

**DR. A.P.J ABDUL KALAM TECHNICAL
UNIVERSITY, LUCKNOW**



**PROPOSED STUDY & EVALUATION SCHEME
FOR
B.TECH. FOURTH YEAR
(TEXTILE TECHNOLOGY)**

**ON
CHOICE BASED CREDIT SYSTEM (CBCS)**

(Effective from session 2019-20)

DR. APJ ABDUL KALAM TECHNICAL UNIVERSITY, LUCKNOW

Dr. APJ Abdul Kalam Technical University, Lucknow
STUDY AND EVALUATION SCHEME
B. Tech. Textile Technology

4th Year VII-SEMESTER

Effective from SESSION-2019-20

S. No.	Subject Code	Subject Name	L-T-P	Th./Lab Marks	Sessional		Total	Credit
				ESE	CT	TA		
Theory								
1		OPEN ELECTIVE COURSE-1	3-0-0	70	20	10	100	3
2	RTT070/ RTT071	DEPARTMENTAL ELECTIVES-3 Non Woven Technology /Functional Textiles	3-0-0	70	20	10	100	3
3	RTT075/ RTT076	DEPARTMENTAL ELECTIVES-4 Theory of Textile Structure/Clothing science	3-1-0	70	20	10	100	4
4	RTT701	Knitting Technology	3-1-0	70	20	10	100	4
5	RTT702	Garment Manufacture Technology	3-0-0	70	20	10	100	3
Practical								
6	RTT751	Knitting Technology Lab	0-0-2	50		50	100	1
7	RTT752	Garment Manufacture Technology Lab	0-0-2	50		50	100	1
8	RTT753	Industrial Training	0-0-2			100	100	2
9	RTT754	Project -1	0-0-2			200	200	3
	TOTAL			450	100	450	1000	24

DEPARTMENTAL ELECTIVES-3

- 1.RTT070 Non Woven Technology
- 2.RTT071 Functional Textiles

DEPARTMENTAL ELECTIVES-4

- 1.RTT075 Theory of Textile Structure
- 2.RTT076 Clothing science

Dr. APJ Abdul Kalam Technical University, Lucknow
STUDY AND EVALUATION SCHEME

B. Tech. Textile Technology

4th Year VIII-SEMESTER

Effective from SESSION-2019-20

S. No.	Subject Code	Subject Name	L-T-P	Th./Lab Marks	Sessional		Total	Credit
				ESE	CT	TA		
Theory								
1		OPEN ELECTIVE COURSE-2	3-0-0	70	20	10	100	3
2	RTT080/ RTT081/ RTT082/ RTT083	DEPARTMENTAL ELECTIVES-5 Technical Textile/High Performance Fibre/Textile Marketing & Merchandizing/ Textured Yarn Technology	3-0-0	70	20	10	100	4
3	RTT085/ RTT086/ RTT087	DEPARTMENTAL ELECTIVES-6 Process Control in Spinning & Weaving/Mill Planning & Organization/ Evaluation of Textile Materials	3-1-0	70	20	10	100	3
Practical								
4	RTT851	SEMINAR	0-0-3			100	100	2
5	RTT852	PROJECT-2	0-0-12	350		250	600	12
	TOTAL			560	60	380	1000	24

DEPARTMENTAL ELECTIVES-5

- 1.RTT080 Technical Textile
- 2.RTT081 High Performance Fibre
- 3.RTT082 Textile Marketing & Merchandizing
- 4.RTT083 Textured Yarn Technology (NPTL/MOOCs)

DEPARTMENTAL ELECTIVES-6

- 1.RTT085 Process Control in Spinning & Weaving
- 2.RTT086 Mill Planning & Organization
3. RTT087 Evaluation of Textile Materials (NPTL/MOOCs)

7th Semester **B. Tech. Textile Technology**

DEPARTMENTAL ELECTIVES-3

RTT070: Non-Woven Technology

Unit 1: National and international scenario on non-woven fabric production, Concept about felts and non woven, Classification of non-woven fabrics, fibres for non-woven fabrics, Felt Manufacturing process Total Lectures Required =9

Unit 2: Various method of web formation, web characteristics and their influence on properties of non-woven fabrics, (3) Non woven fabric by Needle punch, Description of needle punching machine, effect of process variables on properties of needle punch fabric Total Lectures Required =9

Unit 3: Non-woven fabric by hydro entanglement, Description of hydro entanglement machine, effect of process variables on properties of hydro entanglement non woven fabric, Non-woven fabric by adhesive bonding, mechanical bonding, Melt blown process of non-woven fabric manufacturing Total Lectures Required =8

Unit 4: Non-woven fabric by Stitch bonding, Non-woven fabric by chemical bonding, Non-woven fabric by bonding with thermoplastic adhesives, Non-woven fabric by Spun laced, Effect of process variables on properties of stitch bonding, chemical bonding spun laced non-woven fabrics. Total Lectures Required =8

Unit 5: Flocked fabric, Laminates, latest development in non-woven industry: ultrasonic bonding, Infra-red bonding, bonding by bi-component fibres. Application of various non woven fabrics

Total Lectures Required =8 Grand total of Lectures required= 42

Reference & Text Books 1. Non Woven – N.N. Banarjee 2. Non woven – NCUTE 3. Knitting technology : Spen

RTT071: Functional Textiles

Unit 1: Definition of functional clothing, Classification of functional clothing, Functional finishes, ways to apply functional finishes on textile surfaces, Functional clothing market review

Unit 2: Functional Protective clothing: Nuclear biological Chemical protective clothing, extreme cold clothing; design, mechanism and applications, Fire retardant clothing, approaches to achieve fire retardancy in clothing, mechanism of fire retardancy, Soft and hard body armour , super thickening fluids (non-nutonean) for body armour, water proof beathable fabrics, ways to achieve waterproofness and breathability in textiles

Unit 3: Medical functional clothing: therapeutic and rehabilitative clothing, biosensing clothing, wound healing promoting dressings, antimicrobial sutures

Unit 4: Sportswear clothing: moisture management in sportswear, compression textiles, Aerodynamics, Spacesuit design and development, woven and knitted sportswear,

Unit 5: Cosmetotextiles: definition, classification, mechanism to develop various cosmetic effects in textiles, various cosmetoingredients, worldwide scene of cosmetotextiles, Smart Textiles, classification of smart textiles, Intelligent textiles, , mechanism of various types of smart textiles, Wearable electronics

Reference Books

11. Functional Finishes for Textiles: Improving Comfort, Performance and Protection
12. Functional Textiles and Clothing, [G. Thilagavathi.](#), [M. Parthiban](#), [S. Viju](#)
13. Woodhead Publishing
14. Electronics in Textiles and Clothing: Design, Products and Applications [L. Ashok Kumar](#), [C. Vigneswaran](#), CRC Press
15. Smart Clothes and Wearable Technology, [J. McCann](#) (Editor), [David Bryson](#) Woodhead Publishing Series in Textiles

DEPARTMENTAL ELECTIVES-4

RTT075: Theory of Textile Structure

Unit (1): Classification of yarns, Yarn geometry- idealized yarn geometry, relationship of yarn number and twist factor, packing of fibres in a yarn, ideal packing, hexagonal close packing and radial packing, packing factor and its measurement, yarn diameter, method of measurement of twist contraction. **Total Lectures required =10**

Unit (2): Fibre migration: mean fibre position, amplitude of migration and frequency of migration, mechanism of migration, spinning-in coefficient and fibre extent. estimation of strength of blended yarn **Total Lectures required =6**

Unit 3: Mechanism of staple fibre yarns, translation of fibre properties into yarn properties, twist and strength relationship, limit of twist, spinability of textile fibres, relation with end-breakage rate. **Total Lectures required =9**

Unit (4): Elements of fabric geometry, cloth setting theories, flexible and rigid thread model, Pierce's equation and later modifications.

Total Lectures required =7

Unit (5): Relation of fabric properties to simple geometry, crimp interchange in woven fabric, crimp balance equation, Fabric cover, cover factor and their significance, relation between cover and weight per unit area of fabric, Theoretical treatment of fabric deformation in tension

Total Lectures required =10

Grand total of lectures required = 42

Text Books and Reference material:

6. Textile Yarn- B.C. Goswami, J.G. Martindale, F.L. Scardine

7. Textile structure- J.W.S. Hearle, S. Backer, Grossberg.
8. Pierce's geometry- Textile institute

RTT076: Clothing Science

Unit 1: Definition of clothing comfort: importance of studying clothing comfort, various components and definition of clothing science, Brief introduction to the various processes related to comfort aspect: psychological, neurophysiological, physiological and physical, Psychology and Comfort: Psychological scaling, scales of measurement, wear trial technique, Aesthetic Comfort: General aspects, measurement of aesthetic properties, changes in aesthetic behavior

Unit 2; Neurophysiological basis of sensory perceptions: Perceptions of skin sensations related to mechanical stimuli: Dynamics of wear sensation, touch and pressure, prickle, itch and inflammation, roughness and scratchiness, Perceptions of sensations related to thermal and moisture stimuli: Fabric mechanical properties and tactile- pressure sensations: Fabric prickliness, fabric itchiness, fabric stiffness, fabric softness, fabric smoothness, roughness and scratchiness, fabric hand

Unit 3: Thermal Conductivity of Fibrous Materials: Various parameters and related factors that affect the thermal conduction through fibrous materials like fibrebatts, nonwoven fabrics, pile fabrics, woven and knitted fabrics, thickness, cover factor, fibre type, yarn structure, fibre morphology and shape, effect of fabric layers etc. Transient heat transfer mechanism (the warm-cool feeling): Kawabata's theoretical proposition of thermal diffusivity as an objective parameter for evaluation of warm-cool feeling, Hess's proposition of thermal absorbtivity as a more suitable parameter for the same purpose, Kawabata's instrument, Alambeta

Unit 4: Liquid Moisture Transfer through Fibrous Materials (Wicking and Water absorption): Theory of surface tension, theory of capillary action, wetting and wicking, interaction between liquid and fibrous materials, liquid spreading dynamics on a solid surface, Rayleigh instability, Lucas-Washburn theory, various theories and models on vertical and horizontal wicking through yarns, nonwoven fabrics and woven fabrics, absorption of water by a fibrous mass, objective measurement of wicking and absorption: angle of contact, droplet absorption test, vertical wicking, horizontal or transverse wicking tests

Unit 5: Transfer of moisture vapour through Fibrous Materials: Diffusion of vapour through a porous medium, various modeling approaches, moisture vapour permeability of fabrics, influence of various fabric parameters such as thickness, cover factor, etc. on the moisture vapour permeability, measurement of moisture vapour permeability, International standards.

Reference Book

10. Science in Clothing Comfort Apurba Das, R. Alagirusamy, Woodhead Publishing India Pvt Limited, 2010 - Technology & Engineering - 175 pages
11. Improving Comfort in Clothing edited by Guowen Song Woodhead Publications
12. Textiles for Cold Weather Apparel, J. Williams Woodhead Publications

RTT701: Knitting Technology:

Unit 1: Difference between knits and wovens, knitting terms and definitions (Course,, wale, stitch density) different type of knitting needles: bearded needle, latch needle, sinker, jack, cam arrangement, overlap, under lap, closed lap, open lap. **Total Lectures required =8**

Unit 2: Comparison of warp and weft knitting, Classification of weft knitting machine, elements of knitting machine like type of needles, sinkers, etc Needle numbering system, technology of loop formation, geometry of loop structure, Elements of loop structure: needle loop, sinker loop, relation between yarn count, machine gauge and stitch density. **Total Lectures required =9**

Unit 3: Classification of knit-structures, loop formation on: single jersey, Rib machines and inters look machines, socks knitting technology, Loop formation on flat bed machine
Total Lectures required =9

Unit 4: Four primary base knitting structures: Plain knitted fabric, Rib fabric, Interlock and Purl fabric, Special knitting machines: Fabric machine, garment length machine, flat machine, circular machine fabrics and Spacer fabrics. **Total Lectures required =7**

Unit 5: Basic warp knitting machines, classification of warp knitting, Modern developments in weft knitting technique, calculations regarding production, gsm, stitch density etc, Causes and remedies of faults of knitted fabrics. **Total Lectures required =9**

Grand total of lectures required = 42

Reference and Text Book-

1. Knitting Technology – Chamberlin
 2. Knitting Technology – W.J. Spencer
 3. International Textile Journal – Knitting
 4. Knitting Calculation – Chamberlin
 5. Wet Knitting Vol. 1&2 –Published by IIT New Delhi.
 6. Knitting – NCUTE
- Laboratory work: As per Lab Syllabus

RTT702: Garment Manufacture Technology

Unit (1): Introduction to garment manufacturing technology, Sample cutting, Fusing, Sewing, Pressing, Finishing and inspection, Line balancing concept. **Total Lectures required =8**

Unit (2): Introduction to measurement of fabric dimensional properties, fabric comfort, thermal comfort, objective evaluation of fabric, low stress fabric properties, Kawabata system, fabric assurance by sample testing, fabric defects, Fabric inspection and feedback to back process.

Total Lectures required =9

Unit (3) Introduction to garment cutting, Marker planning, Efficiency of Marker planning, methods of marker planning and marker use, spreading of the fabric, to form a lay, spreading requirements, methods of spreading, fabric packages, objective of cuttings, methods of cuttings

Total Lectures required =9

Unit (4): Introduction to seam, stitch, stitch classification, stitch structure, seam formation, joining material, surface characteristics, seam appearance, damages (thermal and mechanical), seam performance, seam degradation, seam failure, seam puckering and seam testing. Sewing needle and sewing thread, thread consumption

Total Lectures required = 9

Unit 5: Introduction of spreading machines and cutting machines- types and functions, History of sewing machines. Sewing machinery- classification according to bed types, stitch types (hook or looper) material wise (extra light to heavy weight). Major parts of sewing machinery and functions. Parts, functions and adjustments of Over Lock: Collar turning machines, folding machinery fusing and pressing machinery, Computer controlled cutting, sewing, folding machinery.

Total Lecture Required: 8

Grand total of lectures required = 42

Text Books and Reference material:

10. Introduction to Garment Manufacturing Technology By T Ramchandran
11. Garment Manufacturing Technology by By T Ramchandran
12. Practical Clothing Construction Part I & II by Mary Methews
Laboratory work: NA

Lab Syllabus

RTT751: Knitting Technology Lab

To study the path of yarn through circular and flat knitting machine, different knitting elements including the cam system, driving mechanism of plain knitting machine, cloth take-up mechanism of plain knitting m/c, rib knitting m/c including arrangement of dial and cylinder needles, cam, system and driving mechanism, Interlock knitting m/c including arrangement of dial and cylinder needle, cam system and driving mechanism, Warp knitting machine constructional details and mechanism of operation.

RTT752: Garment Manufacture Technology Lab

RTT753: Industrial Training

Students shall carryout industrial training as a part of their curriculum after the completion of their 3rd year for one month. After this their performance shall be evaluated during 7th semester by taking viva of each and every student.

RTT754: Project 1

Students will carry out minor project during seventh semester as a part of curriculum as per AKTU guidelines.

8th Semester B. Tech. Textile Technology

DEPARTMENTAL ELECTIVES-5

RTT080: Technical Textiles

Unit (1): Introduction to technical textile, types of technical textiles, textiles used in industry such as filtration, filter fabric construction- woven, needle felt & knitted filter fabric, finishing treatment of filter fabric, thermal and chemical properties of filter fabric, essential requirements of good filter fabric. Application of nano technology and nano materials for the improved filtration.

Total Lectures required =8

Unit (2): Manufacture and properties of protective textiles- water proof/coated and water repellent, antimicrobial, flame retardant, chemical resistance, Nuclear and biological resistance, mechanical resistance such as bullet proof, cut proof, stab proof

Total Lectures required =9

Unit (3): Medical textiles, fibres used, classification of medical textiles- non-implantable material wound dressings, bandages, plasters, etc, Extra-corporal devices – Artificial kidney, liver lung, implantable material- suture, soft tissue implant, Orthopedic implants, Cardiovascular implants, Healthcare/ hygiene products, medical cost, surgical gown, face mast etc.

Total Lectures required =8

Unit (4): Smart textiles, brief introduction of smart textiles, classification of smart textiles, passive smart textiles, active smart textiles, brief discussion of smart shirt, smart suit, musical jacket, space suit etc. automotive textiles: type cord, seat belt, air bag, seat upholstery, carpets, headliners, helmets etc, Agro textile: Shade net, green house film, Mulch net, crop cover, anti hail and bird protection net, finishing net etc.

Total Lectures required =9

Unit (5): Introduction of geo textile, classification of geo textiles, functions of geo textile-soil reinforcement, drainage (fluid transmission), filtration, separation, erosion control/ absorption, objective of geo textiles, manufacturing of geo textile, essential properties of geo textiles- Mechanical determinants, Hydraulic determinants, durability determinants

Total Lectures required =8

Grand total of lectures required = 42

Text Books and Reference material:

10. Hand book of technical textiles- A.R. Horrocks & S.C. Anand
11. Smart fibre, fabrics and clothing Tao X
12. Shears handbook of industrial Textiles.

RTT081: High Performance Fibres

Unit – I; Introduction- Definition, molecular dimensionality mechanical properties, Fibre markets, Hi -Performance Gelspun Polyethylene fibres- Manufacture, fibres characteristics, properties & applications.

Total lectures required=9

Unit- II: Aramids- Introduction, polymer preparation, Spinning, Structure & properties, applications, Fibres based on liquid crystalline polymer (PPTA fibre).

Total lectures required=8

Unit- III: Carbon Fibres- Physical properties, PAN bases Carbon fibres, Pitch based Carbon fibres, Vapour grown Carbon fibres, Applications.

Total lectures required= 8

Unit-4:Glass Fibres- Glass for Fibres, Fibre manufacture, fibre finish, fibre properties& application, optical fibres.

Total lectures required=8

Unit –5: Vectran (Melt spun wholly aromatic polyester fibre), Fibre production, properties & application, PBO (Polyphenylene benzobisoxazole) fibres- Fibre production, properties & application. PEEK Fibres -Fibre production, properties & application.

Total lectures required=9

Grand total of lectures required= 42

Reference Books

1. High Performance Fibree by J.W.S. Hearle

RTT082:TEXTILE MARKETING AND MERCHANDISING

Unit 1: Introduction to Textile Marketing function; genesis, the marketing concept. Marketing Management System: objectives, its interfaces with other functions in the organisation.

Environment of Textile Marketing, Political and Economic Environment, Market segmentation Consumer buying behaviour. Socio- cultural environment

Unit 2: Textile Marketing Strategy:- Marketing planning and Marketing programming. The concept of marketing mix, Product policy; the concept of textile product life cycle. New product decisions. Textile marketing and Pricing, Management of distribution: channels of distribution. Advertising and promotions. The concept of Unique Selling Proposition.

Unit 3: Implementation and Control. The marketing organization alternative organization structures; the concept of product management. Administration of the textile marketing programme: sales forecasting; marketing and sales budgeting; sales management; management of sales force.

Evaluation of marketing performance; sales analysis; control of marketing effort; marketing audit

Unit 4: Jute textile sector, Silk textile sector, Man-made textile sector, Wool Textile sector, Statistics of Indian textile business (Domestic & Export) and World textile trade, Textile policy, World trade practices, norms, barriers, etc., Various pertinent prevailing issue impacting textile industry and trade, corporate social responsibility, ISO accreditation, etc., Retailing in textiles vis-a-vis consumer trends and behaviour and the challenges,

Unit 5: Textile Merchandising: Process of Planning, Purchasing, Motivating and Controlling of Materials in a optimum manner, vendor development, manufacturing, pricing, product design and development, exporting etc.

Reference Books:

1. Marketing Research A S Rao, Neha Publishers and distributors
2. Marketing: Connecting with Customers, Gilbert D. Harrell, Michigan State University ISBN-10: 0-9798304-7-1, Chicago Education Press, LLC.2012
3. **Pocket Textile Merchandising & Marketing Expert Hardcover – 2008** by Textile Industries Media Group
4. **Apparel Merchandising: The Line Starts Here, 2nd Edition** by Jeremy A. Rosenau , David L. Wilson, ISBN-13: 978-1563674488
5. Retail Merchandising Sapna Pradhan Tata McGraw Hill Education Private Limited 2009

RTT083: Textured Yarn Technology:

Unit 1- Introduction to texturing, General principles involved in the manufacture of textured yarns, Bulked yarns

Total Lectures required =9

Unit 2- Mechanisms of setting and texturing, Thermo-mechanical texturing, Characterization and optimization, Influence of material and process parameters, Influence of process parameters

Total Lectures required =10

Unit 3- Influence of process parameters, Draw Texturing, Simultaneous draw texturing with POY, Draw Texturing Machines & Process Parameters, Draw Texturing : Effect of Process Parameters

Total Lectures required =7

Unit 4- Draw Texturing : Positorque System, Friction Draw Texturing, Air-Jet Texturing

Total Lectures required =8

Unit 5- Air-Jet Texturing : Effect of Process parameters, Air-Texturing Jets, Interlacement: need and jet design, Bulked continuous filament yarns, Hi-bulk yarns, Texturing of spun yarns, Solvent texturing.

Total Lectures required =8

Grand total of lectures required: 42

DEPARTMENTAL ELECTIVES-6

RTT085: Process Control in Spinning & Weaving

Unit (1): Importance of evolving a system for process control, control of mixing quality through fibre characteristics, simultaneous control of mixing cost and quality, concept of bale management. Control of waste in blow room and carding, norms for waste and cleaning efficiency in blow room & card, control of neps, assessment of performance of blow room & card, control of comber waste, concept of yarn realization, calculation pertaining to waste & yarn realization **Total Lectures required =9**

Unit (2) Measurement and analysis of productivity, means to improve productivity, maximizing machine efficiency in ring spinning, controlling end breakage rate in ring spinning, control of soft waste and hard waste, control of yarn faults and package defects- slubs, crackers, spinner's doubles, bad piecing & slough off.

Control of yarn quality- count, strength and their variability, study of CV% (within bobbin and between bobbin), control of variability of lea strength, single yarn strength and elongation %, Control of yarn unevenness, imperfections and hairiness.

Total Lectures required =9

Unit (3): Scope of process control in weaving, systems of process control in weaving, setting norms and schedule of checks, machinery audit, optimizing quality of winding, control of quality of knot, producing good package, dressing of the beams for reducing incidence of cross ends.

Total Lectures required =9

Unit (4): Process control in warping, minimizing end breakage in warping, quality of warping beam, control of productivity, factors responsible for loss in efficiency, control of productivity, Process control in sizing, choice recipe and size pick-up, control of size pick-up, control of yarn stretch, quality of sized beams. **Total Lectures required =9**

Unit (5): Process control in loom shed, snap study and time and motion study, control of warp and weft breakage, causes and remedies of fabric defects, factors responsible for loss in efficiency, control of productivity, process control in grey inspection, and folding sections.

Total Lectures required =9

Grand total of lectures required = 45

Reference Books

6. Machine catalogues of various machines manufacture
7. Process Control in Spinning by ATIRA
8. Process control in weaving by ATIRA
9. Process Control in Spinning by K.R. Salhotra
10. Weaving tablets by ATIRA

RTT086: Mill Planning & Organization

Unit-I: Preparation of project—

Spinning/Weaving/Processing/Composite

- I-** Selection of product
- J-** Site Selection (site, location, land and cost)
- K-** Building (single, double and multiple)
- L-** Plant and Machinery

Total lecture required 09

Unit-II

Industrial hazards: i. Fire hazards, ii. Mechanical hazards, iii. Electrical etc

Safety rules for prevention of accidents

Humidification of textile mill- humidifier and humidification

Ventilation, floor cleaning in textile mills, lightening

Air conditioning and Refrigeration system

Total lecture required 08

UNIT III:

Balancing of machine (plant layout for machines-- balancing of machines, layout of different machines, calculation for balancing of machines for different processes—spinning, weaving)

Total lecture required 07

UNIT IV

Production Costing—various terms used in costing (cost volume, profit analysis, cost allocation on waste, effect on cost direct , indirect.

Various elements of costing- concept of estimation for costing, break-even analysis

Total lecture required 10

UNIT V

Economic Viability

Staff organization in textile mills – daily wages, various systems

Recruitment, allocation and skill development

Management and information system MIS

Total lecture required 08

Text Books & Reference Material

1. Industrial Engineering, Organization & management by Tarachand
2. Industrial Economics & Principle of Management by T.M. Chabra
3. Industrial Economics & Principle of Management by S. K Sharma

RTT087: Evaluation of Textile Materials

Unit (1): Evaluation of Textile Materials , Sampling Methods & Sample Size, Sampling Methods & Sample Size: Practical Statistics, Evaluation of Fibre Length.

Total Lectures required =9

Unit (2) Evaluation of Fibre Fineness, Evaluation of Cotton Fibre Maturity, Evaluation of Yarn Twist

Total Lectures required =9

Unit (3): Evaluation of Cotton Fibre Properties:(HVI & AFIS), Evaluation of Linear Density of Textile Materials, Evaluation of Moisture in Textiles, Evaluation of Yarn & Fabric Hairiness

.Total Lectures required =9

Unit (4): Evaluation of Tensile Properties of Textile Materials, Evaluation of Tensile Properties of Textile Materials-1, Evaluation of Tensile Properties of Textile Materials-2, Evaluation of Tensile Properties of Textile Materials-3,4,5

Total Lectures required =9

Unit (5): Evaluation of Yarn Evenness-1-5 Evaluation of Bursting & Tear Strength of Fabrics, Evaluation of Pilling & Abrasion Properties of Fabrics, Evaluation of Low Stress Mechanical Properties of Textile Materials,

Total Lectures required =9

Grand total of lectures required = 45

RTT 851: Seminar

RTT 852: Project-2

Students will carry out major project during eighth semester as a part of curriculum as per AKTU guidelines.