



Department of Fashion Technology
 Bhagat Phool Singh Mahila Vishwavidyalaya,
 Khanpur Kalan (Sonapat), Haryana-131305
 Office No. 01263-283124, www.bpswomenuniversity.ac.in
 Third Semester (B.Tech FT)

B.Tech Fashion Technology 2 Year (FT 3 rd Sem)							Marks			
S.No	Cat	Code	Course Title	Hrs/Week			Total Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1.	Engineering Science Courses (ESC)	ESC-FTL-201A	Textile and Fibre Science	3	0		3	20	80	100
2.	Engineering Science Courses (ESC)	ESC-FTL-203A	Yarn Formation Technology	3	0		3	20	80	100
3.	Professional Core Course(PCC)	PCC-FTL-201A	Introductions to Fashion & Apparel Industry	3	0		3	20	80	100
4.	Professional Core Course(PCC)	PCC-FTL-203A	Apparel Production-I	3	0		3	20	80	100
5.	Professional Core Course(PCC)	PCC-FTL-205A	Elements of Fashion & Design	3	0		3	20	80	100
6.	Basic Science Course(BSC)	BSC-MAL-201A	Applied statistics for Fashion and Apparel	3	0		3	20	80	100
7.	Mandatory Course	BSC-233	Constitution of India** (NON-CREDIT)	3	-	-	-	-	-	-
LAB										
8.	Engineering Science Courses (ESC)	ESC-FTP-211A	Fibre Identification and Yarn formation	-	-	2	1	10	40	50
9.	Professional Core Course(Lab)	PCC-FTP-213A	Fashion Sketching and Illustration lab	-	-	2	1	10	40	50
10.	Professional Core Course(Lab)	PCC-FTP-215A	Elementary Garment Manufacturing Lab			2	1	10	40	50
Total				21		4	21	150	600	750

**Constitution of India (BSC-233) is mandatory and qualifying course.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination

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Bhagat Phool Singh Mahila Vishwavidyalaya,
Khanpur Kalan (Sonapat), Haryana-131305
 Office No. 01263-283124, www.bpswomenuniversity.ac.in
 Forth Semester (B.Tech FT)

B.Tech Fashion Technology 2 Year (FT 4 th Sem)							Marks			
S.No	Cat	Code	Course Title	Hrs/Week			Total Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1.	Basic Science Course(BSC)	BSC-FTL-202A	Color Physics	3	-	-	3	20	80	100
2.	Professional Core Course(PCC)	PCC-FTL-202-A	Textile Fabric	3	-	-	3	20	80	100
3.	Professional Core Course(PCC)	PCC-FTL-204A	Design Concepts In Fashion And Apparel	3	-	-	3	20	80	100
4.	Professional Core Course(PCC)	PCC-FTL-206A	Traditional Indian Embroideries & Textiles	3	-	-	3	20	80	100
5.	Professional Core Course(PCC)	PCC-FTL-208A	Apparel production-II	3	-	-	3	20	80	100
6.	Humanities & Social Sciences Including Management(HS MC)	HSMC-FTL-202A	Merchandising and Management Function	3	-	-	3	20	80	100
7.	Mandatory Course(MC)	MC-233	Environmental Science ** (non-credit)	-	-	-	-	-	-	-
LAB										
8.	Professional Core Course(Lab)	PCC-FTP-212A	Fabric Development and Analysis Lab	-	-	2	1	10	40	50
9.	Professional Core Course(Lab)	PCC-FTP-214A	Colour and Design Practical	-	-	2	1	10	40	50
10.	Professional Core Course (Lab)	PCC-FTP-216A	Traditional Indian embroideries & Textiles Practical	-	-	2	1	10	40	50
11.	Professional Core Course (Lab)	PCC-FTP-218A	Pattern Making and Garment manufacturing Lab	-	-	2	1	10	40	50
Total				18	8	22	160	640	800	

** Environmental science non credit (MC-233) is mandatory and qualifying course.

Note:

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- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.

There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

Cybernetics

B. Tech 3rd Sem.

ESC-FTL-201-A

TEXTILE AND FIBRE SCIENCE

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Total Credit: 3

Course Objectives:

This course aims at updating the knowledge of students in the following fields of textile and fibre science:

1. The basic concepts of fibre properties
2. To make the students understand about the natural fiber and their physical and chemical properties.
3. To make the students learn about difference between manmade fibre and natural fiber and their spinning processes.
4. Fundamental aspects of synthetic fiber and production of commodity fibers like PET, Nylon, PT and PAN.
5. Studies on various high performance fibers

Unit 1: Introduction to fibres, essential and desirable properties of textile fibres, classification of textile fibres, important fibre properties and their effect on influencing yarn and fabric properties, effect of fibre cross sectional structure upon lusture and other physical fibre properties.

Unit 2: Natural Vegetable fibres like cotton, linen etc., Bast fibres like Jute, Flex Hemp, Protein fibres such as wool, silk etc., application of these fibres in fashion and apparel Industry, important physical and chemical properties of these fibres.

Unit 3: Introduction and brief history of regenerated and man-made fibres, relative merits and demerits of manmade and natural fibres. Introductory concept of fibre spinning. Brief outline of the manufacturing processes of regenerated cellulosic fibres, physical and chemical properties of these fibres.

Unit 4: Introduction to nylon, polyester, acrylics, polypropylene and polyethylene, brief outline of the manufacturing processes of these fibres (only flow charts), chemical and physical properties of important man-made fibres. basic concept, properties and uses of high performance fibres such as Nomex, Kevlar, Carbon, Spandex.

Suggested Text Books & References:

1. Gohl E P G and Vilensky LD, "Textile Science", CBS Publishers, Delhi, 1983.
2. Cook Gordon J, "Hand Book of textile fibre", Vol. I and II, Woodhead Fibre Science Series, UK, 1984.

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3. Gupta V B and Kothari V K, "Manufactured Fibre Technology", 1st Ed., Chapman and Hall, London, 1997.

4. Kothari V K Ed. "Textile Fibers: Developments and Innovations, IAFL Publications, New Delhi, 2000.

Course Outcomes:

After completing the course successfully, the student should be able to:

1. have the knowledge of essential and desirable properties of textile fibre and their effect on influencing yarn and fabric properties
2. acquire knowledge of natural fibers.
3. know different varieties of Natural, Regenerated and Synthetic fibres used in textile industries.
4. know structures of different textile fibres.
5. know manufacturing process of different Man-Made fibres.
6. identify different fibres on the basis of their physical and chemical properties.

Note:

1. Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
2. The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
3. Electronic gadgets including cellular phones are not allowed in the examination.
4. There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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ESC-FTL-203-A

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YARN FORMATION TECHNOLOGY

Total Credit: 3

Course Objectives:

- To familiarize the students with objectives of initial stages of yarn formation viz. Ginning, Mixing and Blending, Blowroom and Card, Drawing-in, Combing, Roving & Ring frame
- To make the students understand about the unconventional methods of yarn formation viz. Rotor Spinning, Air-Jet spinning and Friction Spinning
- To make the students learn about fancy yarn, sewing thread and yarn numbering systems, etc.

Unit 1: Brief introduction of the subject: Introducing yarn, classification of yarns and their types, staple and filament yarns, Introduction to cotton spinning system, flow chart from fibre to spun yarn, Objectives of ginning, mixing and blending, introduction and objectives of blow room & carding

Unit 2: Objectives of combing, comparing carded and combed yarn, Objectives of draw frame, speed frame and ring frame, textured yarns, types and uses.

Unit 3: Woolen and worsted yarn, flow chart from fibre to spun yarn for woolen and worsted system, Introduction to other spinning system like rotor spinning, air jet and friction spinning etc., Properties, uses and comparison among ring spun, rotor spun and air-jet spun yarns

Unit 4: Yarn numbering system and calculations pertaining to conversion, Brief description of fancy yarns, essential properties of sewing threads, fibres used, thread finishes and thread sizes.

Suggested Text Books & References:

1. Comdex Fashion Design; Fashion Concepts: Vol -I by Dr. Navneet Kaur, dreamtech press, 2010
2. Salhotra K R, "Spinning of Man Made Fibres and Blends on Cotton Spinning System", The Textile Association, Mumbai, 1989
3. Sara J. Kadolph, "Textiles", Prentice Hall, 10th edition 2007
4. Bernard P. Corbman, "Textile Fibres to Fabric" McGrawhill Publications, 6th Edition 1983
5. Penny Walsh, "The yarn book", A & C black publisher
6. W Klein, "Short Staple Spinning Volume-I, II, III & IV
7. Eric Oxtoby, "Spun Yarn Technology"

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Course outcomes

At the end of the course, the students will:

- be able to understand the conventional and unconventional methods of yarn formation.
- be able to understand and differentiate between yarn, sewing thread, fancy yarn, woolen yarn and worsted yarn as well as their utilities.
- be able to learn about yarn specifications, thread sizes, calculate various parameters like blowroom cleaning efficiency, draft on drawframe as well as conversion factors of different yarn numbering systems.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-201A INTRODUCTION TO FASHION AND APPAREL INDUSTRY
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Total Credit: 3

Course Objective:

To acquaint the student with the fundamentals of fashion and basic principles that govern all fashion movement and change.

1. To learn basic fashion terminology, and to understand, principles, concepts and theories involved in course coverage.
2. To explore the manner in which economic, sociological and psychological factors influence fashion demand.
3. To know about the fashion center in world.
4. To understand about the fashion forecasting and services.

UNIT-1: Introduction to apparel industry, Indian apparel industry scenario and its SWOT analysis. Structure and working flowchart of various departments of a garment production house.

UNIT-2: Fashion terminology, fashion cycle, fad/classic, factors affecting fashion, Fashion adaptation theories, major fashion centers of the world: brief introduction to world fashion centers - American, European, Japanese.

UNIT-3: Consumer identification with fashion cycles- leaders, innovators, followers. Motives of consumer buying, fashion selection, brief introduction about roles/jobs in fashion / export houses.

UNIT - 4: Fashion information services, trend forecasting and auxiliary services. Forecasting trends: Purpose of forecasting trends, how to use forecasting service, fashion promotion and communications- Trade fairs, Fashion shows.

Suggested Text Books & References:

1. Brockman, H.L., "The theory of Fashion ", John Wiley & Sons, 1965.
2. Kawashima, Masazki, "Fundamentals of Men's Fashion Design ", Fairchild's publications, 1976.
3. Carr, H.C., "The clothing Factory ", The Clothing Institute, Blackwell London, 1972.
4. Jarnow, J.A., and Judelle B., "Inside the Fashion Business ", JWS, 2nd edition, 1974.
5. Barton, Roger, "Advertising Handbook ", Prentice Hall Inc, 1956.
6. Swinney, John B, "Merchandising of Fashion ", Ronald press, 1942.
7. Jacob Solinger., "Apparel Manufacturing Handbook ", VanNostrand Reinhold Company, 1980.

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Course Outcomes:

After completion of the course, students will be able to:

- 1 understand the concepts of Indian apparel industry and working of various department of apparel industry.
- 2 have the knowledge of fashion terminology, Fashion adaptation theories and fashion centers.
- 3 understand about the fashion consumer identification and jobs in export house.
- 5 understand the concepts of fashion information services and forecasting.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-203-A

APPAREL PRODUCTION-I

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Total Credit: 3

Course Objectives:

The course is designed for the students to learn:

- basic concepts of apparel production and present scenario.
- types of cutting, spreading devices and their functions.
- types of fabrics, marker planning and making.
- types of pattern and pattern lay out etc.

UNIT 1: Operation of apparel manufacturing unit, its various departments and their functionality. The planning, drawing, reproduction of the marker, requirement of marker planning, marker plan efficiency, methods of marker planning and use.

UNIT 2: Cutting: Objectives and methods of cutting.

Understanding of various fabrics, its effect on spreading and cutting techniques in relation to quality. The spreading of fabric to form a lay, requirement of spreading and different spreading method. Problems caused by improper cutting and spreading methods.

UNIT 3: Tracing and marking terminology- chalked marking, chalked thread, colour coding, pin marking, tailors tacks, thread tracing.

Types of pattern- Commercial pattern, Drafted pattern, Draped pattern, Graded pattern, Production pattern, Trade back pattern.

UNIT 4: Aids and tool equipment for cutting- band knife, clamp, click press, electrical cloth notcher, Straight knife cutter, Circular knife, portable rotary knife cutter, Cutting board, Cutting table, Drill, Pattern perforator, razor blade, scissors, shears, face to face spreader, manual spreader, one way spreader, Tubular knit spreader.

Suggested Text Books & References:

1. Tyler, "Carr and Latham's Technology of Clothing Manufacturing" Blackwell, Scientific Publications, 1988.
2. Ann Gioello, "Fashion product terms", Fairchild, 2nd Edition.
3. Jacob Solinger, "Apparel manufacturing handbook" Wiley, John & Sons, 1980
4. Jones, Richard M., "Apparel Industry", Blackwell, 2nd Edition.

Course Outcomes:

After completion of the course, students will have the knowledge of:

- different types of cutting devices and their working principles

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- spreading mechanism and working of different spreading devices.
- marker planning, marker making, patterns and pattern lay outs

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-205A

ELEMENTS OF FASHION AND DESIGN

Total Credit: 3

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Course Objectives:

The course is designed to make the students aware of:

- basic elements and principles of garment design and their applications.
- Concepts of aesthetics and their role in fashion Design.

UNIT 1: Design- definition, requirements of a good design, Types- natural and decorative, types of decorative design. Design development –types of motifs. Mood board- types and formation of mood board. Collage and its types – relief and flat. Basics of elements and principles of design.

UNIT 2: Elements of design: Lines – horizontal, vertical, zigzag, diagonal and curve. Color – color wheel; primary, secondary and warm, cool, tertiary value: tints, shades and Influences of clothing by color. Textures- Different types of textures, identification and suitability of textures for different garments. Shape – Geometrical – Realistic – Stylized – Abstract. Different types of Silhouettes. Dots and types of dots as polka dot, etc and their application in designing. Introduction to principles of design- balance- proportion- emphasis, rhythm- harmony with their suitable example.

UNIT 3: Elements and principles of design-its perspective and application to apparel and lifestyle products. Understanding the concepts of aesthetics .Introducing principles of design on apparels: figure/ design analysis: stout figure, tall and thin figure, tall and fat, short and thin, short and fat, slender figure, narrow shoulders, broad shoulders, round shoulders, big bust, small chest, large hip, large abdomen, round face, long face, square face, diamond face, oval face and broad face, narrow hips, broad hips, heavy thighs, short legs, large legs etc . Characteristics of a well dressed person- selection of fabrics, textiles, pattern and colour, aesthetic requirement for dress

UNIT 4: Elements of apparels, women's dress–style, fashion and fad- suitability to the individual factors in personality. Men's dress- factors to consider, fabrics, coats, trousers, shirts, collars & pockets. Accessory of design neck ties, hats, over coats, hosiery & shoes, hair dressing.

Suggested Text Books & References:

1. Anderson and Anderson, "Costume design", Harcourt Brace 2nd Ed, 1999.
2. Laver J, "Costume and Fashion", Thames & Hudson, 1995.
3. Lee Sharon, "Inside Fashion Design", Tate, 1977.
4. Sumathi G. J., "Elements of Fashion and Apparel Design", New Age International Publisher, 2002.
5. Brockman, H.L., "The theory of Fashion", John Wiley & Sons, 1965.

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6. Kawashima, Masazki, "Fundamentals of Men's Fashion Design", Fairchild's Pub, 1976.

Course Outcomes:

After completion of the course, students will be able to:

- 1 understand the basic concepts of design and Mood Boards.
- 2 concepts of elements of design and principles of design on apparels: figure/ design analysis.
- 3 understand the concepts of different Men dress style and Women dress style.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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BSC-MAL- 201A

APPLIED STATISTICS FOR FASHION AND APPAREL

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Total Credit: 3

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Objectives: The objective of this course is to introduce Random distribution, Probability models, Mathematical Expectation, Binomial Poisson, Geometric as discrete distribution, Normal, uniform and exponential as continuous distributions, Sampling theory. An attempt has been made in this course to strike a balance between the different concepts of mathematical statistics.

Unit-I: Introduction to Measures of Central Tendency and Dispersion: Mean, Median, Mode, Range, Variance, Standard deviation, Co-efficient of variation, moments, skewness and kurtosis. (Application Part only)

Unit-II: Introduction to theory of Probability: Additive and Multiplicative Laws of probability. Random Variables, Mathematical Expectation with Properties. (Application Part only)

Unit-III: Discrete Distributions: Uniform, Binomial, Poisson and geometric (Only Properties and applications not their proofs). Continuous Distributions: Uniform, Exponential and Normal Distributions (Only Properties and applications not their proofs)

Unit-IV: Sampling Theory: Population and sample, Types of Sampling, Sampling Distributions of means and proportion, Introduction to Tests of hypothesis and significance, Statistical hypothesis, Null hypothesis, Type II errors and I, Levels of significance, Tests of significance for Large samples.

Suggested Text Books & References:

1. Spiegel M. R., "Theory and problems of Probability, Statistics". (Schaum's Outline Series) - McGraw Hill Book Co.
2. Gupta S C and Kapur V K, Fundamentals of Mathematical Statistics - Sultan Chand & Sons.
3. Grewal B S, Higher Engineering Mathematics, 40th Edition, Khanna Publisher
4. Robert E Stine and Dean Foster, Statistics for Business- Decision making and analysis, Pearson.

Course outcome: After successful completion of this course the students will be able to understand the fundamentals of the theory of probability and its applications in stochastic process and various distributions.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.

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- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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ESC-FTP-211A FIBRE IDENTIFICATION & YARN FORMATION LAB
L T P Total Credit: 1.0
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Course Objectives:

- To illustrate various fibres on microscope and familiarize students with various techniques of fibre identifications.
- This Lab course is also designed to impart practical demonstration of various yarn formation machineries as a bridge between theory and practice.

Part – I: Fiber Identification:

- Identification of various natural, regenerated and manmade fibres such as cotton, wool, silk, viscose, cellulose triacetate, nylon 6, polyester, acrylic, etc. by physical and chemical methods.
- Principle of microscopy and their application in fibre identification. Blend identification by physical and chemical methods.
- Qualitative and quantitative determination of components in blends.

Part-II : Yarn Formation

- Discussion and Demonstration of various machines and of manufacturing processes involved in converting fibers to yarns Ring Spinning and Rotor spinning.
- Line sketches of conventional spinning.
- Visual identification of spun, filament, cords, cable and fancy yarns and sewing threads.
- Collection of yarn samples; fancy yarns, sewing threads etc. and find out their characteristics in terms of fibre type, yarn type, size and physical appearance.
- Assignments on new developments in yarn.

Suggested Text Books & References:

1. "Identification of Textile Materials", Textile Institute, Manchester.
2. Gohl EPG, "Textile Science: An explanation of fibre properties", CBS Publishers, Delhi,
3. Heny A.N.J," Fiber Microscopy", A hand book of laboratory manual.
- 4 Meredith R & Hearle J.W.S.," Physical Methods of Investigating Textiles".
- 5 David M. Hall," Practical Fiber Identification", Auburn AI, 1976
6. Cook Gordon J, "Hand Book of textile fibre", Vol. I and II, Woodhead Fibre Science Series, UK, 1984.
7. Sara J. Kadolph, "Textiles", Prentice Hall, 10th edition 2007
8. Bernard P. Corbman, "Textile Fibres to Fabric" McGrawhill Publications, 6th Edition 1983

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Course Outcomes:

At the end of this course the students will be able to:

- identify various natural and manmade fibres by physical and chemical methods
- quantitatively determine the blend component
- understand the blowroom line, mixing, blending and sequence of machines in the blowroom line;
- understand carding, draw frame, combing, speed frame, ring frame for processing different materials;

Note:

- 1 At least ten experiments have to be performed in the semester; out of which at least seven experiments should be performed from above list. Remaining three experiments may either be performed from the above list or designed & set as per the scope of syllabus.
- 2 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 3 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
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PCC-FTP-213A FASHION SKETCHING AND ILLUSTRATION LAB

L T P

Total Credit: 1.0

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Course Objectives:

1. To acquire the skills to use different mediums – Pencil, Water color, Poster color.
2. To understand the texture of fabric and render it
3. To analyze variety of pictures and sketch and render them accordingly
4. To understand terminology and be able to identify basic body types.
5. Students will be able to determine clothing silhouettes, fabric selection, and design elements appropriate for specific body types.
6. They will learn how to sketch a fashion figure in different poses and how to personalize it according to their own style.

Fashion Sketching

- Usage of different dry and wet colour mediums in sketching e.g. shading, filling etc. Normal figure proportions, grid theory for formation of fashion figure.
- Fashion Figure proportions. Fashion figure in different views, as front view, 3/4th view, back view, side view.
- Flashing of the fashion figure in different views. Movement figures-principles to form a movement figure, sketching of the movement figures in various postures/body positions. Variations of body parts-Arms, Hands, legs, Feet. Facial figure proportions- features, hairstyles.
- Developing silhouettes—draping, fold lines, prints, etc. Photo analysis, fabric rendering, simple illustration on fashion figures.
- Designing and sketching of the following fashion essentials: types of necklines. type of sleeves, type of collars, type of pockets, type of yokes, types of skirts. type of waistlines, type of pleats, tucks, types of plackets, etc.
- Designing of various garments from the following categories: Children wear, Ladies' wear, Men's wear, Nightwear, Apron, etc.
- Practice on editing of Fashion Illustration work on computer.

Suggested Text Books & References:

1. Maite Lafuente, "Fashion Illustration techniques", Om Publication.
2. Fernandez, "Illustration for Fashion Design 12 Steps to the Fashion Figure", Pearson.
3. Perpard, Prakashan, B Abling, "Antomy And Drawing". Fairchild.
4. Ireland. "Fashion Design Drawing and Presentation". Batsford.
5. Anne allen, "Fashion Drawing: the basic principle". Om Publication.
6. Mckelvey, Fashion Design, Blackwell
7. Irland, Fashion Design Illustration: Children. Batsford
8. Irland, Fashion Design & Drawing & Presentation, Batsford

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Course Outcomes:

On completion of this module the student should be able to:

1. understand various types of medium and develop her own rendering style.
2. analyse fabric texture and render them suitable medium.
3. analysis of figure salute, fabric, texture and feel and render them
4. develop skill in figure drawing and develop her own illustration style.

Note:

- 1 At least ten experiments have to be performed in the semester; out of which at least seven experiments should be performed from above list. Remaining three experiments may either be performed from the above list or designed & set as per the scope of syllabus.
- 2 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
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PCC-FTP-215A ELEMENTARY GARMENT MANUFACTURING LAB

L T P

Total Credit: 1

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Course Objectives:

- This lab course is designed to impart hands on experience of the recognition of different aids, tools and equipment for cutting, sewing techniques, practice of using sewing needles, sewing threads and embroidery threads. This skill will help the students for production and planning of garments as well as utility of trims and accessories.

List of Experiments:

- Introduction and application of different aids, tools & equipment for cutting.
- Selection procedure of different types of sewing thread & embroidery thread.
- Utility of different aids & tools for garment construction.
- Introduction to the tools and material used for drafting.
- Drafting of child's basic and adults body blocks.
- Introduction to sewing machine, their parts and accessories.
- Practice of machine stitches on paper and on fabric. Straight line, Square, Triangle, Curves, S – Curve, Rectangle with curve, Circles, Half circle etc.
- Basic hand stitches.
- Preparation of different types of seams.
- Designing & construction of different types of necklines and their finishing with piping or shaped facings.
- Sampling of different types of plackets (Patch, Welt, Bound, Inseam, Bello etc).
- Sampling of different types of pleats, darts, gathers & tucks.
- Practice of attachment of zipper (concealed, open ended, lapped, centered)

Suggested Text Books & References:

1. Carr, H.C., "The clothing Factory ", The Clothing Institute, London, 1972.
2. Jacob Solinger., "Apparel Manufacturing Handbook ", VanNostrand Reinhold Company, 1980.
3. Irland, Encyclopedia of Fashion Details, Batsford

Course Outcomes:

After completion of the course, students will be able to:

- recognise different types of tools, aids and equipment
- prepare different patterns and practice of pattern lay outs
- develop practical skills relevant to garment construction, etc.

Note:

- 1 At least ten experiments have to be performed in the semester out of which seven experiments should be performed from above list. Remaining three experiments may

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Course Outcomes:

After completion of the course, students will be able to:

- Learn traditional textiles of India practically
- Have practical exposure about embroidery stitches and techniques
- Learn the embroideries of different states of India

Note:

- 1 At least ten experiments have to be performed in the semester out of which six experiments should be performed from above list. Remaining four experiments may either be performed from the above list or designed & set by teacher as per the scope of the syllabus.
- 2 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.

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Course Objective: The objective of this course is to understand basic features of the Indian Constitution and Law.

- Unit-I: Constitution: Definition and Classifications, its sources. Constitutional Conventions. Constitutional Law, Rule of Law, Federalism and its classifications. Separation of Powers.
- Unit-II: Fundamental Rights and Directive Principles of State Policy
- Unit-III: Constitutional Organs: Parliament, Executive and Judiciary, their inter-se relations
- Unit-III: Centre-State Relations: Legislative, Financial and Administrative
- Unit-IV: Breakdown of Constitutional Machinery in a State, Emergency Provisions. Amendment of Constitution, Doctrine of Basic Structure

Suggested Text Books & References:

1. V.N. Shukla. Constitution of India
2. M.P. Jain. Indian Constitutional law
3. D.D. Basu. Constitutional Law of India

Course outcome:

1. The external theory examination shall carry eighty marks only.
2. The whole syllabus is divided into four units. The question paper shall consists of two parts namely Part-A and B. Part-A shall be mandatory which shall carry eight short answered questions of two marks each from each unit. Part-B shall consists of four units and each unit shall carry two long answered questions of sixteen marks each and a candidate shall answer four questions selecting one question from each unit.

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B. Tech 4th Sem.

BSC-FTL-202A

COLOUR PHYSICS

L T P

Total Credit: 3

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Course Objectives:

The objective of the course is to make the students familiar with topics of Colour Physics like concepts and specifications of colours, colour contrast, colour intensity charts, colour theories, psychology effects of colour, warm colours, etc.

UNIT-1: Concept and specifications of colour, Light and colour phenomenon, perception of colour, the theory of colour vision, Additive and Subtractive combinations, Colour theories as light theory, pigment/ Brewster colour theory. Colour wheel— primary, secondary, sub-secondary and tertiary colours. Colour combination techniques in fabric and garments. Attributes of the primary and secondary colours. Warm and Cool colours.

UNIT-2: Colour harmony, colour contrast in fabric and garments. Application of colour combination and harmony in designing of clothing/fabric. Modification of colours as formation of tint, shades & coloured grays etc. Colour intensity charts. Principle of colour measurement: Munsell system: hue, chroma, value, standard observer, tristimulus value, and CIE lab colour system. Metamerism. Outline for the movement of colours in fashion with the factors affecting the choice of colour.

UNIT-3: Concept of colour and brief idea about the relation between colour and chemical constitution, factors governing transmission, Beer's law, Lambert's law, absorption, scattering of light, concept and definition of source, illuminant, detector, description of colour, colour co-ordinates, colour rendition, colour adaptation.

UNIT-4: Colour and colour difference measurement, Kubelka Munk's equation, methods of colour estimation, -manual, their limitations, - instrumental, pass-fail criteria, concept of colour temperature, metamerism, standard illumination, absorption and reflectance spectra of a coloured material, measurement whiteness, evaluation of optical whitening, brief idea of computer colour matching and formulation.

Suggested Text Books & References:

- Colour Physics for Industry by R. McDonald.
- Instrumental Colour Measurement and Computer Aided Colour Matching for Textiles by H.S. Shah and R.S. Gandhi.
- Principles of Colour Technology, F.W. Billmeyer, 3. Dyeing and Chemical Technology of Textile Fibres by E.R. Trotman.

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- Modern Concepts of Color and Appearance Paperback by Asim Kumar Roy Choudhury (Author), Gary N. Mock .
- Fundamentals and Practices in Colouration of Textiles, 2nd Edition, J. N. Chakraborty.

Course Outcome:

After completing the course, the students should be able to:

- know various terminology and theories of colours.
- understand colour combination techniques and colour contrast in fabric and garments
- understand the relation between colour and chemical constitution, Measurement of colour difference, colour estimation etc.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-202A

TEXTILE FABRIC

L T P
3 0 0

Total Credit: 3

Course Objectives:

The course is designed to make students learn:

- the basic concepts of fabric manufacturing technology
- about handloom, powerloom and shuttleless loom technology
- fabric properties: aesthetic, functional and comfort
- about fabric defects, classification, fabric inspection etc.

UNIT-1

Classification of fabrics, introduction to various fabric manufacturing methods, conversion of yarn into fabric with flow charts, Introduction of warp and weft preparatory processes. Winding: Objectives, types of packages, Flow of material on a winding machine, Brief idea about different devices in a winding machine. Warping: Objectives of warping, Direct and sectional warping

UNIT-2

Sizing: Objectives of sizing, Various sizing ingredients. Drawing-In: Objectives and flow of material in these operations.

Shuttle Looms: Definition of handloom, plain loom, and automatic loom. General passage of material through loom, description of important parts of a loom, basic loom mechanisms: primary, secondary and auxiliary motions.

UNIT-3: Brief introduction and overview to Shuttleless looms. Their advantages over shuttle looms. Terms used for all woven fabrics, Ways to Distinguish Warp & Filling Yarns, Fabric properties-dimensional/structural, mechanical properties related to performance and durability, aesthetic properties, Functional and comfort related fabric properties

Unit 4: Fabric defects; classification, reasons, point rate system for cloth grading, drawbacks of point system, fabric inspection. Introduction about followings: Knitted fabrics, narrow fabrics, some standard fabrics, introduction to non woven fabrics, Fabrics from yarns; braids, nets, laces. Composite Fabrics: coated fabrics, laminated fabrics, bonded fabrics and tufted fabrics.

Suggested Text Books & References:

1. Kaur Navneet, Comdex Fashion Design: Fashion Concepts: Vol -1, Dreamtech press, 2010
2. Gokarneshan N., Fabric structure and design, New Age Publishers
3. Adanur Sabit, Handbook of weaving: Technomic Publishing Company, Inc, U.S.A
4. Lord P.R. & Mohamed M.H., Weaving: Conversion of Yarn to Fabric, Watford : Merrow.
5. Marks & Robinson, "Principles of Weaving"

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6. NCUTE's Manual

Course Outcomes:

After completion of the course, students will:

- have the knowledge of essential requirements for fabric forming processes
- be familiar with different techniques of fabric production systems
- have the knowledge of raw materials used, size ingredients for producing woven fabrics
- be familiar with the fabric inspection system, fabric defects and other types of fabrics.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-204A DESIGN CONCEPTS IN FASHION AND APPAREL

L T P
3 0 0

Total Credit: 3

Course Objectives:

- To familiarize the students about the design concepts and composition of designs.
- To acquaint student about Symmetry and Asymmetry of designs, patterns, border designs and their application in apparel construction.
- To impart knowledge of fabric designing by understanding the concepts of fabric structure comprising basic weaves, their modification as well as decorative weaves

Unit 1: Motif and its classification. Arrangement of figures- unit-repeating design, the drop device, drops reverse designs, sateen system of distribution (with reference to half drop, diamond base, ogee base, rectangular base lines). Reversing inclined figures. Composition of designs-by Geometric ornamentation by the conventional treatment of natural and artificial forms.

UNIT 2: Woven design fundamentals; Classification of woven structures, Importance of fabric structure. Concept of fabric designing through fabric structure, methods of weave representation. Basic elements of a woven design: Design, Drafting plan, Peg plan and Dinting. Types of draft plans.

UNIT 3: Plain weaves, Twill weaves, Sateen and Satin weave: their external characteristics, properties, uses, ornamentation, derivatives of plain weaves: warp rib, weft rib, hopsack: design, draft and peg-plan for all. Factors influencing prominence of twill weaves, influence of twist classification: balanced and unbalanced: zig-zag, herringbone, curved, broken, transposed elongated and combination twills, regular and irregular sateen

UNIT 4: Construction of designs from incomplete repeat, General idea about weaves and colour effect. Border designing - Study of pattern-historical precedents, border patterns, all over patterns. Construction of asymmetrical and symmetrical figures.

Suggested text books & References:

1. Groszicki Z J, "Watsons Textile Design and Colour", NewnesButtersworth, 1988.
2. Gohl E P G and Vilensky LD, "Textile Science", CBS Publishers, Delhi, 1983.
3. Navneet Kaur, Comdex Fashion Design; Fashion Concepts: Vol -I, Dreamtech press, 2010
4. Gokarneshan N., Fabric structure and design, New Age Publishers
5. Nisbet H, "Grammar of Textile Design". D B Tarapore Wala sons and Co.
6. Davis, Marian L., Visual Design in Dress, Prentice-Hall Inc., 1996.
7. Elizabeth Rouse, Understanding Fashion, BSP Professional Books, 1989.

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8. Harold Carr and John Pomeroy, Fashion Design and Product Development, Blackwell Scientific Publications, 1992.
9. Howell, G., In Vogue, Conde Nast, Books, 1991.
10. Penny Storm, Functions of Dress - Tool of Culture and The Individual, Prentice Hall, 1987.

Course Outcomes:

After completion of the course, students should be able to:

- Understand the Basic concepts of weave design, Draft and Peg Plan
- Arrangement of figures and motifs in various methods
- Understand the Geometrical ornamentation and composition of designs.
- Placement of Patterns in symmetry and asymmetry way;
- Creation of Border designing.
- Recognise different types of weave designs
- Identify and understand the role of Elements and Principles design in costumes designing.

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-206A TRADITIONAL INDIAN EMBROIDERIES AND TEXTILES
L T P
3 0 0 Total Credit: 3

Course Objectives:

The course is designed to make the students understand the:

- Concepts of Traditional Indian textiles and motifs/designs involved in producing such fabrics
- Types of embroidery stitches, techniques and machines used in textile surface ornamentations
- Various Indian traditional textiles and embroideries of different states with special reference to raw materials, embroidery threads, colors, stitch types, motifs and production processes
- Traditional textiles and embroideries of the Western and Asian countries

UNIT- 1: Surface ornamentation by beads, patchwork, embroidery, etc. Introduction to embroidery. Various types of embroidery stitches such as stem stitch, chain stitch, herringbone stitch, cross stitch, etc.

UNIT- 2: Study of Indian traditional textiles and embroideries of different States with special reference to material, thread, colors, stitches, motifs and production processes used such as Chikankari and Brocades of UP, Phulkari, Chamba Rumal, Kasuti, Kanthas, Kasida, Sindhi, Kutch and Kathiawar

UNIT- 3: Introduction to the subject; Study of Indian traditional textiles such as woven-textiles: Baluchar, Jamdani, Brocades, Ikat, Patola; Resist dyed textiles as Bandhani; Painted textiles as Kalankari, Madhubani and Warli textiles; Printed textiles as block printed, bagru and dabu.

UNIT- 4: Study of traditional textiles and embroideries of the western and asian countries as European textiles, Ikat textiles of Indonesia and Malaysia, Chinese textiles, American textiles and Japanese textiles. Advancements in embroidery techniques, embroidery machines with advanced features.

Suggested Text Books & References:

1. Usha Shrikant, "Ethnic Embroidery of India", Honesty Publications.
2. Behra B. K., "Traditional Textile Designs of India".
3. Barnden Betty, "Embroidery Basics", Barson's Educational Series, Incorp.
4. Gillow, Traditional India Textile, Thames & Hudson, 1998
5. Readers Digest, Complete Guide to Needle work
6. Sophia Cauteild and Blanche, "The Dictionary of Needle work".

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Course Outcomes:

After completion of the course, students will be able to:

- understand the fundamentals of Indian traditional textiles
- understand the embroidery techniques, stitches, machine and production processes of traditional Indian textiles and embroideries
- comprehend the various Indian traditional textiles of different states
- understands the traditional textiles and embroideries of Asian and Western countries

Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTL-208A

APPAREL PRODUCTION II

Total Credit: 3

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Course Objectives:

The course is designed to make the students understand about:

- basic concepts of post cutting operations, stitch forming mechanisms
- different types of sewing needles, sewing threads
- different types of seams and stitches

UNIT I: An overview of post cutting room operations – ticketing, bundling, material handling from cutting room to sewing room. General introduction of sewing room operations. An overview of history, evolution and modernization in sewing machineries. Description of components & functions of SNLS Sewing machine, Stitch formation mechanism, Drop feed mechanism of SNLS. Relative merits & demerits of SNLS machine and associated feed mechanism. Factors affecting sewing performance, selection criteria for sewing machine needle & sewing threads. Needles – Types of needles for Textile and Non textile materials. Hand and Sewing machine needles, Metallurgy and Shapes of Needles, Needle cutting Index. Mechanical damage to fabric by needle heating & remedial measures.

UNIT II: Sewing Threads – Influence of sewing thread selection & properties on seam performance & garment serviceability. Fibre types, twist direction & plying, thread composition & construction – staple, continuous, core-spun, air-entangled, texturised. Thread packages classification based on thread constructions, machine types & end usages Metric & cotton ticket numbering system, sewing thread cost evaluation. Sewing Problems- Problems related to stitch formation- missed stitches, skipped stitches, and variable stitch density. Damage to fabric along the stitch line, Seam pucker due to sewing thread, fabric properties, inaccurate pattern cutting.

UNIT III: Seam Classifications- Notations, distinguishing factors and applications. Terminologies – Seam Allowance, Seam Let out, Extended Seam Allowances. Exposed and enclosed seams. Inside and Outside Curved Seams, Stitched and Fused Seams, Stitched and Glued Seams. Seam Finishes – Definition and Requirement. Types of Seam Finishes – Book Seam Finish, Net Bound Seam Finish, Single ply bound seam finish, Double stitched seam finish, Glued seam finish, pinked seam finish.

UNIT IV: Stitch types & classifications- designation, appearance & application areas. Distinction between hand & machine stitches – appearance, method of construction & end usage. Overview of different hand stitches like – Back stitch, Half back stitch, Modified back stitch, Blanket stitch, Blind stitch, Button hole stitch. Overview of different machine stitches like Machine stitches - Lettuce edging, Zigzag stitch, Over edge stitch, Purl edging, Picot edging, Safety Stitch, Scallop over edge, Shirring stitch, Elasticised shirring.

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Suggested Text Books & References:

1. Jacob Solinger, "Apparel manufacturing handbook", VanNostrand Reinhold Company, 1980
2. Tyler, "Carr and Latham's Technology of Clothing Manufacturing" Blackwell.
3. Jones, Richard M., "Apparel Industry", Blackwell, 2nd Edition .
4. Chuter, Introduction to Clothing Production Management, Blackwell

Course Outcomes:

After completion of the course, students will:

- have the knowledge of sewing machines, sewing needles and sewing threads
- be able to identify seams and stitches and their appearance, applications and properties.

Note:

1. Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
2. The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
3. Electronic gadgets including cellular phones are not allowed in the examination.
4. There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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HSMC-FYL-202A

MERCHANDISING AND MANAGEMENT FUNCTION

L T P

Total Credit: 3

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Course Objectives:

- To know about the marketing management, process, marketing concepts.
- To know about merchandiser and its role in industry.
- To know about STP process and product development process.

UNIT 1: Marketing- Definition, what it does, core concepts of marketing, marketing management –process, marketing concepts- different approaches. Perceptions of marketing. Marketing mix- P's of Marketing'

Unit 2: Merchandising-definition, role of a merchandiser- differentiating his roles at buyer, buying office and manufacturers workplace, cost merchandising-costing, different departments in an export house and their functioning. Fashion Marketing-fashion marketers, what differentiates fashion marketing, factors affecting fashion marketing.

Unit 3: STP process, Steps in STP, levels of market segmentation, advantages of segmentation, requirements of effective segmentation, basis of segmentation, market targeting-evaluating the segments, choosing a positioning strategy.

Unit 4: Product Development-Product, product line, product development, need for product development, types of product development, steps of product development, product life cycle, product development in apparel industry-need, organisations involved in PD-buyer, buying office, manufacturer- people involved.

Suggested Text Books & References:

1. John Graham, Mary C. Gilly, Philip R. Cateora, International Marketing, Mc Graw Hill, 2008.
2. Frings, "Fashion from Concept to Consumer 7th Edition", Pearson.
3. Mike Easey, "Fashion marketing", Om Publication.

Course Outcomes:

After completion of the course, students will be able to learn:

- marketing and management functions in fashion sector
- the knowledge about product development and product life cycle.

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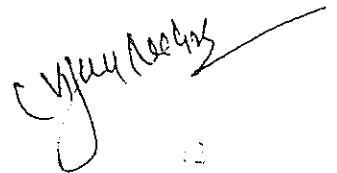
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Note:

- 1 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 2 The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.
- 4 There will be nine questions in total from all four units. First question is compulsory and set from all four units. Students will have to attempt any five questions in all selecting at least one question from each unit.

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PCC-FTP-212A

FABRIC DEVELOPMENT AND ANALYSIS LAB

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Total Credit: 1

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Course Objectives:

- This Lab course is designed to demonstrate fabric formation techniques which includes working principles of winding, warping, drawing-in and weaving thus serving as a bridge between theory and practice.
- To give hands on training to students in understanding the fabric formation on looms, the mechanism involved and as well as developing creativity in designing unique fabric structures along with fabric analysis.

Experiment Contents

- To understand how woven fabric are manufactured on a loom
- To understand process sequence for woven fabric manufacturing to study the objective and passage of material on cone winding machine
- Line sketches of warping, sizing, drawing-in
- Description of important parts of a loom
- General passage of material through loom
- Basic loom mechanisms
- Ways to distinguish warp & filling yarns
- Analyse different types of weave designs
- Weave analysis, count and weight calculations, cover factor
- Use of strips of colored paper to produce different color and weave effects
- Characterize a woven fabric with respect to its dimensional properties
 - a. Thread density
 - b. yarn count
 - c. Yarn crimp
 - d. thickness
 - e. cover factor
 - f. areal density
 - g. weave
 - h. skewness

Suggested Text Books & References:

1. Navneet Kaur, Comdex Fashion Design; Fashion Concepts: Vol -I, Dreamtech press. 2010
2. Gokarneshan N., Fabric structure and design, New Age Publishers
3. Groszicki Z J, "Watson Textile Design and Colour", Newnes Butterworth.
4. Nisbet H. "Grammer of Textile Design", D B Tarapore Wala sons and Co.

Course Outcomes:

After completion of the course, students will be able to:

- correlate between theory and practice of the concept of weaving preparatory methods.

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- visualise the layout and structure of weaving preparatory machines along with their primary components
- visualise the mechanisms of primary motions of shuttle weaving machines
- recognise different types of weave designs
- analyse different constructional parameters of woven fabrics like yarn linear density, end and picks per unit length, fabric cover, fabric areal density.

Note:

- 1 At least ten experiments have to be performed in the semester out of which six experiments should be performed from above list. Remaining four experiments may either be performed from the above list or designed & set by teacher as per the scope of the syllabus.
- 2 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.

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PCC-FTP-214A

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COLOUR AND DESIGN LAB

Total Credit: 1

Course Objectives: This Lab course is designed to impart hands on experience of colour illusions, warm and colour effects. Floral, geometrical designs, colour and weave effects. It also helps students practically understand in-depth working of placement of figures and motifs.

- To specify the colour with hue, value and chroma.
- Psychological effects of colours
- To show colour combinations according to pigment theory of colour.
- To show the arrangement of the primary, secondary and intermediate colours in the Brewster's theory.
- To show the warm and cool colour effects.
- To modify pigment colour with formation of tint, shades & coloured grays etc.
- Colour and gray intensity charts.
- To show the various colour combination tech in fabric.
- Types of lines and their effects.
- To produce floral, geometrical, abstract and border designs.
- Enlargement and reduction of designs.
- Simple Weave and colour effects.
- Compound colour and weave effects -- stripe colour and weave effect, Check colour & weave effect. Special colour and weave effect, figured colour and weave effect.
- Placement of figures and motifs -- half drop, double $\frac{1}{2}$ drop, diamond base, ogee base, rectangular, horizontal, vertical etc.
- To draw colour wheel.
- To arrange motifs/figures in symmetry and asymmetry patterns

Suggested Text Books & References:

1. Grosciecki Z J, "Watsons Textile Design and Colour". Newnes Buttersworth, 1988.
2. Gohl E P G and Vilensky I.D. "Textile Science". CBS Publishers, Delhi, 1983.
3. Hideaki Chijiwa, Color Harmony - A guide to creative color combinations. 1994 ed
4. Davis, Marian L., Visual Design in Dress, Prentice-Hall Inc., 1996.
5. Elizabeth Rouse, Understanding Fashion, BSP Professional Books, 1989.
6. Harold Carr and John Pomeroy, Fashion Design and Product Development. Scientific Publications, 1992.
7. Howell, G., In Vogue, Conde Nast Books, 1991.
8. Penny Storm, Functions of Dress - Tool of Culture and The Individual, Prentice H

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Course Outcomes:

The students will be able to practically handle:

- Arrangement of figures and motifs in various methods
- Geometrical ornamentation, design composition
- Placement of Patterns in symmetry and asymmetry way.
- Creation of Border designing.

Note:

- 1 At least ten experiments have to be performed in the semester out of which six experiments should be performed from above list. Remaining four experiments may either be performed from the above list or designed & set by teacher as per the scope of the syllabus.
- 2 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 3 Electronic gadgets including cellular phones are not allowed in the examination.

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PCC-FTP-216A TRADITIONAL INDIAN EMBROIDERIES & TEXTILES LAB

L T P
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Total Credit: 1

Course Objectives:

- This Lab course is designed to impart hands on experience of making Traditional Indian Textiles and embroideries. It also helps students practically understand the various stitches and embroidery techniques, traditional block prints, etc.

Contents:

Introduction to traditional textiles and embroidery work. Requirements of embroidery work. Tools and aids for traditional textiles and embroidery work. Sample preparation of different basic embroidery stitches such as stem stitch, chain stitch, herringbone stitch, cross stitch, open chain stitch, satin stitch, blanket stitch, button hole stitch etc. Preparation of atleast one end- article using basic embroidery stitches. Sample preparation of embroideries of different states as mentioned with respective references to material, colour, thread, stitches and motifs: Chikankari, Phulkari, Kantha, Kashida, Kasuti, Sindh, Kutch, Chamba Rumal, Patch work, Applique. Learning the production techniques of traditional textiles as block printing, tie-dye, painted etc. Learning the machine embroidery techniques with the sample development.

Experiments

- Study of Tools and aids for Traditional Textiles and embroidery work
- Learning the production techniques of traditional textiles as block printing, tie-dye, painted etc.
- Practice of different basic embroidery stitches
- Preparation of atleast one end- article using basic embroidery stitches.
- Sample preparation of embroideries of different states as mentioned with respective references to material, colour, thread, stitches and motifs
- Learning the machine embroidery techniques with the sample development.

Suggested Text Books & References:

1. Usha Shrikant, "Ethnic Embroidery of India", Honesty Publications..
2. Behra B. K., "Traditional Textile Designs of India".
3. Barnden Betty, "Embroidery Basics", Barson's.
4. Gillow, Traditional India Textile, Thames & Hudson, 1998

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Course Outcomes:

After completion of the course, students will be able to:

- Learn traditional textiles of India practically
- Have practical exposure about embroidery stitches and techniques
- Learn the embroideries of different states of India

Note:

1. At least ten experiments have to be performed in the semester out of which six experiments should be performed from above list. Remaining four experiments may either be performed from the above list or designed & set by teacher as per the scope of the syllabus.
2. Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
3. Electronic gadgets including cellular phones are not allowed in the examination.

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PCC-FTP-218A PATTERN MAKING AND GARMENT MANUFACTURING LAB
L T P Total Credit: 1
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Course Objectives:

- This Lab course is designed to impart first-hand experience of the recognition of different sleeves, Collars and Kids garment and how to construct the garment step by step.
- To give hand on practice on various Sleeves, Collars and kids wear garments.

Contents of Experiments:

Pattern Making and Construction Of Sleeves and Collars:

- Drafting of different commonly used sleeves as Plain, Megyar Sleeve, raglan, flared, leg'o'mutton, Cap Sleeve etc.
- Drafting of different collars as peter-pan, sailor, mandarin and shirt collars etc.

Construction of kids garment such as:

- Zabra
- Romper
- Basic Skirt and its variation
- Kids frock (Aline Frock)
- Apron

Suggested Text Books & References:

1. Jacob solinger, "Apparel manufacturing handbook", VanNostrand Reinhold Company, 1980
2. Tyler, "Carr and Latham's Technology of Clothing Manufacturing" Blackwell.
3. Jones, Richard M., "Apparel Industry", Blackwell, 2nd Edition .
4. Chuter, Introduction to Clothing Production Management, Blackwell
5. Armstrong, Pattern Making for Fashion Design, Dorling Kindersley publication.

Course Outcomes:

After completion of the course, students will be able to:

- Recognize different types of tools, aids and equipment
- Prepare different patterns and practice of pattern layouts
- Develop practical skills relevant to garment construction, etc.

Note:

- 1 At least ten experiments have to be performed in the semester out of which seven experiments should be performed from above list. Remaining three experiments may

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either be performed from the above list or designed & set by teacher as per the scope of the syllabus.

- 2 Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40 % in the aggregate of internal and external examinations of that subject.
- 3 Electronic gadgets including cellular phones are not allowed in the examination

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MC-233

ENVIRONMENTAL SCIENCE

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Total Credit: Non Credit

Course Objectives:

Unit I :The Multidisciplinary Nature of Environmental Studies. Introduction to Environment: Definition, Scope, and importance of environmental studies: need for public awareness. Environmental Pollution: Definition, Cause and effects of: Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Role of an individual in prevention of pollution. Pollution case studies.

Unit II :Natural Resources: Water resources: over-utilization, floods, drought, dams-benefits and problems; Mineral resources: Use and exploitation, environmental effects:

Food resources : changes caused by modern agriculture, fertilizer-pesticide problems, water logging.

Energy resources : Growing energy needs, renewable and non renewable energy sources: Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

Unit III :Ecosystems and Biodiversity: Concept of an ecosystem, Structure and function, Energy flow, Ecological succession, ecological pyramids, Concept of Biodiversity, definition and types, Hot-spots of biodiversity: Threats to biodiversity, Endangered and endemic species of India, Conservation of biodiversity.

Unit IV:Social Issues and Environment: Water conservation, rain water harvesting, Environmental ethics: Issues and possible solutions, Climate change, global warming, acid rain, ozone layer depletion, Public awareness, Population growth, variation among nations, Family Welfare Programme, Human Population and the Environment - Population growth, Population

Reference /Text Books:-

1. A Textbook of Environmental Studies by Asthana D.K. and Asthana Meera
2. Fundamental Concepts in Environmental Studies by Mishra D.D.
3. Environmental Studies by S.C Sharma M.P Poonia
4. Textbook of Environmental Studies for Undergraduate by Erach Bharucha
5. Environmental Studies: Third Edition by R. Rajagopalan

Course Outcomes: At the end of the course, students will demonstrate the ability to:

1. Develop concepts of basic environmental factors.

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2. Introduce to the students the basic understanding of ecosystem and its structural and functional aspects and vast biodiversity
3. Outline aspects of environmental issues.
4. Understand the knowledge of energy resources and their environmental implications

Note:

1. Minimum passing marks for any subject (paper) shall be 40% in the external examination and 40% in the aggregate of internal and external examinations of that subject.
2. The students will be allowed to use non-programmable scientific calculator. However, sharing/exchange of calculator is prohibited in the examination.
3. Electronic gadgets including cellular phones are not allowed in the examination.

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Vijay A. D. S.