ethics

1. Sources of Indian Ethos & its impact on human behavior
2. Corporate Citizenship and Social Responsibility – Concept (in Business),
3. Work Ethics and factors affecting work Ethics.

Suggested Readings

1. Beteille, Andre (1991). ***Society and Politics in India***. Athlone Press:New Jersey.
2. Chakraborty, S. K. (1999). ***Values and Ethics for Organizations***. oxford university press
3. Fernando, A.C. (2009). ***Business Ethics - An Indian Perspective*** .India: Pearson Education: India
4. Fleddermann, Charles D. (2012). ***Engineering Ethics***. New Jersey: Pearson Education / Prentice Hall.
5. Boatright, John R (2012). ***Ethics and the Conduct of Business.***Pearson. Education: New Delhi.
6. Crane, Andrew and Matten, Dirk (2015). ***Business Ethics***. Oxford University Press Inc:New York.
7. Murthy, C.S.V. (2016). Business ***Ethics – Text and Cases***. Himalaya Publishing House Pvt. Ltd:Mumbai
8. Naagrajan, R.R (2016). ***Professional Ethics and Human Values***. New Age International Publications:New Delhi.

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Name of Program: B.TECH (Textile Engineering)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX601	DCS	FABRIC MANUFACTURING - III	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** – Credit.
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. The students will be able to describe the working of various mechanisms automatic loom.
2. To describe the working of Various Auxiliary Motion.
3. The students will be able to describe the working of multiple box looms.
4. The students will be able to describe the working of various mechanism of terry loom.

Course Outcomes (COs)

Student will be able

1. Demonstrate the knowledge of Let-off mechanism and Take-up mechanism and adjust the desired PPI.
2. Demonstrate the knowledge of working mechanism of auto loom and can prepare fabric of desired quality.
3. To use the knowledge of auxiliary motions and maintain the quality of fabric.
4. Use the knowledge of multiple box looms and can prepare fabric of desired weft pattern.
5. Demonstrate the knowledge of working mechanism of Terry loom and can prepare terry towel of desired quality.

Syllabus

UNIT I:Let-off and Take-Up motions

Introduction, positive/controlled, warp tension control, workingprinciples and features of Ruti, Bartlet and Saurer let-off motions. Continuous Positive type take-up motion, electronic let-off and take-up motions.

UNIT II: Automatic Looms

Different types of mechanical weft feelers e.g. side sweep and depth feelers, electrical & electronic weft feelers, shuttle protecting motion, pirn-changing and shuttle changing mechanism, temple cutters and unifil loom winder.

Unit III: Warp&Weft Stop Motion

Mechanical and electrical types Side and center weft fork motion, Warp protecting motion: loose-reed and fast reed warp protecting motion and Warp easing motion.

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UNIT IV: Multiple Boxes

Weft patterning andmixing, pick at will type multiple box loom, Cowburn& Peck (Eccles); preparation of card chain for 4x1 eccles box motion for different weft pattern, introduction to card saving device.

UNIT V:Terry Loom

Essential requirement of terry weaving, different terry mechanisms: cam driven 3-pik terry mechanism, dobby driven 3-pik terry mechanism, heading motion, fringing motion.

List of Practical (At least 10 practical experiments to be performed by each student):

1. To study the working of Ruti-B positive let-off motion.
2. To study the continuous positive take-up motion.
3. To study the working of side sweep weft feeler mechanism.
4. To study the working of prong electrical weftfeeler mechanism.
5. To study the working of shuttle protector mechanism.
6. To study the working of the pirn change mechanism.
7. To study the working of the shuttlechange mechanism.
8. To study the working of the side weft fork mechanism.
9. To study the working of loose reed mechanism.
10. To study the working of fast reed mechanism.
11. To study the working of warp easing motion mechanism.
12. To study the working of mechanical warp stop motion.
13. To study the working of electrical warp stop motion.
14. To study the working of 4 x 1 Eccle's drop box motion.
15. To prepare the pattern card for given weft pattern in 4 x 1 Eccle's drop box motion.
16. To study the working of 3-pick terry mechanism.

References:

1. Weaving Vol. II byBannerjee N. N., Textile Book House, 1982
2. Fancy Weaving by Aswani K. T., Mahajan Book Distributors, 1990
3. Principle of Weaving by Marks & Robinson, Textile Institute, 1976
4. Preparation & Weaving Machinery byOrmerod A., Butterworth-Heinemann, 1983.
5. Woven Fabric Production – II (1st Edition) by NCUTE Publication, 2002.
6. Weaving Machines, Mechanisms and Management byTalukdar M. K., Ajgaonkar D. B. and Sriramulu P. K.Mahajan Publishers Pvt Ltd, 2004
7. Mechanism of Weaving byFox, Macmillan, 1894.
8. FabricFormingbyHasmukharaiB.S.S.MInstituteofTextileTechnology,Komarapalayam,Erode, 1996.Weaving Tech. & Operations byOrmerod A. and Sondheln W.S, TheTextile Institute, 1995.

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Name of Program: B. TECH (Textile Engineering)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX602	DCS	TEXTILE TESTING - II	60	20	20	30	20	3	0	2	4

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** – Credit.
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. Students will have knowledge of tensile testing and its Principle and will be accurately assess the textile material as per the requirement.
2. Graduate will accurately assess and test the fabric properties (functional and aesthetic) according to their application & requirement.

Course Outcomes (COs)

Student will be able

1. Measure evenness and irregularity techniques of textile testing.
2. Describe tensile properties and its principle.
3. Demonstrate the methods to evaluate fabric properties
4. Asses the fabric properties and its importance in real life situations.

Syllabus Contents

Unit I: Yarn Evenness Testing

Concepts of evenness, Schematic diagram and working of Uster evenness tester, index of irregularity, nature and causes of irregularity, length–variance curve, various methods of measuring and assessing irregularity, evaluation and interpretation of test results by spectrograph, analysis of spectrograph, like periodic fault, drafting wave, peaks, effects of irregularities. Evenness tester for filament yarns. Testing conditions for POY and DTY and interpretation of results.

Unit II: Tensile Testing Principle

Terms and definition about different tensile testing principle, such as CRE, CRL and CRT.Concept and application of tensile testing principle in testing machine.Factors affecting the result of tensile experiments.Terms and definition with respect to load-elongation curve and its conversion to stress-strain curve.

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Unit III: Yarns and Fabric Tensile Testing

(a)Yarn Strength Testing

The pendulum lever principle with constant rate of traverse, The Strain gauge, transducer principle, Machines working on these principles. Yarn lea strength testing,description of lea strength tester, count strength product (CSP) or Break factor & its significance. Ballistic or Impact testing of textiles.Factors affecting tensile properties of textiles and results of tensile test.Filament (POY, FDY & DTY) yarn tensile testers, testing conditions and interpretation of results.

(b) Fabric Strength:

Importance of fabric strength test, Fabric strip test & grab test, Tear strength test, Bursting strength test.

Unit IV: Testing of Physical and aesthetic properties of Fabric

Measurement of physical parameters of fabric. e.g. length, width, weight/length, thickness, crimp % in warp and weft, Shrinkage testing etc. fabric properties e.g. drape, handle, stiffness, crease recovery, pilling, wear and abrasion.

Unit V : Other testing of fabric

Air permeability, water permeability, water-proofing, color fastness tests– washing, rubbing, sublimation, perspirations, dry cleaning, flammability test- assessment of aesthetic of fabrics by Kawabata.

List of Practical (At least 10 practical experiments to be performed by each student):

1. To test Single yarn strength by using Instron tensile tester.
2. To test Lea strength of yarn by using lea strength tester.
3. To test fabric tensile strength (strip) & elongation by using Instron tensile tester
4. To test fabric tensile strength (Grab method)by using Instron tensile tester
5. To test fabric tearing strength by using Elmendrof Tearing strength tester
6. To test fabric Bursting strength.
7. To test crease recovery of fabric by using crease recovery tester
8. To test color fastness of a fabric by using crock-meter.
9. To Check length, width and GSM of fabric.
10. To test Fabric stiffness by using stiffness tester
11. To test Fabric Water repellency
12. To test Pilling resistance of fabric
13. To test Abrasion resistance of fabric by using martindal abrasion resistance tester
14. To test Drape coefficient of fabric by using drape meter.
15. To test Thickness of fabric by using thickness tester.
16. To test work of rupture of fabric by using Ballistic tester.

References:

1. Principle of Textile Testing - Booth J.E.
2. Handbook of Textile Testing & Quality Control - Grover BE and Hamby DS
3. Progress in Textiles Science and Technology–Vol.1, Testing & Quality Management - Kothari VK
4. Physical properties of Textile Fiber- Morton &Hearle
5. Textile Testing - Angappan P, R. Gopalakrishnan.
6. Management of Quality in the Apparel industry - Mehta Pradip V &BhardwajSatish K;

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Name of Program: B. TECH (Textile Engineering)

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX603	DCS	TECHNICAL TEXTILES - II	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. Student will demonstrate the require properties and manufacturing process of conveyor belts.
2. Student will investigate the physical and mechanical properties of tire glass fibre.
3. Student will define the importance of medical & Geo textiles.

Course Outcomes (COs)

Student will be able

1. Explain the essential requirements of Geo textile and medical textiles.
2. Solve the problems occurred during manufacturing of glass fibres.
3. Develop the different structure of tire conveyor & Hose fabrics.
4. Analyze the physical and mechanical behavior of Geo textiles.
5. Explain the principle & manufacturing process of medical textiles.

Syllabus

UNIT I: TECHNICAL FABRIC STRUCTURE

Introduction of technical textile. Triaxial Weaves, Warp Knitting, Different laying methods of nonwoven, different bonding methods of nonwoven.

UNIT II: COMPOSITES

Composite materials, Textile reinforcement, Basic mechanics of composite reinforcement, Woven fabric-reinforced composites, braided reinforcement, Knitted reinforcement.

UNIT III: GEOTEXTILES

Functions, raw material - woven, non-woven and knitted geo textile. Application of geo textiles for drainage application, separation application, soil reinforcement and filtration and erosion control.

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UNIT IV: MEDICAL TEXTILES

Introduction of medical textiles. Surgical Textiles, Suture Threads. Cardio Vascular Textiles - Knitted cardiac-biological valves. Dialysis Textiles -Hollow fibers as dialysis membrane. Hospital Textiles - operation and post operating clothing - disposable drapes. Sanitary applications.

UNIT V: OTHER APPLICATION OF TECHNICAL TEXTILES

Fire protection, thermal and electrical insulation,Waterproof breathable materials, Moisture retaining soil mats soil sealing systems,Conveyor belts - power transmission belts,HOSE: Construction and applications.

References:

1. Technical Textiles byKhatwani,P.A.,YardiS.S., NCUTE Programme Report, 2002.
2. Advances in Fibre Science byMukhopadhyay S. K., The Textile Institute, 1992.
3. Composite Technologies by Lee Stuart M., CRC Press, 1989.
4. Smart Fibres Fabrics and Clothing by Xiaoming Tao, Woodhead Publishing, 2001.
5. Hand book of Nonwovens by RussellS. J. Woodheadpublication, 2007
6. Geosynthetics in Civil Engineering bySarsby R.W. Woodhead publication, 2007.
7. Handbook of Technical Textiles byAnandS. C., Woodhead Publishing, 2016.

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Name of Program: B.TECH (Textile Engineering)
BTTX604

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX604	DCS	TEXTURED YARN MANUFACTURING	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** – Credit.
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To provide knowledge about the manufacturing process of textured yarns.
2. To understand the principle of air textured yarn and to find the applications of textured yarn.

Course Outcomes (COs)

Student will be able to

1. Explain the core concept of texturing process.
2. Solve the problems occurred during manufacturing of textured yarns.
3. Develop the different structure of textured yarns.
4. Analyze the physical and mechanical behavior of Textured yarns.
5. Explain the principle & manufacturing process of air jet textured yarn.

Syllabus

UNIT I: Introduction of Texturizing

Objective of Texturising,Drawbacks of flat filament yarns, requirement of raw material for texturising, drawing process. Definition and concept of Texturising,Classification and characteristics of textured process and texturisedyarn.Other Methods of Texturisinglike BCF draw texturising processes and Yarns: - BCF draw texturising machines, process variables. Edge crimping, Stuffer box crimping, Knit-de-knit, Gear Crimping, Chemical texturising of natural fibres.

UNIT II: False Twist Texturising Process

Scientific principles in False twist Texturising, Methods of production of stretched (single heater) and modified stretched (double-heater) yarns by conventional methods. Properties of such yarn.Draw Texturising, Concept of sequential and simultaneous draw texturising, Study of simultaneous draw texturising process.

UNIT III: Draw TexturisingMachine and Process Variables

Draw texturising Machine Details: - Machine profiles, Twisting devices, Heaters, Cooling devices, Coning oil application, Process variables, Defects and remedies in draw textured yarns. Quality of draw textured yarns. Technological developments in draw texturising technology.

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UNIT IV: Air-Jet Texturing.

Air Jet Texturising,Principle of loops formation, Air-jet Texturising machine, air- jets, wetting systems, stabilizing devices, process variables in air texturising, Quality of air textured yarns, blending of filaments in air texturising. Properties of air jet textured yarn

UNIT V: Quality and Process Control

Testing of texturized yarn, Denier, Tensile properties, Crimp properties – Texturmat-ME, TYT, Heberline Crimp tester. TKD (Tube-Knitting-Dyeing) test and gradation. On-line tension (OLT) control and gradation system.Classification of Physical defects, inspection procedure and gradation.

References:

1. Yarn Texturing Technology byHearle J.W.S.,HollickL.&WilsonD.K.(Woodhead Publishing)
2. Textile Yarn Technology Structure and ApplicationbyGoswami B.C., Martindale, J.G., Scardino F.L., (Wiley Publication) 1977, U.S.A.
3. Production of Textured Yarns by the False Twist Technique-Textile Progress, Vol. 21, No.3,Wilson D.K. and Kollu T.(Textile Institute, Manchester, U.K.,1991).
4. Production of Textured Yarns by Methods Other than False Twist Technique by Wilson D.K. and Kollu T., Text. Prog., Vol. 16, No.3., (Textile Institute, 1981).
5. Winter School on Man-made Fibers – Production, Processing, Structure, Properties and Applicationsby Gupta V.B. Vol. 1, 1988.
6. Yarn Texturing Technology by Hes L. Ursiny P.,Eurotex, U.K., 1994.
7. An Analysis of the Air Jet Yarn Texturing Process Part-I: A Brief history of developments in the process by AcarM. and Wray G.R., Journal of Text. Institute, Vol.77,No.1, p19-27, (1986)
8. Spinning of Manmade Fibres and Blends on Cotton Systems by Salhotra K. R. The textile Association, India 2004,
9. The Industrial Application of the Stress-Strain Relationship by Hamburger, W. J., Journal of Textile Inst. 40, 700 (July 1949),

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Name of Program: B.TECH (Textile Engineering)
BTTX605

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX605	DCS	PROCESS CONTROL IN SPINNING AND WEAVING	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. To outline the areas of process control in spinning and weaving technology.
2. To relate the importance of process control for achieving the desired quality and defect free product.
3. To illustrate the concepts of machinery audit and energy audit, machine maintenance, modern methods of house-keeping and material handling and different standard norms for various processes of the textile industry.

Course Outcomes (COs)

Student will be able to

1. Graduates will be able to construct process maps for different processes involved in spinning and weaving technology.
2. Graduates will be able to identify necessary process control check-points, so that these processes can be run at an optimum level of productivity.
3. Graduates will be able to summarize the reasons for generation of different types of defects in the final product.
4. Graduates will be able to demonstrate their skills in process inspections, machinery maintenance, machinery audit, energy audit.
5. Graduates will be able to describe the modern methods of house-keeping and material handling.

Syllabus

UNIT I: SCOPE OF PROCESS CONTROL IN SPINNING

Introduction, key variable of process control, standard norms collection and interpretation of data.

UNIT II: IMPORTANCE OF QUALITY AND PROCESS PERFORMANCE

Importance and consideration for evolving a system for process control; Control of mixingquality and cost , control of waste and cleaning in blow room, card and comber; yarn realization; Control of yarn count; strength; evenness, imperfections and yarn faults; Control of end breaks in ring spinning.

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UNIT III: MACHINES AUDIT AND WASTE CONTROL

Concept of machinery audit and energy audit.House-keeping and material handling,statisticalinterpretation of data and waste control. Snap study.

UNIT VI: PROCESS CONTROL IN WEAVING

Control for quality, machine stoppage and productivity in winding, warping, sizing, pirn-winding and weaving. Standard norms for setting, speeds and production rates.Fabric defects and their control. Control of norms and hard waste in various processes. Importance and types ofmaintenance, Maintenance schedule in winding, warping, sizing and loom shed.

UNIT V: MACHINES AUDIT AND WASTE CONTROL IN WEAVING.

Machinery audit and energy audit; Calculations pertaining to production efficiency and machine allocation in windings; warping, pirn sizing and looms.

References:

1. The Textile Institute; Manual of Cotton Spinning Volume IV, V;
2. The Textile Institute; Manual of Textile Tech. – Short Staple Spinning series – Vol.4
3. Klein W; A Practical guide to Ring Spinning
4. Kulkarni HS and Murthy HVS; Two-For-One – Technology & Technique for spun yarn;
5. Chhatopadhyaya R. (Editor); Advances in Tech. Of Yarn Production – NCUE Publication
6. Gong RH and R.M.Wright; Fancy Yarns- Their Mfg. And Application;
7. Gilbert Merrill; Cotton Ring Spinning
8. Taggart; Cotton Spinning
9. Goswami BC et al; Textile Yarns Technology, Structure & Applications
10. Salhotra KR et.al; Ring Spinning, Doubling & Twisting; NCUTE Pilot Programme Pub
11. Lawrence Carl A; Fundamentals of spun yarn tech

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Name of Program: B.TECH (Textile Engineering)
BTTX606 ELECTIVE II

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX616	DCS	GARMENT MANUFACTURING TECHNOLOGY	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. Students will be able to explain the garment process line and manufacturing machinery.
2. Students will be able to analyze garment parameters, garment seams & stitches according to requirement.

Course Outcomes (COs)

Student will be able

1. Understand and describe the garment manufacturing process with pre- production and post- production process.
2. Assess different packaging components for the garments.
3. List various sewing machines with specification, details, and applications
4. List and compare various types of seams and stitches.

Syllabus

UNIT I: MARKER PLANNING & GRADING

Marker planning, marker utilization, manual marker planning, planning and layout of patternpieces. Computerized marker planning; Introduction to grading; definition, need for grading,basic size chart, factors affecting grading, standard checklist before grading.

UNIT II: CUTTING MACHINES

Objectives of cutting, methods of cutting, manual cutting, straight knife, round knife,notches, drills, computer controlled cutting knives, die cutting,laser cutting, plasma cutting, water jet cutting, ultrasonic cutting.

UNIT III: SEAM TYPES AND STITCHES

Sewing seams, seam types, superimposed seam,lapped seam, bound seam, flat and fell seam, French seam,decorative stitching, edge neatening; Stitch types, Lockstitches, Chain stitches, hand stitches, Multithread chain stitches, over edge chain stitches, covering chain stitches.

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UNIT IV: SEWING MACHINES & GARMENT CONSTRUCTION COMPONENTS

Sewing machinery different types, basic sewing machine, feed mechanisms, drop feed system, differential feed system, adjustable top feed, needle feed, puller feed.

Sewing machine, needles; sewing threads, quality characteristic of threads, finishes, thread packages,sewing problems. Problems of stitch formation, seam pucker, fabric damages, mechanical damages, Needle heating, sewability and tailorability.

Button hole-machines, button sew machines, bar tack machines, label sewers.Components for the construction of garments, label, motifs, lining, interlinings, laces braids, elastic hook and loop fastening, seam binding, shoulder pads, eyelets, zip fasteners, button, tack buttons, snap fasteners, Rivets.

UNIT V: GARMENT FINISHING PROCESS & PACKAGING COMPONENTS

Fusing requirements, fusion process, parameters temperature, pressure, time; fusing equipment, specialized fusing process, flat bed fusing process, continuous fusing systems, hand iron, steam press; methods of fusing, reverse fusing, sandwich fusing, double fusing, shirt collar fusing.

Garment finishing process - pressing, means of pressing,pressing equipment and methods, iron, steam press, tunnel, pleating, permanent press. packing methods of folding garments, Procedure for folding different garment in different sizes and packing materials used for packing garments, plastics, pins, card sheets, plastic butterfly clips, brass pins, collar stands tags; packaging instructions for tags, labels and packets.

References:

1. Garment Technology for Fashion Design by CooklinGerry, Wiley-Blackwell; 2 edition, 2012.
2. Introduction to Clothing Manufacture by CooklinGerry, John Wiley & Sons, 2006.
3. Technology of Clothing Manufacture by Carr& Latham, John Wiley & Sons, 1994.
4. Introduction to Clothing Production Management by Chuter A.J., John Wiley & Sons, 1995.
5. Clothing Technology by FriendR.L., Verlag Europa-LehrmittelNourney, Vollmer GmbH & C, 2008.
6. Pattern Making byMartinShoben, Butterworth-Heinemann, 1987.
7. Dress Fitting by BrayNatalie, John Wiley & Sons, 1987.
8. Pattern Making by Armstrong and Helen Joseph, Pearson, 2009.

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Name of Program: B.TECH (Textile Engineering)
BTTX606 ELECTIVE II

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX626	DCS	STATISTICAL QUALITY CONTROL IN TEXTILES	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; **C** - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. Students will be able to explain the garment process line and manufacturing machinery.
2. Students will be able to analyze garment parameters, garment seams & Stitches according to requirement.

Course Outcomes (COs)

Student will be able

1. Understand and describe the garment manufacturing process with pre production-production and post production process.
2. Asses different packaging components for the garments.
3. list various sewing machines with specification, details, and applications
4. List and compare various types of seams and stitches.

Syllabus

UNIT-I: QUALITY MANAGEMENT

Definition of quality and its importance, different approaches to quality, DescriptionofDeming‟s fourteen points andIshikawa‟seven-toolsofquality,utilityofstatistical method for quality control and improvement, concept of Total Quality Management (TQM), ISO 9000 Standards, Quality Function Deployment (QFD) and QualityCosts.

UNIT-II: BASIC APPROCHES TO STATISTICAL QUALITY CONTROL

Population and sample, descriptive and inductive statistics, discrete and continuous variables,subjectivetests,collectionandclassificationofdata,frequencydistributions,measuresofcentraltendency,measuresof dispersion, random variables and probability distribution, differences and applications of normal, binomial, Poisson‟s and other form of distribution.

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UNIT-III: Statistical Analysis for Continuous Function

Population and sampling distribution of mean, statistical estimation theory, points estimates, concept of single tail and double tail test, Student"s t distribution, confidence limit, statistical decision theory, tests of hypotheses and significances, type I and type II errors, difference between two sample means. Test for single variance, Chi- square test, the F distribution, test for the difference between two variances, confidence limits for variance and ratio of two variances, choice of sample-size.

UNIT-VI: Statistical Analysis for Discrete Function:

Application of binomial and Poisson"s distribution, normal approximation, test for a single proportion and difference between two proportions, application of distribution, contingency table. **Subjective Tests**: Rank correlation, tied rank, coefficient of co-ordnance. **Acceptance Sampling**: Basic idea about acceptance sampling,

UNIT-VI: Statistical Analysis for Discrete Function:

Control Charts: Advantages using quality control charts, random and assignable causes, action and warning limits, $\bar{X}$,R, p , n p and c chart, Process Capability Ratio (C_P and C_{PK}), concept of 6 sigma process control, brief idea about CUSUM and EWMAchart.

Books Recommended:

1. Leaf G A V, "Practical Statistics for the Textile Industry", Part-I and II, The Textile Institute, U.K, 1984.
2. Montogomery D C, "Introduction to Statistical Quality Control", Fourth Ed., John Wiley and Sons (Asia) Pte. Ltd., Singapore,2004.
3. Mehta P V, "Quality Management: An Overview", in „*Testing and Quality Management'*, Vol. 1, Ed. V K Kothari, IAFL Publication, New Delhi,1999.
4. Spiegel M R and Stephens L J, "Schaum"s Outlines Statistics", Third Ed., Tata McGraw Hill, New Delhi,2000.
5. Walpole R.E. and Myers R.H., "Probability and Statistics for Engineers and Scientists", McMillan Publishing Company, New York,1985.

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Name of Program: B.TECH (Textile Engineering)
BTTX606 ELECTIVE II

SUBJECT CODE	CATEGORY	SUBJECT NAME	TEACHING & EVALUATION SCHEME								
			THEORY			PRACTICAL		L	T	P	CREDITS
			END SEM University Exam	Two Term Exam	Teachers Assessment*	END SEM University Exam	Teachers Assessment*				
BTTX636	DCS	HOME TEXTILE	60	20	20	0	0	3	0	0	3

Legends: **L** - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** – Practical; C - Credit;
***Teacher Assessment** shall be based following components: Quiz/Assignment/ Project/Participation in Class, given that no component shall exceed more than 10 marks.

Course Educational Objectives (CEOs):

1. Correctly demonstrate the principle and manufacturing process of home textile products.
2. Understand the requirement, importance and application area of home textiles.

Course Outcomes (COs)

Student will be able

1. Design the product as per customer requirement.
2. Solve technical problems related to manufacturing of home textiles.
3. Develop the more technical property-oriented product**s.**

SYLLABUS:

UNIT I: TEXTILE FOR SEATING.

Upholstery fabrics for domestic applications scope, fixed upholstery, non-stretch loose covers, stretch covers. Upholstery fabrics for contract use general, automotive applications, Commercial applications.

UNIT II: WINDOW TEXTILES

Characteristic and function of Sun filters (Sheers and nets), Semi-sheers, Reflective textiles, curtain fabrics & drapes, Blinds.

UNIT III: BED TEXTILES

Introduction of Sheets & Pillow Cases, Quilted Textile, Blankets & Rugs - Jacquard blankets, Printed blankets, Fire proof blankets, Baby blankets. Bed Spreads, Mattress covers, (Ticking)

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Unit IV: BATHROOM TEXTILES

Characteristics of general shower curtains, Terry Toweling and their fuctions.

Unit V: TABLE TEXTILES

Introduction of Table-cloths, Colour – Woven & Printed type, jacquard types, embroidered types, non-woven types. Table mats – Colour, woven, Printed jacquard, embroidered.

References:

1. Carpet ManufacturebyCrawshawG. H., Wronz Developments, 2002
2. Textile Progress -Vol.9, No.2, TheTextile Inst. Publisher, 1977.
3. Interior Furnishings by Mortimer O.Shea, Textile Progress, Vol.11, No.1, TheTextile Inst. Publication, 1981.
4. Performance of Home Textiles by DasSubrata, Woodhead Publications, 2010.