

NATIONALEUCATIONPOLICY-2020
Common Minimum Syllabus for all Uttarakhand
State Universities and Colleges



Syllabus Proposed
2023-24

Sri Dev Suman Uttarakhand University
Badshahithol, Tehri (Garhwal)

पाठ्यक्रम निर्माण समिति, उत्तराखण्ड
Curriculum Design Committee, Uttarakhand

क्र० सं०	नाम एवं पद	
1	प्रो० एन० के० जोशी कुलपति, श्रीदेव सुमन उत्तराखण्ड विश्वविद्यालय, टिहरी	अध्यक्ष
2	कुलपति, कुमाऊँ विश्वविद्यालय, नैनीताल	सदस्य
3	प्रो० जगत सिंह बिष्ट कुलपति, सोबन सिंह जीना विश्वविद्यालय, अल्मोड़ा	सदस्य
4	प्रो० सुरेखा डंगवाल कुलपति, दून विश्वविद्यालय, देहरादून	सदस्य
5	प्रो० ओ० पी० एस० नेगी कुलपति, उत्तराखण्ड मुक्त विश्वविद्यालय, हल्द्वानी	सदस्य
6	प्रो. एम० एस० एम० रावत सलाहकार—रूसा, रूसा निदेशालय, देहरादून	सदस्य
7	प्रो० के० डी० पुरोहित सलाहकार—रूसा, रूसा निदेशालय, देहरादून	सदस्य

**Proposed Syllabus for PG PROFESSIONAL COURSE HOME SCIENCE (TEXTILE AND APPAREL DESIGNING)
UNDER NATIONAL EDUCATION POLICY- 2020**

Tentative Structure	Subject I	Subject II	Subject III	Subject IV	Practical	Subject V	Co-curricular course (Qualifying)	Industrial training/survey	Minimum credits (for the yr)	Cumulative Minimum credits (required for award of certificate/diploma/ degree)	
	Major	Major	Major	Major	Major	Minor Elective	Minor	Major			
	4 Credits	4 Credits	4 Credits	4 Credits	4 Credits	4 Credits	(Qualifying)	4 credits			
Yr	Sem.										
1	I	Advanced Textile Designing and Woven Fabric Analysis	Advanced Apparel Construction	Fashion Marketing	Eco textile and Environment	Practical (Advanced Apparel Construction)	Fundamentals of Textile Science *		Industrial Training/ Survey/ Research Project	28	Bachelor (Research) in Home Science (52)
	II	Historic Textiles and Costumes	Fashion Designing and Accessories	Textile Auxiliaries and Colour Designing	Research Methods & Statistics	Practical (Textile Auxiliaries and Colour Designing and Fashion Designing and Accessories)			Industrial Training/ Survey/ Research Project	24	
2	III	Recent Advances in Textiles and Apparel Designing	Textile Industry and Trade	Apparel Industrial Management	Dyeing and Finishing	Practical(Dyeing and Finishing)			Industrial Training/ Survey/ Research Project	24	Master in Home Science (Textile and Apparel Designing) (48)
	IV	Fiber Chemistry	Garment Manufacturing-Draping	Textile Quality Analysis	Retailing & Merchandising	Practical (Garment Manufacturing -Draping)			Industrial Training/ Survey/ Research Project	24	

SEMESTER-VII

Course Code	Course Title	L-T-P	Credits
BHS-701	Advanced Textile Designing and Woven Fabric Analysis	4-0-0	4
BHS -702	Advanced Apparel Construction	4-0-0	4
BHS -703	Fashion Marketing	4-0-0	4
BHS -704	Eco Textile and Environment	4-0-0	4
BHS -705	Practical (Advanced Apparel Construction)	0-0-4	4
BHS -706	Fundamentals of Textile Science *(Minor Elective)	2-0-2	4
BHS -707	Industrial Training/ Survey/ Research Project	0-0-4	4
	Total	18-0-10	28

SEMESTER-VIII

Course Code	Course Title	L-T-P	Credits
BHS - 801	Historic Textiles and Costumes	4-0-0	4
BHS -802	Fashion Designing and Accessories	4-0-0	4
BHS -803	Textile Auxiliaries and Colour Designing	4-0-0	4
BHS -804	Research Methods and Statistics	4-0-0	4
BHS -805	Practical (Textile Auxiliaries and Colour Designing and Fashion Designing and Accessories)	0-0-4	4
BHS -806	Industrial Training/ Survey/ Research Project	0-0-4	4
	Total	16-0-8	24

SEMESTER-IX

Course Code	Course Title	L-T-P	Credits
MTA-901	Recent Advances in Textiles and Apparel Designing	4-0-0	4
MTA-902	Textile Industry and Trade	4-0-0	4
MTA-903	Apparel Industrial Management	4-0-0	4
MTA-904	Dyeing and Finishing	4-0-0	4
MTA-905	Practical(Dyeing and Finishing)	0-0-4	4
MTA-906	Industrial Training/ Survey/ Research Project	0-0-4	4
	Total	16-0-8	24

SEMESTER-X

Course Code	Course Title	L-T-P	Credits
MTA-10-01	Fiber Chemistry	4-0-0	4
MTA-10-02	Garment Manufacturing-Draping	4-0-0	4
MTA-10-03	Textile Quality Analysis	4-0-0	4
MTA-10-04	Retailing and Merchandising	4-0-0	4
MTA-10-05	Practical (Garment Manufacturing -Draping)	0-0-4	4
MTA-10-06	Industrial Training/ Survey/ Research Project	0-0-4	4
	Total	16-0-8	24

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Seventh
Course Code: MTA-701	Course Title: Advanced Textile Designing and Woven Fabric Analysis	
Course outcomes:		
The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> ➤ To develop in depth knowledge about weaving process, about looms and drafting, lifting patterns of various types of basic weaves. . ➤ To learn about the complex weaves and dobby, jacquard mechanism and carpet making process. . 		
Credits: 4	Major	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	Lectures
I	History and development of spinning, weaving and handlooms. Spinning of yarns, classification of woven fabrics. Operation in woven cloth production	10
II	Shuttleless looms- projectile, rapier, air jet, water jet. Weaving: multiple shedloom, automatic controls in modern looms & scope of modern methods of weaving; detailed pre weaving processes.	15
III	Study of design, draft and peg plan for different weaves; weave calculations; advantages and disadvantages. Construction of elementary weaves: plain, twill, satin and sateen weaves. Colour and weave effects.	15
IV	Complex and fancy structures- leno, crepe, double and back cloth, honey comb, mock leno, diaper, diamond, warp and weft figuring, terry and pile	10
V	Dobby and jacquard patterning devices	4
VI	Methods of carpet making	6
	Total	60
Suggested Readings:		
<ol style="list-style-type: none"> 1. Grosicik. Z. J. <i>Watson's Textile Design & Colour</i>. Butterworths. 2. Grosick Z. J. <i>Watson's Advanced Textile Design</i>. Universal Publication. 3. Grosick Z. J. <i>Watson's Advanced Textile Design - Compound Woven Structures</i>. Universal Publication. 4. Marjory Joseph. <i>Illustrated Guide for Textiles</i>. Rine Hort & Winsoten, New York. 5. Radha Krema. <i>Manual of Non Wovens</i>. Textile Trade Press. 6. Sen Gupta. <i>Weaving Calculations</i>. DB Taraporawala Sons. 7. Talukdar M. K. <i>Weaving Machines, Mechanism and Management</i>. MahajanPublication 8. Davis L. Marisn. <i>Visual Design in Dress</i>. Prentice Hall. 9. Prakash K. <i>Impression- A Classic Collection of Textile Designs</i>. Design points. 10. Prakash K. <i>Traditional Indian motifs for weaving & Textile printing</i>. Design points. 11. Winfred Aldrich. <i>CAD in Clothing & Textiles</i>. BSP Professional Books. 		

12. Rene Weiss chase. *CAD for fashion Design*. Prentice Hall.

Suggested Continuous Evaluation Methods:

Seminar/ Presentation on any topic of the above syllabus• Test with multiple choice questions/ short and long answer questions• Attendance

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Seventh
Course Code: BHS-702	Course Title: ADVANCED APPAREL CONSTRUCTION	
Course outcomes: The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> To impart in depth knowledge of style reading, pattern making and garment construction techniques. To develop and understand the principles of pattern making and draping. 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
1.	Advanced techniques of pattern making- incorporating style lines & fullness.	10
2.	Basic pattern and its fitting	5
3.	Fitting problems in blouse, sleeves, skirts and men's tailored garment	5
4.	Selection of fabrics for particular items in clothing: fabric for test copy, underlining or supporting fabrics, face fabrics etc	5
5.	Advance sleeve variations, decorative and functional pockets, bias cut dresses, Jackets, types of pants	5
6.	Draping, trueing and stitching- dart less shirt, surplice shirt; draping and stitching skirts; draping collars, sleeves, cowls, ruffles and peplums	15
7.	Various functional and decorative types of zippers, belts, tie and bows	5
8.	New developments in fabrics and innovations in construction techniques as well as improved features in commercial pattern.	10
	Total	60
References		
<ul style="list-style-type: none"> Armstrong, Pattern making for fashion designing, Pearson Education Gioello and Berke, Figure type and size rang, Fairchild publications, New York. Grate and Storm, concepts in clothing, McGraw Hill Book Co., New York Janine Mee & Michal Purdy. 1987. <i>Modelling on the Dress Stand</i>. BSP Professional Books. Natalie Bray. 1994. <i>Dress Fitting</i>.Blackwell. 		
Suggested Continuous Evaluation Methods:		
Seminar/ Presentation on any topic of the above syllabus□ Test with multiple choice questions/ short and long answer questions□ Attendance		

Programme/Class: Bachelor (Research) in Textile and Apparel Designing		Year: Fourth	Semester: Seventh
Course Code: BHS-703		Course Title: FASHION MARKETING	
Course outcomes:			
The Student at the completion of the course will be able to:			
<ul style="list-style-type: none"> ➤ To know about the dynamics of fashion, marketing concept ➤ To know about the product, price, place and promotion techniques used in fashion marketing mix. ➤ To learn about the domestic and export marketing principles. 			
Credits: 4		Major	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0			
Unit	Topics	Lectures	
I	Dynamics of fashion: Fashion terminology, factors influencing fashion, origins of fashion, the producers of fashions, profile of the fashion industry.	8	
II	Marketing Core Concepts, marketing mix and marketing environment, marketing environment of India.	8	
III	Market segmentation, targeting and positioning (STP): Concepts and methods of market segmentation, need for positioning, Positioning through various means, formulation of positioning maps.	9	
IV	Product in relation to fashion: Classification of fashion, product life cycle, the process of product development, the making of a brand, branding strategies, brand management and brand image building.	8	
V	Promotion and distribution: Role of promotion, Methods of promotion: Advertising, sales promotion, Personal Selling: designing and management of different methods of promotion and their employment in relation to cost effectiveness and product life cycle. Different channels of distribution: selection and management, designing and management of retail outlet.	11	
VI	Pricing: Principles and methods of pricing: pricing in relation to product type, product lifecycle, distribution outlet etc.	8	
VII	Domestic vs Export market: Principles of marketing for the domestic and export market.	8	

	Total	60
Suggested Readings:		
<ol style="list-style-type: none"> 1. Kotler, P., <i>Marketing Management</i>. McGraw Publishing. 2. Wells Burnette Morianty. <i>Advertising- Principles and Practices</i>. Prentice Hall. 3. Frings, <i>Fashion from Concept to Consumer</i>. Prentice Hall. 4. Sen Gupta. <i>Brand Positioning</i>. Tata McGraw Hill Publishing. 5. Oleon Peter. <i>Consumer Behaviour and Marketing Strategy</i>. McGraw Publishing. 6. Darlie Koshy. <i>Effective Export Marketing of Apparel</i>. Global Business press. 		
Suggested Continuous Evaluation Methods:		
Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance		

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Seventh
Course Code: BHS-704	Course Title: ECOTEXTILES AND ENVIRONMENT	
Course outcomes:		
The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> • To impart indepth knowledge of different eco-friendly dye 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Industrialization, eco-balance and textile ecology. Air, noise and water pollution by mechanical and chemical textile processing and their effect.	10
II	German Ban, Indian Ban, Banned dyes, Eco-parameters, Eco-friendly Textiles.	10
III	Oeko- Tex Standard 100.	5
IV	Sensitizing Dyestuffs- Allergenic Dyes, Carcinogenic Amines, harmful dyes viz., Disperse, azo, acid, direct (commercial name and C. I. number), Testing of Banned azo dyes.	10
V	Red listed chemicals as per Eco- specification, Testing of textiles and auxiliaries, effluents discharge.	10
VI	Health hazards of textile workers working in various textile units and their remedial measures.	15
	Total	60

References

- Shenai, V.A. *Ecology and Textiles*, Sevak Publication, Mumbai.
- Shenai, V.A. *Toxicity of Dyes and Intermediates*, Sevak Publication, Mumbai.
- Shenai, V.A. *Azo dyes- Facts and Figures*. Sevak Publication, Mumbai.
- Lever Kusen. *German Legislation on Azo Dyes*. Dystar, Textifارben, Germany.
- Mark K. H., Woodlings and Atlas S.M., *Chemical after Treatment of Textiles*. JohnWiley & Sons.
- Skinkle J.H., *Textile Testing*. D.B. Taraporewala

Suggested Continuous Evaluation Methods:

Seminar/ Presentation on any topic of the above syllabus Test with multiple choice questions/ short and long answer questions Attendance

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Seventh
Course Code: BHS-705	Course Title: Practical (Advanced Apparel Construction)	
Course outcomes: The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> • To impart in depth knowledge of style reading, pattern making and garment construction techniques. • To develop and understand the principles of pattern making and draping. 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-4		
Unit	Topics	No. of Lectures
I	CAD commands; creating stripes and checks using various commands; Creating weave library	15
II	Developing motifs by scanning and drawing using the CAD commands	15
III	Simulation and graph/ point paper; Developing a computer aided portfolio of different motifs, Creation of special effects layers and layer settings	10
IV	Creation of grid and editing the object. Development of carpet designs using CAD	10
V	Development of woven samples using basic and other fancy weaves.	10
	Total	60
References		
<ol style="list-style-type: none"> 1. Grosicik. Z. J. <i>Watson's Textile Design & Colour</i>. Butterworths. 2. Grosick Z. J. <i>Watson's Advanced Textile Design</i>. Universal Publication. 3. Grosick Z. J. <i>Watson's Advanced Textile Design - Compound Woven Structures</i>. Universal Publication. <ul style="list-style-type: none"> • Marjory Joseph. <i>Illustrated Guide for Textiles</i>. Rine Hort & Winsoten, New York 		

Suggested Continuous Evaluation Methods:

Seminar/ Presentation on any topic of the above syllabus Test with multiple choice questions/ short and long answer questions Attendance

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Seventh
Course Code: BHS-706	Course Title: Fundamentals of Textile Science	
Course outcomes:		
The Student at the completion of the course will be able to:		
➤ To develop knowledge about fibers, yarns and fabric construction methods		
➤ To understand about the laundry equipments and stain removals.		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 2-0-2		
Unit	Topics	No. of Lectures
I	Introduction, terminology and classification of textile fibers a) Natural fibers: Cotton, jute, silk, wool b) Manmade fibers:, nylon, polyester, acrylic	8
II	Yarn classification; characteristics and their use	5
III	Introduction to methods of fabric construction:	5
	a) Weaving b) knitting, c) lace making d) nonwoven	
IV	Labels and tags used in textiles and consumer education	2
V	Laundry equipment; their use and care	10
	a) Cleansing agents: water, detergents, soaps and other laundry reagents- acidic, alkaline reagents and bleaching agents	
	b)Additives used in laundry: stiffening	
	c) Stain removal: classification, general rules and methods of removing	
	Total	30
Unit	Topics	No. of Practicals
I	Identification of fibers: visual inspection, burning, microscopic and solubility tests	9
II	Study and identification of common fabrics available in the market and thread count	5
III	Removal of common stains from fabrics	5
IV	Demonstration of laundry equipment	1
V	Washing, ironing and finishing of textile articles: cotton, silk, wool, synthetic/blend, zari embroidery and lace articles	9
VI	Visit to Processing unit/ Textile mill	1

	Total	30
Suggested Readings: <ul style="list-style-type: none"> ➤ Grosicik 1975. Watson's Textile Design & Colour. Butterworths. ➤ Grosick ZJ. 1989. Watson's Advanced Textile Design - Compound Woven Structures. Universal Publ. ➤ Marjory Joseph 1972. Illustrated Guide for Textiles. Rine Hort & Winsoten, New York. ➤ Talukdar MK. Weaving Machines, Mechanism and Management. Mahajan Publ. 		
Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus □ Test with multiple choice questions/ short and long answer questions □ Attendance		

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Eighth
Course Code: BHS-801	Course Title: Historic Textiles and Costumes	
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none"> • To understand about historic costume and textiles of various countries 		
Credits: 4	Major	
Max. Marks: 100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Introduction: Historic background and detailed study of ancient, medieval and contemporary Indian costumes	10
II	Study of traditional dyed, printed, embroidered and non-woven textiles of America, China, Egypt, France.	10
III	Study of traditional dyed, printed, embroidered and non-woven textiles of Greece, Japan and Rome – fiber content, fabrics, motifs, colours, dyes and designs used.	15
IV	History and evolution of traditional costumes of America, China, Egypt and France.	10
V	Historical development of tradition textiles from different state of India	10
VI	Textiles of Oriental, European countries in America	5
		60
References <ul style="list-style-type: none"> • Pandit, S., <i>Indian Embroidery – It's variegated charms. Latest edition.</i> Vinu Bai Patel, Baroda. • Dhamija, J.S., <i>Handicrafts of India.</i> National book trust, India. • Dhaniya, J and Jain, J., <i>Handwoven Fabrics of India.</i> Mapin publishing Ltd., Ahmedabad. 		
Suggested Continuous Evaluation Methods:		

Seminar/ Presentation on any topic of the above syllabus □ Test with multiple choice questions/ short and long answer questions □ Attendance

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Eighth
Course Code: BHS-802	Course Title: Fashion Designing and Accessories	

Course outcomes:
The Student at the completion of the course will be able to:

- To understand about the fashion terminologies, evolution, psychology, fashion forecasting, fashion cycle and factors affecting fashion.
- This course also helps to give the knowledge about the national and international fashion designs, fashion careers and opportunities of jobs in this area. It is also provides the knowledge about the fashion accessories.

Credits: 4 **Major**

Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0

Unit	Topics	No. of Lectures
1.	Fashion terminology	2
2	Evolution of fashion	4
3	Psychology of fashion	4
4	Factor determining fashion trends	2
5	Fashion forecasting and creation	4
6	Fashion affecting fashion creation	4
7	Fashion cycle	4
8	Techniques and tools used for fashion sketching	4
9	Fashion theories	4
10	Brief introduction to national and international fashion designer	6
11	Sources of advanced fashion information	6
12	Fashion careers and job opportunities	6
13	Introduction to Fashion accessories, fashion trends in accessories, Product development and designing- trims, footwear, handbags, belts, buttons and buckles, hats and scarves. Jewellery, neckties, handkerchiefs, eye wear and watches.	10
	Total	60

Suggested Readings:

- Brockman, H.L., *The Theory of Fashion Design*. Sydney, Johan, Wiley and Sons.
- Ireland, P. J., *Fashion Design Drawing*. London. B.T. batsford Ltd.
- Ireland, P. J. *Basic Fashion Design*. London. B.T. batsford Ltd.
- Ireland, P. J., *Fashion Drawing for Advertising*. London, B. T. batsford Ltd.
- Jabenis, E., *The Fashion Director*. Sydney, Johan, Wiley and Sons.

Suggested Continuous Evaluation Methods:

Seminar/ Presentation on any topic of the above syllabus Test with multiple choice questions/ short and long answer questions Attendance

Programme/Class: Bachelor (Research) in Textile and Apparel Designing	Year: Fourth	Semester: Eighth
Course Code: BHS-803	Course Title: Textile Auxiliaries and Colour Designing	
Course outcomes: The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> To understand about the textile auxiliaries and color designing 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Definition, classification and role of textile auxiliaries,	10
II	Processing operations which require use of textile auxiliaries. Spinning, Sizing, Desizing, Scouring and mercerizing, Bleaching, Dyeing, Printing and Finishing	10
III	Stiffening agents Optical brightening agents, Softeners, Water repellents, Wettingagents, Thickeners, Leveling agents, Flame retarding agents, Surfactants, Carriers/swelling agents, Dispersing agents, Antistatic agents, Antifoaming agents, Dye fixing agents.	15
IV	Chemistry of dyes and pigments- composition, structure, properties, affinity towards fibers, method of application, fixing, after treatments and fastness properties.	10
V	Advanced dyeing techniques	5
VI	Printing auxiliaries; advanced printing techniques; assessment for colour fastness	10
	Total	60
References		
<ul style="list-style-type: none"> Tortora, P. G., <i>Understanding Textiles</i>, New York, MacMillan Publication. Wynne.A., <i>Textiles</i>, Mac Muller Education Ltd. London. Shenai, V. A., <i>Technology of Printing</i>, Vol. IV, Sevak Publication. Shenai, V. A., <i>Technology of Textile Processing.</i>, Sevak Publication. Hall, A. J. <i>The Standard Handbook of Textiles</i>. Newnes-Butter-worths, London. Hollen, N. and Saddler, J., <i>Textiles</i>. Macmillan Company, New York. 		

Suggested Continuous Evaluation Methods:

Seminar/ Presentation on any topic of the above syllabus Test with multiple choice questions/ short and long answer questions Attendance

Programme/Class: Bachelor (Research) in Home Science		Year: Fourth	Semester: Eighth
Course Code: BHS-804		Course Title: Research Methods and Statistics	
Course outcomes: The Student at the completion of the course will be able to:			
<ol style="list-style-type: none"> 1. To understand the signification of statistics and research methodology in Home Science research. 2. To understand the type's tools and methods of research and develop the ability to construct data gathering instruments appropriate to the research design. 			
Credits: 4		Major	
Max. Marks: 100		Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0			
Description of theory			
Unit	Topics	No. of Lectures	
I	Research Methodology: An Introduction, Meaning of Research, Objectives of Research, Types of Research, Research Approaches, Significance of Research, Research Methods versus Methodology, Research and Scientific Method, Research Process, Criteria of Good Research, Problems Encountered by Researchers in India. Defining the Research Problem, Selecting the Problem Social Science Research, Need and Importance of social science research.	10	
II	Research design; defining concepts, advantages of research design, need for research design, Types of research design: descriptive research design, experimental research design, Correlational research design, diagnostic research design, explanatory research design	5	
III	Hypotheses, types of hypothesis, formulation of hypothesis, characteristics of hypothesis, Basic assumptions and the limitations of the problems, Conceptualization of study, Operationalization of variables and types of variables.	10	
IV	Sampling Design: meaning and definition of sampling, Steps in Sampling Design, Criteria of Selecting a Sampling Procedure, Characteristics of a Good Sample Design, Different Types of Sample Designs, probability sampling and non-probability sampling.	10	
V	Methods and tools of data collection: Collection of Primary Data, Observation Method, Interview Method, Collection of Data through Questionnaires, Collection of Data through Schedules, Difference between Questionnaires and Schedules, Collection of Secondary Data, Selection of Appropriate Method for Data Collection, Case Study Method, Instruments; concepts of measurement, reliability and validity of instruments.	10	

VI	Data processing methods, Graphical Representation of data, General guidelines for presenting data, tables, graphs and illustrations, Interpretation and generalization and analysis of data.	10
VII	Scientific reporting, points to be considered in report writing, Footnotes, Bibliographic citation, Citation style, Preparation of an abstract	5
	Total	60
Suggested Readings:		
<ol style="list-style-type: none"> 1. C. R. Kothari, GauravGarg, 2014 Research Methodology Method and Techniques, (IIIrd edition), New age International Publishers. 2. C R. kothari research methodology methods and techniques Wiley eastern.limited 3. Bandarker, P.L. and Wilknsn T.S. 2000, Methodology and Techniques of Social Research, Himalaya Publishing House, Mumbai. 4. Bhatnagar, GL. 1990: Research Methods and Measurements in Academy, New Delhi. 5. Dooly, D, 1995, Strageies for interpreting Qualitative data: sage Publication California 		
Suggested Continuous Evaluation Methods:		
Seminar/ Presentation on any topic of the above syllabus• Test with multiple choice questions/ short and long answer questions• Attendance		

Programme/Class: Bachelor (Research) in Textile and Apparel Designing		Year: Fourth	Semester: Eighth
Course Code: BHS-805		Course Title: Practical (Textile Auxiliaries and Colour Designing and Fashion Designing and Accessories)	
Course outcomes: The Student at the completion of the course will be able to:			
<ul style="list-style-type: none"> ➤ To understand about the designing and printing of the articles. ➤ To learn about the fashion illustration of figures and accessories. 			
Credits: 4		Major	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-4			
Unit	Topics	No. of Lectures	
1	Developing, designing & printing of following articles by using different printing techniques (block, screen, stencil or spray) and dyes. -Bed sheet, Sari, Suit	30	
2	Drawing fashion figures with different elevations, Drawing facial features, Textures and patterns and Accessory designing, Hair styles and headgears	28	
3	Visit to finishing units/ fashion institute	2	
	Total	60	
Suggested Readings			
<ul style="list-style-type: none"> ➤ Brockman, H.L., <i>The Theory of Fashion Design</i>. Sydney, Johan, Wiley and Sons. ➤ Ireland, P. J., <i>Fashion Design Drawing</i>. London. B.T. batsford Ltd ➤ Tortora, P. G., <i>Understanding Textiles</i>, New York, MacMillan Publication. ➤ Wynne.A., <i>Textiles</i>, Mac Muller Education Ltd. London. 			

- Shenai, V. A., *Technology of Printing*, Vol. IV, Sevak Publication.
- Shenai, V. A., *Technology of Textile Processing.*, Sevak Publication.
- Hall, A. J. *The Standard Handbook of Textiles*. Newnes-Butter-worths, London.
- Hollen, N. and Saddler, J., *Textiles*. Macmillan Company, New York.
- Anderson, F. D., *Tie-dyeing and Batik*, Octopus Books Limited. London.
- Grosicki, Z. Watson's. *Textiles Design and Colour*. Universal Publishing Corporation, Bombay.

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Ninth
Course Code: MTA-901	Course Title: RECENT ADVANCES IN TEXTILES AND APPAREL DESIGNING	
Course outcomes: The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> • To understand about the recent advances in textiles and apparel designing 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Recent researches in production and manufacture of textile fibers. Developments in Nano-fiber and microfiber.	10
II	Recent researches in production and manufacture of textile yarns.	10
III	Recent researches in production and manufacture of textile fabrics.	10
IV	Chemical processing of natural and synthetic textiles and their conversion into clothing.	10
V	Developments in the field of functional textiles and clothing; use of special techniques in textile processing.	10
VI	Conductive Materials and other Functional Materials- characteristics and its applications; Smart textiles – factors affecting the selection and uses.	10
	Total	60

References

- Allison Mathews. *Medical and Hygiene Textile Production*. Intermediate Technology Publication.
- Cookling Gerry. *Garment Technology for Fashion Designers*. Blackwell Science.
- Padmanabhan A.R., *A Practical Guide to Textile Testing*. SITRA, Coimbatore. PrenticeHall.
- Skinkle J. H. *Textile Testing*. D.B. Taraporewala.
- Related Journals of Apparels and Textiles

Suggested Continuous Evaluation Methods:

Seminar/ Presentation on any topic of the above syllabus Test with multiple choice questions/ short and long answer questions Attendance

Programme/Class: Master in Home Science (Textile and Apparel Designing)		Year: Fifth	Semester: Ninth
Course Code: MTA-902		Course Title: TEXTILE INDUSTRY AND TRADE	
Course outcomes:			
The Student at the completion of the course will be able to:			
<ul style="list-style-type: none"> ➤ To understand about the textile industry and trade in India. ➤ To know about the textile mills, khadi and village industry commission, weaving service centers, handloom sector, co-operative societies. 			
Credits: 4		Major	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0			
Unit	Topics	No. of Lectures	
I	Textiles Industries of India including cottage industries of handloom, hosiery and sericulture	2	
II	Importance of entrepreneurs and textile industries in the Indian economy	4	
III	Five year plans and Textile industries.	4	
IV	Co-ordination of production with consumer preference for various textiles products.	6	
V	Factors influencing the production and consumption of textiles	6	
VI	Factors affecting the cost of textile and pricing policies.	6	
VII	Causes for price fluctuations	4	
VIII	Import and export transaction	4	
IX	Different textile mills, khadi and village industry commission, weaving service centers, handloom sector, co-operative societies	14	
X	Study of Apparel parks, GATT, TUF, ISO 9000 and ISO 140000 standards	10	

Total	60
Suggested Readings:	
<ol style="list-style-type: none"> 1. Cooklin, G., <i>Introduction to Clothing Manufacture</i>. Blackwell Scientific Publications. 2. Karpan., <i>Change in Trends in Apparel Industry</i>. Abhiskeh Publication. 3. Kathryn Moore Greenwood. <i>Fashion Innovation & Marketing</i>. Macmillan Co. 4. Kitty Dickerson. <i>Textiles & Apparels in Global Economy</i>. Merrill Prentice Hall. 	
Suggested Continuous Evaluation Methods:	
Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance	

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Ninth
Course Code: MTA-903	Course Title: Apparel Industrial Management	
Course outcomes:		
The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> ➤ Gain basic knowledge on management, different levels of management ➤ Understand all about organization – concept, principles, types and business legal structures 		
Credits: 4	Major	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
1	Management : definition, characteristic, function, important and principles	4
2	Planning of business plan	4
3	Business finance: types, sources of finance and company finance, institutional finance and banks.	8
4	Working capital management: costing, method and types of cost, pricing method and factors affecting pricing	7
5	Organization, organizing process, organization chart, organizational principles and forms of internal organization	7
6	Industrial organisation psychology-history and areas of activity of industrial psychologist	6
7	Personnel management: definition, nature, managerial and operative functions and principles.	12
8	Factory and labour laws; necessity, aim and objectives, factories act, workmen’s compensation act, Minimum wage Act, Employee State Insurance Act, Employee Provident Fund Act, Child Labour Act	12
Total		60

Suggested Readings

- Banerjee, S. 1995. Principle and Practices of management. New Delhi and Oxford, IBH publishing co. Pvt. Ltd.

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Ninth
Course Code: MTA-904	Course Title: Dyeing and Finishing	
Course outcomes:		
The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> • To understand the theory of dyeing in relation to various classes of dyes and its application. • Inculcate awareness of different methods of printing 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	History of dyestuff concept of colours and its relation to light classification and types of dyes/colouring matter	10
II	Chemistry of dyes and pigments- composition structure, properties, affinity towards fibre.	10
III	Dyeing with chemical dyes direct, reactive, vat, sulphur, azo, acid, and basic and disperse dyes.	10
IV	Dyeing with natural dyes role of methods.	10
V	Finishing concept scope and importance finishes- soil repellent soil resistant soil release, antistatic, anti-pilling, wash wear, crabbing, decanting, water proof and repellency mildew proof flame resistance and flame proof, antibacterial	10
VI	<ul style="list-style-type: none"> • Recent advancement in dyeing, printing and finishing 	10
	Total	60
References		
<ul style="list-style-type: none"> • V. A. Sehnai, Chemistry of Dyes and principle of Dyeing. Sevak Prakashan, Mumbai • V. A. Sehnai, Azo Dyes Facts and Figures. SevakPrakashan, Mumbai • K. Venkatrama Chemistry of Synthetic Dyes, Part I and Part II • H. A. Lubs, Robert E. The Chemistry of Synthetic Dyes and Pigments, Krieger Publishing Company New York. 		
Suggested Continuous Evaluation Methods:		
Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance		

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Ninth
Course Code: MTA-905	Course Title: Dyeing and Finishing Practical	
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none"> To impart skill in dyeing and printing on different fabrics 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-4		
Unit	Topics	No. of Lectures
I	Dyeing of cotton and jute with corresponding dyes by exhaust method in laboratory dyeing machine.	10
II	Dyeing of silk and wool with corresponding dyes by exhaust method in laboratory dyeing machine.	10
III	Resist dyeing- Tie dye on silk, jute, cotton, chiffon, georgette	10
IV	Resist dyeing- Batik on silk, cotton	10
V	Visit to dyeing and processing unit	10
	Total	60
References <ul style="list-style-type: none"> V. A. Sehnai, Chemistry of Dyes and principle of Dyeing. SevakPrakasahan, Mumbai V. A. Sehnai, Azo Dyes Facts and Figures. SevakPrakasahan, Mumbai Nalini Srivastava, Tie and dye, PanditSunderlal Sharma Central Institute of Vocational Education 		
Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance		

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Tenth
Course Code: MTA-10-01	Course Title: FIBER CHEMISTRY	

Course outcomes:		
The Student at the completion of the course will be able to:		
➤ To develop knowledge about fibers and its polymer structure		
➤ To study the different new fibers and its structure		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Chemistry of polymers- polymerization, types, degree and characteristics;	10
II	Structure of textile fibers (cellulosic, protein and man made fibers) - general,molecular bonding, length, orientation and requirements of fiber forming substances.	10
III	Structure- property relations of the fibers- repeating units, bonds, reactive groups and Acids/alkali reactions of cotton, viscose rayon, silk, wool, linen, polyester, acrylic, spandex and minor fibers; action of heat, light , bleach and microorganisms of different fibers; commercial processes of fibers.	20
IV	Bi-component and biconstituent fibers- Types of configuration and characteristics.	10
V	Study of new fibers; blending- principles, technology and types.	10
		60
References		
<ul style="list-style-type: none"> • Andrea Wynne. <i>Textiles</i>. Macmillan. • Bernard P. Corbman, <i>Textiles- Fiber to fabric</i>. McGraw- Hill. • Lyle D. S., <i>Modern Textiles</i>. John Wiley & Sons. • Majory L. Joseph. <i>Introductory Textile Science</i>. Rinehart & Winston. • Vilensky G. <i>Textile Science</i>. CBS publication. 		
Suggested Continuous Evaluation Methods:		
Seminar/ Presentation on any topic of the above syllabus □ Test with multiple choice questions/ short and long answer questions □ Attendance		

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Tenth
Course Code: MTA-10-02	Course Title: Garment Manufacturing- Draping	

Course outcomes: The Student at the completion of the course will be able to:		
<ul style="list-style-type: none"> To impart technical knowledge and skills in garment designing and manufacturing by draping 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Garment designing through draping: definition and related terminology	10
II	Tools and supplies for draping	5
III	Draping principles and techniques	10
IV	Basic dress drape	10
V	Underlying or supporting materials importance in garment construction	10
VI	Trimmings: classification, their characteristics and application in garment construction	15
	Total	60
References		
<ul style="list-style-type: none"> Bane, A. 1972. Flat Pattern Design. New York. McGraw Hill Book Waren, G.S. 1969.Principles for creative clothing 		
Suggested Continuous Evaluation Methods:		
Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance		

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Tenth
Course Code: MTA-10-03	Course Title: TEXTILE QUALITY ANALYSIS	
Course outcomes: The Student at the completion of the course will be able to:		
➤ To develop knowledge about testing methods of different fibers, yarns and fabrics		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Importance of textile testing, standardization and quality control, functions of BIS and other standards.	10
II	Fiber length, fineness, evenness, fiber strength, elongation, diameter, air permeability	15
III	Yarn strength, elongation, count, denier, crimp, twist, stress-strain curve, elastic recovery	10

IV	Fabric strength, breaking, bursting, tear and ballistic strength, thermal conductivity, air permeability, water repellency, thickness, shrinkage, pilling, abrasion resistance, colour fastness to washing, light, rubbing or crocking and perspiration	15
V	Apparel Testing- seam strength, button and print etc.	5
VI	National and International organization and objectives of various organizations related to textile testing	5
	Total	60
References <ol style="list-style-type: none"> 1. Vilensky, L. D. and Gohl, E. P.G., <i>Textile Science</i>. CBS Publication and distributor, New Delhi. 2. Mishra, S.P. A., <i>Text Book of Fiber Science & Technology</i>. New Age International 3. Wynne. A., <i>Textiles</i>. Macmillan Education Ltd., London 		
Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance		

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Tenth
Course Code: MTA-10-04	Course Title: Retailing and Merchandizing	
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none"> ➤ To develop in depth knowledge about Merchandizing and retailing. ➤ To learn about sales promotion techniques and export import procedures. 		
Credits: 4	Major	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
I	Merchandizing : terminology, concept and principles.	7
II	Factors affecting Merchandizing	6
III	Role and responsibilities of a merchandiser	3
IV	Merchandizing for buying houses, departmental stores and export houses.	3
V	Retailing- terminology and concept	4

VI	Evolution of retail and retail formats	4
VII	Sale promotion and promotion mix: Advertising, Sale promotion techniques, personal selling, and publicity.	10
VIII	Pricing methods and pricing of textiles	12
IX	Fashion analysis, forecasting and significance in product planning.	7
X	WTO and its impact on retailing and merchandizing	4
	Total	60
	Suggested Readings: Cooklin, G. 1991. Introduction to Clothing Manufacturer. London, Blackwell Science Ltd.180p. Pradhan, S. 2009. Retailing Mangement, 3 rd edn. New Delhi, Tata McGraw-Hill Publishing Company Limit. 613p	

Programme/Class: Master in Home Science (Textile and Apparel Designing)	Year: Fifth	Semester: Tenth
Course Code: MTA-10-05	Course Title: Practical (Garment Manufacturing-Draping)	
Course outcomes: The Student at the completion of the course will be able to: <ul style="list-style-type: none"> To impart technical knowledge and skills in garment designing and manufacturing by draping 		
Credits: 4	Major	
Max. Marks:100	Min. Passing marks:	
Total No. of lectures-Tutorials-Practical (in hours per week): L-T-P: 0-0-4		
Unit	Topics	Lectures
I	Preparation of samples for the construction features: a) Gathers b) Pleats c) Tucks d) Cowl necklines e) Collars	20
II	Designing and construction of following garments using different construction features: a) Skirt b) Gown	20
III	Pattern development	10
IV	Visit to fashion institute; project preparation and report writing	10
	Total	60
References <ul style="list-style-type: none"> Bane, A. 1972. Flat Pattern Design. New York. McGraw Hill Book Waren, G.S. 1969.Principles for creative clothing 		
Suggested Continuous Evaluation Methods: Seminar/ Presentation on any topic of the above syllabus <input type="checkbox"/> Test with multiple choice questions/ short and long answer questions <input type="checkbox"/> Attendance		