



Scheme and Syllabus

B.Sc. (Fashion & Apparel Design)

(I & II Semesters)

Academic year 2021-2022 onwards

**DEPT. OF APPAREL TECHNOLOGY & MANAGEMENT
JNANABHARATHI CAMPUS, BANGALORE**

PREAMBLE

The curriculum designed by the committee in trajectory with National Education Policy 2020 guidelines aims to provide framework for understanding fashion design and accessories by sensitizing students to conceptual, visual and perceptual design process. The framed syllabus and the course policy is learner centric with varied levels of skills in the course of each academic year. Program structure and selected courses give diverse choice of subjects according to changing trends in fashion and design under Choice Based Credit System.

The textile and apparel industry is pivotal for the Indian economy by way of its momentous contribution to the GDP, industrial output, export earnings and employment generation. Government of India's thrust on textiles through 'Make in India', coupled with its emphasis on reforms and ease of doing business, augur well for the industry which offers a resilient outlook going forward. The textile sector in India is poised to grow exponentially in the coming years.

The Indian fashion industry needs design professionals with in-depth knowledge & skills relating to design innovation and technology. Considering the domestic and global requirement and challenges, the B.Sc. in Fashion and Apparel Design (Degree/Honours) course curriculum has been designed to help upcoming design professionals to demonstrate their personal design philosophy, perpetuate innovation and creativity. This will enable the industry to come up to the global standards to apply the knowledge of designing in various fields.

As envisioned in the National Education Policy 2020, the syllabus offers holistic education and all round development in undergraduate studies under Choice Based System. The main objective of this course is to orient the students towards the various facets of fashion industry. The students will be empowered with knowledge, technical know-how, skills required for various roles in the industry and entrepreneurship for embarking on their professional careers.

Programme Objectives

1. To empower students to have satisfying and fruitful career in fashion industry.
2. To equip students with knowledge of design & creativity which would in turn help them pursue higher education.
3. To empower students with ample knowledge to set up new start-ups or Self-help groups.
4. To encourage entrepreneurial skills and technical knowledge for national and international fashion centres and apparel industry
5. To provide an understanding of Fashion and Apparel Design in various fields of fashion, textiles, apparel, furnishings, home textiles, and retail business.
6. To provide hands-on experience on the upgraded technologies.
7. To provide experience in responding to market opportunities with creative and innovative products that integrate a set of academic disciplines such as fashion, textile materials, design fundamentals, business fundamentals, sourcing, data mining of market information, and new developments in fashion and apparel industry.

Programme Outcomes

By the end of the Programme the students will

- 1:** Gain knowledge of the fundamental principles of fashion, apparel, and design.
- 2:** Inculcate knowledge on the fashion process from conceptualisation to technical expertise.
- 3:** Apply knowledge and skills in the use of basic tools, techniques and processes sufficient to produce work from specification to finished products.
- 4:** Use CAD applications in par with the industry demands.
- 5:** Foster a spirit of zeal in learning and communicating fashion towards professional development.
- 6:** Become familiar with upcoming trends and practices in fashion and apparel sectors.
- 7:** Recognize the professional and personal responsibility of Designers to the community.
- 8:** Understand techniques that impacts fashion and apparel industry to meet specific consumer demands.
- 9:** Apply logical thinking gained from the knowledge acquired.
- 10.** Exhibit skills leading to employability in fashion and allied industries.
- 11:** Interpret design concepts and ideas represented through illustrations, photographs, graphics and visual display of merchandise.
- 12.** Create global design products utilising knowledge of new technology and sustainability in Fashion.
- 13:** Comprehend sustainability in their design aesthetic and design sustainability.
- 14:** Develop entrepreneurial spirits through start-ups to function independently to promote their design vision through creative and innovative work.

**Proposed Structure (IC Model) for Undergraduate Programme
B.Sc. /B.Sc. (Honours) in Fashion and Apparel Design**

Sem.	Discipline core (DSC) (L+T+P) (Credits)	Discipline Elective (DSE) Open Elective (OE) (L+T+P) (Credits)	Ability Enhancement Compulsory courses (AECC), Languages (L+T+P)		Skill Enhancement Courses (SEC)			Total Credits
					Skill Based (L+T+P)	Value based (L+T+P)		
I	FD 1.1 (3+0+2) – Textile Science	OE 1 (3+0+0): Textiles and Costumes of India	L1-1 Language -I (3+1+0) (3) L2-1 Language -II (3+1+0) (3)		SEC-1: Digital Fluency (2) (1+0+2)	Physical Education - Yoga (1) (0+0+2)	Health & Wellness (1) (0+0+2)	26
	FD 1.2 (3+0+2) – Fundamentals of Fashion Design							
	FD 1.3 (0+0+3) – Basics of Pattern Making and Garment Construction							

Sem.	Discipline core (DSC) (L+T+P)	Discipline Elective (DSE) Open Elective (OE)	Ability Enhancement Compulsory courses (AECC), Languages (L+T+P)		Skill Enhancement Courses (SEC)			Total Credits
					Skill Based (L+T+P)	Value based (L+T+P)		
II	FD 2.1 (3+0+2) – Dyeing & Printing in Textiles	OE-2(3+0+0): Clothing Care & Maintenance	L1-2 Language -I (3+1+0) (3) L2-2 Language -II (3+1+0) (3)		Physical Education – Sports (1) (0+0+2)	NCC/NSS/R&R(S&G) / Cultural (1) (0+0+2)		26
	FD 2.2 (3+0+2) – Fashion Design & Illustration							
	FD 2.3 (0+0+3) – Garment Detailing -I							

Exit option with certificate in Fashion & Apparel Design (with a Minimum of 48 Credits).

Scheme of Examination

B.Sc. (FASHION & APPAREL DESIGN)								
SEMESTER – I								
CODE	Course	Theory/ Practical	Instruct ion Hrs/wk	Duration of Exam (Hrs)	Marks			CREDIT
					IA	Exam	Total	
	Language I	Theory	4	3	40	60	100	3
	Language II	Theory	4	3	40	60	100	3
FD1.1T FD1.1P	Textile Science	Theory	3	3	40	60	100	3
		Practical	4	4	25	25	50	2
FD1.2T FD1.2P	Fundamentals of Fashion Design	Theory	3	3	40	60	100	3
		Practical	4	4	25	25	50	2
FD1.3P	Basics of Pattern Making and Sewing	Practical	6	4	50	50	100	3
FD OE-1	Open Elective	Theory	3	3	40	60	100	3
	SEC	Theory+ Practical	1+2	2	25	25	50	2
	PE-Yoga	Practical	2	-	25	-	25	1
	H&W	Practical	2	-	25	-	25	1
					375	425	800	26

SEMESTER – II								
CODE	Course	Theory/ Practical	Instruct ion Hrs/wk	Duration of Exam (Hrs)	Marks			CREDIT
					IA	Exam	Total	
	Language I	Theory	4	3	40	60	100	2
	Language II	Theory	4	3	40	60	100	2
FD2.1T FD2.1P	Dyeing & Printing in Textiles	Theory	3	3	40	60	100	3
		Practical	4	4	25	25	50	2
FD2.2T FD2.2P	Fashion Design & Illustration	Theory	3	3	40	60	100	3
		Practical	4	4	25	25	50	2
FD2.3P	Garment Detailing -I	Practical	6	4	50	50	100	3
FD OE-2	Open Elective	Theory	3	3	40	60	100	3
	SEC	Theory+ Practical	1+2	2	25	25	50	2
	PE-Sports	Practical	2	-	25	-	25	1
	NCC/NSS/R&R/CA	Practical	2	-	25	-	25	1
					375	425	800	26

I Semester B.Sc.
FD 1.1 T - Textile Science (Theory)

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
3	42	2	56
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Understand the classification, characteristics and use of textile fibres. • Analyse the basic components of fibres and their relationship to performance. • Gain knowledge of fibres, yarns, methods of fabric construction. • Understand the performance and suitability of fabric for apparels. • Identify and differentiate fabric structures and types. • Design and develop woven fabrics. 			
Unit – 1			Hrs.
<p>Chapter 1 Introduction to Textile fibers, terminology, textile yarn, staple & filament, sources and classification of fibers Natural Fibers- Structure, physical, chemical, thermal properties and end use.</p> <ul style="list-style-type: none"> - Cellulose fibres- Cotton, Linen, Banana fibre - Protein fibres- Silk, Wool - Regenerated Cellulosic fibres- Viscose, Acetate rayon, Modal, Bamboo, Lyocell. 			4
<p>Chapter 2 Synthetic Fibers – Structure, physical, chemical, thermal properties and end use.</p> <ul style="list-style-type: none"> - Nylon, polyester, acrylic, modacrylic, polypropylene - Elastomeric fibres (spandex & Lycra). 			4
<p>Chapter 3 Polymers - Definition: Polymerization, degree of polymerization, Types of polymers - Homo polymer & co-polymer, types of polymerization - addition and condensation, Requirements of fibre forming polymer, Concept of polymer orientation and crystallinity.</p>			4
Unit -2			Hrs.
<p>Chapter 4 Spinning - Definition, types of yarn - single, 2 ply, 3 ply. Yarn twist and yarn count system. Spinning process - Ring and open yarn, compact yarn, air jet spinning and difference between rotor and ring spinning. Woolen and worsted yarn, flow chart for manufacturing of carded, combed and folded yarn, advantages.</p>			6

<p>Chapter 5 Blends - Definition, types, advantages and end use of blended yarn (P/C, P/V, P/W, W/V).</p> <p>Chapter 6 Fancy yarns - Types, properties and end use, texturization. Sewing threads- types, properties and end use.</p>	<p>2</p> <p>2</p>
<p>Unit -3</p>	<p>Hrs.</p>
<p>Chapter 7 Introduction to fabrics - Classification based on manufacturing technology. Methods of fabric formation - Woven, knitted and nonwovens. Fabric properties & end use. Geometrical properties and their importance yarn count, thread density, fabric width, thickness, fabric weight / gsm.</p> <p>Chapter 8 Woven fabric formation - Flow chart of woven fabric manufacture and objectives. Weaving preparatory, objectives and study of process - winding, warping, sizing, drawing, denting and weft winding. Introduction to loom - classification, working principle - primary, secondary and tertiary motions of weaving. Classification of woven fabrics - Hand loom & power loom and its characteristics. Classification of looms and their salient features.</p> <p>Elementary weaves Classification of weaves, characteristics, construction, salient features of plain weave, variation (Rib, Basket), twill weave - variation (RHT, LHT, pointed & herring bone), satin / sateen weave - variation, fabric design and graphical representation of the above mentioned weaves. Introduction, properties and salient features of crepe fabrics - Georgette, chiffon, extra threads, warp and weft pile, brocade & damask, terry pile structures.</p> <p>Chapter 9 Introduction to knitting - Terminology, classification. Weft knitting - single jersey, modified single jersey, purl, rib, interlock. Warp knitting - tricot and rachel, properties and end uses. Introduction to nonwovens - terminology, types-needle punch, spun bonding, felting technique, properties and end uses.</p>	<p>8</p> <p>8</p> <p>4</p>

References
<ul style="list-style-type: none"> • Bernard P. Corbman, “Textiles: Fibre to Fabric”, McGraw Hill Education, 6th edition, 1985. • Billie J. Collier, Phyllis G. Tortora, “Understanding Textiles”, Pearson, 6th edition, 2000. • Gohl E.P.G., Velensky, L.D, “Textile Science” CBS Publishers and Distributors, 2nd edition, 2005. • Gordon Cook J, “Hand Book of Textile Fibres”, Woodhead Publishing, 5th revised edition, 1984. • Gilbert R. Merrill, “Cotton Opening and Picking”, Universal Publishing Corporation, 1999. • Hall A.J., “The standard Hand Book of Textiles”, Wood Head Publishing, 8th edition, 2004.

**I Semester B.Sc.
FD 1.1 P - Textile Science (Practical)**

No. of practical Credits - 2	Number of practical hours - 56
Course outcomes: On successful completion of the course, the students will be able to	
<ul style="list-style-type: none"> • Identify fibres, sources, and their properties. • Gain knowledge of yarn types and their properties • Demonstrate knowledge of textiles and application of skills in the product development. • Analyse compatibility of fabric to meet performance criteria of textile. 	
Unit 1	
6	
Identification of different fibers by physical method - feel test, burning test, microscopic test and chemical method. Natural fibers - Cotton, silk, wool. Man-Made - Polyester, viscose, nylon, acrylic.	
Unit 2	
8	
Determination of yarn twist and yarn count. Determination physical properties of Sewing thread – No. of ply, yarn twist, yarn count, yarn defect, visual inspection of various sewing thread packages. Identification of yarns by physical method – Spun, filament yarns, ply and novelty yarns.	
Unit 3	
12	
Determination of geometric parameters of woven fabric – EPI/PPI, warp & weft count, cover factor, crimp%, fabric thickness, fabric weight/gsm.	
Unit 4	
16	
Sample development of 5x5 inch size woven sample for the weaves – plain and its variation (rib and matt weave), twill weave (RHT and LHT), satin and sateen with drafting and denting plan for all weaves.	

Unit 5	8
<p>Collection and portfolio preparation of different commercial samples with different weave structures - Organdy, muslin, taffeta, shantung, canvas, tweed, oxford shirting, monk's cloth, chiffon, georgette, seersucker, denim, gabardine, satin, sateen, brocade, damask, leno or gauze. Knit structures - single knits - single jersey, Lacoste, double knits - rib knit, purl knit, interlock knit, cable fabric, bird's eye, cardigans, Milano ribs, pointelle. Non-Woven - Felts, needle punch, tea bag paper, face cloths, shingling and synthetic fiber paper Note: Minimum 25 samples.</p>	
Unit 6	6
<p>Collection and development of fabric portfolio of the different commercial samples with different weaves and weight.</p> <p>A) Apparel - Women's wear (formal, casual, party, sports/active wear, leisure wear) - 4 samples for each category (sample size - 2x2 inch).</p> <p>B) Furnishing - Fabric used for curtains, upholstery (furniture cover cloth) (sample size - 4x4 inches).</p> <p>C) Households application - Kitchen towels. Mop cloth, carpets, and table cloth etc. - 2 samples for each category (sample size 4 x 4 inches).</p> <p>D) Support materials for garments and trims - Interlinings, linings, tapes, elastic, shoulder pad, etc.</p>	

I Semester B.Sc.

FD 1.2 T - Fundamentals of Fashion Design (Theory)

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
3	42	2	56
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Basic principles and techniques of fashion design. • Learn all the fashion terminologies. • Understand the principles of colour theory and their application. • Develop a skill for drawing basic croqui and basic sketching. 			
Unit – 1			Hrs.
<p>Chapter 1 Fashion – Introduction, terminologies - fashion, style, taste, trend, fad, classics, cycle, boutique, haute couture, designer, Prêt a Porter, silhouette - types of silhouette – natural body, slim line, wedge, hour glass, extreme volume silhouette, croqui, muse, knock off, avant-garde, toile, atelier, bespoke, collage, frottage, montage.</p>			4
<p>Chapter 2 Design - Definition and types – structural and decorative design - Natural/ geometric/ abstract/ stylized/ ethnic/ conventional, requirements of a good structural and decorative design, Application of structural and decorative design in a dress, selection and application of trimmings and decorations.</p>			4
<p>Chapter 3 Elements of design – Line, shape or form, colour, size and texture. Principles of design - Balance – formal, informal and radial, rhythm- through repetition, radiation and gradation, emphasis, harmony and proportion. Advantages and uses in fashion.</p>			5
Unit - 2			Hrs.
<p>Chapter 4 Art media and application – pencils, colour pencils, oil pastels, water colours, poster colours, acrylic colours & fabric colours, markers.</p>			4
<p>Chapter 5 Colour - Introduction, colour wheel - primary, secondary and tertiary. Colour dimensions - hue, value and chroma, tint, tone, shade, colour harmony - related & contrasting colour harmonies & its sub divisions. Colour theory – Prang & Munsell colour systems. Colour psychology - colour and emotions, Indian approach to colour.</p>			5
<p>Chapter 6 Basic sketching techniques and sketching from life, perspective and its uses,</p>			5

Grid technique of rendering, principles of composition.	
Unit - 3	Hrs.
Chapter 7 Introduction to anatomy, study of bone and muscular structure, proportions of males, females and children. Study of face, torso, legs and arms.	5
Chapter 8 Introduction to fashion art, proportion and the fashion figure - 8 head, 10 head, 12 head theory of fashion drawing.	4
Chapter 9 Theory of clothing origin, fashion cycle, length of cycle, fashion theories – trickle up, trickle down and trickle across, consumer identification with fashion life cycle - fashion leaders/ style icon/ followers/ innovators/ motivators/ victims, fashion for creative and artistic, principles of fashion, international major fashion centers. Principles of fashion movement - factors influencing fashion movement - accelerating factors, retarding factors, and recurring fashions. Predicting the movement of fashion.	6

References
<ul style="list-style-type: none"> • Elisabetta Drudi, Tiziana Paci, “Figure Drawing for Fashion Design”, Pepin Press Publication, 2002. • Gavin Ambrose, Paul Harris, “The Visual Dictionary of Fashion Design”, Bloomsbury Publishing India Private Limited, 2007. • James Stockton, “Designers Guide to Colour”, Chronicle Books, San Francisco, 1984. • Maier, Manfred, “Basic Principles of Design”, Van Nostrand Reinhold, 1980. • Sharon L Tate, Mona S Edwards, “Inside Fashion Design”, Pearson Education India, 2006. • Stanyer Peter, “The Complete Book of Drawing Techniques”, Arcturus Publishing Ltd., 2003.

I Semester B.Sc.

FD 1.2 P - Fundamentals of Fashion Design (Practical)

No. of practical Credits - 2	Number of practical hours - 56
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Learn basics of sketching with different colour schemes and modes. • Practice dimensional sketching and colouring. • Understand colour patterns and combination. 	
Unit 1	
Introduction to art media and its applications, Line sketching and painting techniques, object drawing, simple rendering of art materials using pencil and colour pencils, still life of simple objects and fabrics draped at a distance using wet media, nature sketch of flowers and leaves using pastels and charcoal, landscape painting using mix media.	6
Unit 2	
Free hand drawing and grid technique of rendering. Design - natural/ geometric/ abstract/ stylized/ conventional. Principles of perspective drawing - Horizon, vanishing points, landscape drawing. One point, two point and three point perspective drawing.	10
Unit 3	
Elements of design - Point, line, shape, space, color and texture.	8
Unit 4	
Principles of design - Proportion, balance, rhythm, emphasis and harmony.	8
Unit 5	
Colour theory - Prang & Munsell colour systems. Colour wheel - primary, secondary and tertiary. Colour Dimensions - Hue, value and chroma, tint, tone, shade, colour harmony - related & contrasting colour harmonies & its sub divisions.	10
Unit 6	
Fashion illustration - Stick, block and fleshing of the fashion figure - 8 head, 10 head, and 12 head figures in simple standing poses.	14

I Semester B.Sc.
FD 1.3 P - Basics of Pattern Making and Garment Construction (Practical)

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
NA	NA	3	84
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Classify sewing machines and understand their functioning. • Understand and learn pattern making techniques • Learn basic pattern making terminologies. • Construct basic pattern sets. 			
Unit – 1			Hrs.
<p>Chapter 1 Introduction to pattern making, identification of tools used for pattern making and garment construction - measuring tools, marking tools, cutting tools, sewing tools, pressing tools. Sketching of tools used for pattern making. Understanding and collection of papers of various gsm used in pattern making.</p>			8
<p>Chapter 2 Sewing machine – Identification of machine parts and functions, types-domestic sewing machine, industrial sewing machine, stitch formation, sewing machine attachments and uses. Sketching the basic sewing machine and parts and learning threading of single needle lock stitch machine, loading bobbin and bobbin case, fixing and removing the needle and care and maintenance of sewing machines. Stitching practice on paper and fabric (straight, curves, corners and circular).</p>			10
<p>Chapter 3 Demonstration of parts of a sewing machine, varieties of industrial sewing machines - single needle lock stitch machine, double needle lock stitch machine, chain stitch machines, over-lock machine, care and maintenance of sewing machine. Illustration of feeding mechanism - drop feed, differential feed, needle feed, compound feed & puller feed.</p>			10
Unit -2			Hrs.
<p>Chapter 4 Demonstration on types of sewing threads - function, performance, characteristics, causes of defects and remedies. Sewing machine needles - types, parts and functions Stitch classification - ASTM Standards, stitch dimensions and properties.</p>			8

<p>Chapter 5 Development of basic hand stitches - Temporary and permanent stitches, methods, importance and applications of basting, running, tacking, hand overcast, chain, button hole, hemming stitches - plain and blind hemming. Machine stitches - Lock stitch and over lock stitches. Seams - Definition, classification, ASTM Standards, seam and seam finishes, seam dimensions, SPI, seam defects causes and remedies.</p>	10
<p>Chapter 6 Introduction to pattern making techniques - Drafting, draping and flat pattern technique, advantages and uses. Pattern making terminologies - Marks and symbols (notches, punch/circles), pattern information (grain, part, piece, cut symbols) seam allowance, fabric terms (grain, bowing, skewing). Development of children's sloper.</p>	8
Unit -3	Hrs.
<p>Chapter 7 Body measurements - Importance, types of body measurements, body measuring method. Demonstration and calculation of average measurement for mass production of taking body measurements, anthropometric study, average analysis of body measurements and standardizing the measurements (at least measurements of 20 people to be collected for an average analysis).</p>	10
<p>Chapter 8 Design and development of kid's wear garment - Jabla, A - line frock, waistline frock, bush shirt and shorts with elastic.</p>	10
<p>Chapter 9 Design and development of long skirt and circular skirt.</p>	10

References
<ul style="list-style-type: none"> • Allyne Bane, "Flat Pattern Design", McGraw-Hill Inc. US, 1972. • Gerry Cooklin, "Introduction to Clothing Manufacture", Wiley-Blackwell, 2nd edition, 2008. • Harold Carr & Barbara Latham, "The Technology of Clothing Manufacture", Oxford Publications, USA, 1994. • Helen J Armstrong, "Pattern Making for Fashion Design", Pearson Education India, 5th edition, 2013. • Winfred Aldrich, "Metric Pattern Cutting", John Wiley & Sons, 3rd edition, 1994.

**I Semester
(Open Elective)
OE 1: TEXTILES AND COSTUMES OF INDIA**

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
3	42	NA	NA
<p>Course Outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Gain knowledge in historical textiles and design from the historical time till date. • Understand about traditional woven textiles of different states of India. • Learn about the traditional costumes of different states of India. 			
<p>Unit 1 Textiles and costumes of India. Introduction, history, types, motifs and symbols, prehistoric textiles and costumes - costume components for men, women and children, hair and hair dresses. Indus Valley Civilization, Vedic age, Mughals, Guptas.</p>			6
<p>Unit 2 Ancient Indian textiles and costumes. History and social life, costumes, jewelry, textiles and dyes - Indus valley, Vedic, Mauryan, Shatavana period, Kushans, Gupta and Mughals.</p>			6
<p>Unit 3 Northern traditional textiles. Traditional woven textiles of North states of India – Brocades of Banaras, Chanderi and Tancoi, Himru, Pipli. Traditional costumes of North India - Jammu & Kashmir, Punjab, Himachal Pradesh, Haryana, Uttaranchal and Uttar Pradesh.</p>			8
<p>Unit 4 Southern traditional textiles. Traditional woven textiles of Southern states of India – Paithani and Pitamber, Pochampalli, Kancheevaram, Kalamkari, Mysore silk, Aarni Silk. Traditional costumes of Southern states of India – Tamil Nadu, Kerala, Karnataka and Andhra Pradesh.</p>			8
<p>Unit 5 Eastern traditional textiles. Traditional woven textiles of Eastern states of India – Dacca muslin, applique work of Bihar, Balucheri, Jamdhani. Traditional costumes of Eastern states of India – West Bengal, Bihar, Jharkhand, Arunachal Pradesh, Assam, Sikkim, Nagaland, Manipur, Mizoram, Meghalaya and Tirupura.</p>			7

<p>Unit 6 Western textiles Traditional woven textiles of Western states of India – Maheshwari sarees of Madhya Pradesh, Patola, Bandhini and Amrus. Traditional costumes of Western states of India – Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Chhattisgarh and Goa.</p>	7
References	
<ul style="list-style-type: none"> • Jamila Brij Bhusan “The Costumes and Textiles of India”, Taraporevala, Bombay. • John Gillow & Nicholas Barnad, “Traditional Indian Textiles”. Thames & Hudson, 1993. • Karen Baclawski, “The Guide to Historic Costumes”, Drama Publishers, 1995. • Martand Singh, “ Saris’ of India – Bihar & West Bengal”, Wiley Eastern Ltd. 1993. • Parul Bharnager, “Traditional Indian Costumes & Textiles”, Abhishek Publication, 2009. • Ritu Kumar, “Costumes and textiles of Royal India”, Christie’s Books, 1999. • Roshen Alkazi, “Ancient Indian Costume”, Art Heritage, 1983. • Rta Kapur Chishti & Amba Sanyal, “Saris of India – Madhya Pradesh,” Wiley Eastern Ltd. 1989. 	

II Semester B.Sc.

FD 2.1 T - Dyeing and Printing in Textiles (Theory)

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
3	42	2	56
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Learn and practice the dyeing of textiles made by natural and synthetic fibres. • Adapt the process parameters and use of dyeing machines for dyeing of textile materials. • Select the dyes and recipes for preparation of printing paste for printing of textile materials. • Apply various finishing treatment process and treat the fabric with different finishing agents. 			
Unit – 1			Hrs.
<p>Chapter 1 Introduction to wet processing - Terminologies, sequence of wet processing operations for cotton, silk, wool, synthetic and blended fabrics.</p>			2
<p>Chapter 2 Preparatory and dyeing process of cellulosic fibers. Preparation - Singeing, desizing, scouring, bleaching, mercerization - objectives, recipe, machineries used and the process. Dyeing - Dyeing process using direct, reactive, vat and sulphur dyes.</p>			5
<p>Chapter 3 Preparatory and dyeing process of protein fibers (wool and silk). Preparation for silk - Degumming and bleaching of silk - objectives, recipe, machineries used and process. Preparation for wool - Scouring, carbonizing of wool - objectives, recipe, machineries used and process. Dyeing - Dyeing process using reactive and acid dyes, reactive dyes, basic dyes.</p>			5
Unit -2			Hrs.
<p>Chapter 4 Dyeing of synthetic fibers using disperse dyes. Dyeing - Method of dyeing - stock, yarn, piece, union and garment dyeing</p>			5
<p>Chapter 5 Printing - Introduction, definition, printing styles and methods, Direct style-block, stencil, screen, roller, duplex, rotary, transfer printing, discharge style, resist style - batik, minor printing methods - flocking, marbling, photo printing, warp printing and air brush printing.</p>			5

<p>Chapter 6 Finishes – Introduction, definition, importance, classification of finishes - permanent and temporary finishes. Basic or routine finishes - stiffening, calendaring, weighing, tentering, mercerization. Aesthetic finishes - special calendaring, moiré embossed surface, glazed finish, acid and alkali finishes, softening and fading finishes.</p>	6
Unit -3	Hrs.
<p>Chapter 7 Functional finishes - Antimicrobial, antistatic, crease resistant, flame resistant, mothproof, shrinkage control, water repellent, water proof, micro encapsulation finishes, soil-release finishes.</p>	5
<p>Chapter 8 Stain removal, various solvents used and different methods of washing, difference between soaps and detergents. Chemical agents used in stain removal of coffee, blood, oil, grease, curry, juice, lip stick, hair dye. Care of textiles & fabrics - principles of laundering. Types - hand wash, machine wash and dry cleaning.</p>	5
<p>Chapter 9 Environmental concerns and social responsibility - Introduction to environmental issues - air pollution, water pollution, and solid waste pollution. Sustainability in the production of textile. Corporate social responsibility in textile industry.</p>	4

References
<ul style="list-style-type: none"> • Hall A J, “The standard Hand Book of Textiles”, Woodhead Publication, 2004. • Kate Broughton, “Textiles Dyeing”, Rockport Publishers Inc., 1996. • Mahapatra NN, “Textile Dyeing”, Woodhead Publishing India Pvt. Ltd., 2018. • Murphy W S, “Textile Finishing”, Abhishek Publishing, 2007. • Smith J E, “Textile Processing - Printing, Dyeing”, Abhishek Publishing, 2003. • Susheela Dantyagi, “Fundamentals of Textiles and their Care”, Orient Black Swan, 1980. • Wignate I B, “Textiles Fabrics & their Selection”, Prentice Hall, 6th edition, 1970.

II Semester B.Sc.
FD 2.1 P - Dyeing and Printing in Textiles (Practical)

No. of practical Credits - 2	Number of practical hours - 56
Course outcomes: On successful completion of the course, the students will be able to	
<ul style="list-style-type: none"> • Gain practical knowledge on dyeing methods. • Learn various methods of textile printing. • Identify and treat common fabric stains. 	
Unit 1	
Introduction to wet processing. Preparatory process - Desizing, scouring, bleaching and mercerization of cotton yarn/fabric	8
Unit 2	
Protein fiber - Degumming and bleaching of silk yarn / fabric, scouring and bleaching of wool fibre/yarn/fabric.	9
Unit 3	
Dyeing of cellulosic yarn/fabric by direct, reactive and vat dyes.	9
Unit 4	
Dyeing of protein yarn/fabric by acid and reactive dyes.	10
Unit 5	
Printing of fabric using block and screen using pigment, reactive and direct dyes. Resist style of dyeing /printing - Tie and dye/ shibori / batik.	14
Unit 6	
Stain removal of oil, grease, blood, coffee and beverages	6

II Semester B.Sc.

FD 2.2 T - Fashion Design & Illustration (Theory)

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
3	42	2	56
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Develop a skill for drawing basic croqui with facial details. • Create stylized croqui for fashion illustrations. • Understand the design process of fashion forecasting and fashion research. • Learn sketching technique of flats and specs. • Understand the fashion clothing categories. 			
Unit – 1			Hrs.
<p>Chapter 1 Introduction to fashion illustration and brief history of fashion illustration. Study of well-known fashion illustrators (René Bouché, David Downton, Jason Brooks, Lorenzo Mattotti). The role of fashion illustration as a mode of expression and representation for contemporary apparel styles and trends.</p>			3
<p>Chapter 2 Fashion figure - Study of various proportions, balance line in drawing fashion figures, gestures and movements. 6½, 8 head, 10 head, 12 head figures, the fashion face arms, legs, hands and feet.</p>			6
<p>Chapter 3 Figure analysis, body types - Hourglass, inverted triangle, pear shape, apple shape and lean column (rectangular) designing for diverse body types and ages - infant, toddler, children, young boys and girls.</p>			5
Unit -2			Hrs.
<p>Chapter 4 Garment style features - Silhouettes - types of silhouettes, sleeves - set-in sleeve and bodice combination sleeves, dress and blouses - formal and casual, shirts - men and women, skirts - flared, pencil, circular, pegged, gored, trousers - pencil, pleated, bell bottom, cargo, flared, collars - shirt, shawl, mandarin, flat, peter pan, yokes - yoke with fullness, yoke without fullness, asymmetrical yokes, pockets - patch, welt, side, kangaroo, in-seam pocket, cuffs - single, double, pointed, French cuff, band cuff.</p>			5

<p>Chapter 5 Fashion clothing psychology - Political influence, social influence, environmental influence, geographical influence, cultural influence, environment of fashion, colour psychology, human behavior and clothing, clothing and gender differentiation, clothing and personality, clothing and attitude, clothing and motivation, grooming (for male and female).</p>	5
<p>Chapter 6 Fashion seasons – Introduction and terminologies - International market and Indian market, design, prototype, manufacturing, product launch, retail store, couture, RTW, mass-produced, fashion designer, stylist, fashion journalist, fad, fit, pattern, size label, care label, laundering, fashion shows, catwalk, fashion magazines, webzines, social media, lingerie, longue wear, fragrance, endorsement, model, mannequin, merchandise. Season - winter, summer, spring autumn.</p>	4
Unit -3	Hrs.
<p>Chapter 7 Indian fashion designers - Sabyasachi Mukherjee, Ritu Kumar, Ritu Beri, JJ Valaya, Wendell Rodrick’s, Raghavendra Rathod, Manish Malhotra, and their brands based on following criteria - Introduction of the designer, education, specialty, brand / label, contribution to fashion, product range, outlets, collection showcase. Fashion brands, fashion capitals, fashion icons and role of fashion in movies, sports and politics.</p>	5
<p>Chapter 8 International fashion designers- Christian Dior, Gianni Versace, Coco Chanel, Donna Karan, Calvin Klein and their brands based on following criteria - Introduction of the designer, education, specialty, brand / label, contribution to fashion, product range, outlets, collection showcase. Fashion brands, fashion capitals, fashion icons and role of fashion in movies, sports, and politics.</p>	5
<p>Chapter 9 Fashion clothing categories - Introduction, types, based on age and activity, styling, price and size ranges for men’s, women’s and kid’s wear.</p>	4

References	
<ul style="list-style-type: none"> • Bina Abling, “Fashion Sketchbook”, Bloomsbury Academic USA, 6th edition, 2015 • Jaeil Lee, Comitte Steen, “Technical Source Book for Designers”, Bloomsbury Academic USA, 2nd edition, 2015. • John Wiley, "Theory of Fashion Design" John Wiley and Sons. Inc, New York, 1990. • Patrick John Ireland, “Fashion Design Illustration - Children", Batsford, London, 1996. • Patrick John Ireland, “Fashion Design Illustration - Women", Batsford, London, 1996. • Peacock J, “Fashion Source Books", Thames and Hudson, London, 1998. • Tisianna Paci, “Figure Drawing for Fashion Design”, Pepin Press Publication, 2002. 	

II Semester B.Sc.
FD 2.2 P - Fashion Design & Illustration (Practical)

No. of practical Credits - 2	Number of practical hours -56
Course outcomes: On successful completion of the course, the students will be able to	
<ul style="list-style-type: none"> • Understand the use of textures on various fabrics. • Sketch human figures and understand shapes and features. • Develop folio with design concepts inspired by designers. 	
Unit 1	
Fashion illustrations - 6½, 8 head, 10 head, and 12 head fashion figures - standing, moving and action.	6
Unit 2	
Model drawing - Children, female and male figures. Body figures and features - Face, eyes, nose, lips, ears, arms and legs. Hair styling - Women/men basics.	8
Unit 3	
Fabric rendering - Learning to simulate textures of various fabrics - Cotton, silk, fur, net, leather, velvet, denim, corduroy, georgette, chiffon, knitted, crochet, lace, embroidered and printed.	9
Unit 4	
Sketching and rendering of garment features - blouses - formal and casual, shirts - men and women, skirts - flared, pencil, circular, pegged, gored, trousers - pencil, pleated, bell bottom, cargo, pedal pushers, collars - shirt, shawl, mandarin, flat, peter pan, yokes - yoke with fullness, yoke without fullness, pockets - patch, welt, side, kangaroo, in-seam pocket, cuffs - single, double, pointed, French and band cuff, sleeves - set-in sleeve and bodice combination sleeve.	9
Unit 5	
Development of folio with design concepts inspired by one Indian Designer - Sabyasachi Mukherjee, Ritu Kumar, JJ Valaya, Wendell Rodrick's, Raghavendra Rathod, Manish Malhotra, Bhumika, Shyamal.	14
Unit 6	
Development of folio with design concepts inspired by one International Designer - Christian Dior, Gianni Versace, Coco Chanel, Donna Karan, Calvin Klein.	10

II Semester B.Sc.
FD 2.3 P - Garment Detailing-I (Practicals)

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
NA	NA	3	84
<p>Course outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Apply knowledge about industrial method of pattern making, grading and marker plan. • Understand about garment sizes and categories. • Handle special fabrics for garment construction. • Learn minor and major garment construction techniques. 			
Unit – 1			Hrs.
<p>Chapter 1 Preparation of basic block - Pattern set (bodice front, back, sleeve, skirt - front and back), development of basic pattern set.</p>			8
<p>Chapter 2 Flat pattern technique - Introduction, types, application and uses (pivot and slash technique).</p>			10
<p>Chapter 3 Fullness - Introduction, types of fullness, application and uses, development of Samples Garment detailing - Dart manipulation - single dart and double series. Conversion of darts to tucks, pleats, gathers, and stylines. Radiating and graduating darts.</p>			10
Unit -2			Hrs.
<p>Chapter 4 Major components - Introduction, definition, terms, application, classification and types, development of samples. Collars - Definition, terms, classification and types - Peter pan, sailor, turtle collar, shawl, formal shirt collar, mandarin collar and with its variations - construction. Yokes - Definitions, purpose, types - with fullness and without fullness, shapes - construction Sleeves – Definition, purpose, terms, classification and types – set in, plain puff sleeve, raglan, Magyar sleeve.</p>			10
<p>Chapter 5 Minor components - Introduction, definition, terms, application, classification and types, development of samples. Pockets - Definitions, purpose, types - patch pockets, patch pockets with flap,</p>			12

<p>seam pockets, welt pockets and variations. Cuff - Definitions, purpose, types – single, double and shaped cuff. Plackets - Definition, types - self placket, continuous bound placket, two piece sleeve placket and shirt placket. Neck line finishes - Definition, types - piping, facing (bias facing, shaped facing) bias binding.</p> <p>Chapter 6 Trims-Definition, types, frills, ruffles, ricrac, faggoting, applique, lace, motifs, scallop edging, smocking, basic embroidery, decorative fastenings. Development of folio.</p>	08
Unit -3	Hrs.
<p>Chapter 7 Demonstration of garment categories - Silhouettes - variations, torso dress, princess line, panel, with waistline, without waist line garments.</p> <p>Chapter 8 Incorporation of garment closures on samples - Introduction, types - Hook and eye, press buttons, shirt button and button holes, visible and concealed zippers, velcro.</p> <p>Chapter 9 Develop garments for women using major and minor components.</p>	10 8 8

References
<ul style="list-style-type: none"> • Elizabeth Liechty, Judith Rasband, “Fitting and Pattern Alteration”, Bloomsbury Academic USA, 2016. • Helen J Armstrong, “Pattern Making for Fashion Design”, Pearson, 5th edition, 2013. • Martin M Shoben, Patrick J Taylor, “Grading for the Fashion Industry”, LCFS Fashion Media, 2004. • Natalie Bray, “Dress Fitting - Basic Principles and Practice”, BSP Professional Book Publishers, 2nd edition, 1991. • Patric Taylor, “Grading for the Fashion Industry”, Stanley Thomas Ltd., 1990.

**II Semester
(Open Elective)
OE 2 - CLOTHING CARE AND MAINTENANCE**

Number of Theory Credits	Number of lecture hours /semester	Number of practical credits	Number of practical hours /semester
3	42	NA	NA
<p>Course Outcomes: On successful completion of the course, the students will be able to</p> <ul style="list-style-type: none"> • Learn aspects related to care and maintenance of clothing. • Understand washing methods for different types of clothing and storage. • Differentiate between soaps and detergents. • Gain knowledge about stain removal and care of expensive clothes. 			
<p>Unit 1 Water- hard and soft water, methods of softening water. Zeolite or base exchange method. Determination of water hardness.</p>			6
<p>Unit 2 Laundry soaps – Manufacture of soap and methods, composition of soap, types of soap, soap less detergents, chemical action and advantages of detergents. Difference between soaps and detergents.</p>			6
<p>Unit 3 Laundry equipment and reagents: Study of laundry equipment and laundry reagents - soaps - detergents - cleaning action of soaps, indigenous cleaning agents - rita nut - shikakai - green gram - bran solution - study of modern and industrial cleaning agents</p>			8
<p>Unit 4 Stiffening agents: Study of stiffening agents - purpose of stiffening- classification of stiffening agents preparation and uses of stiffeners- natural and commercial starches - preparation of starch for use – bleaching agents - blueing and tinting agents and their application – optical whiteners.</p>			8
<p>Unit 5 Washing machine and care labels - Study of different types of house hold/industrial washing machine- rotary - swirling - pressure - tumble wash etc.; various systems of care labeling-washing instruction. Bleaching instruction-drying instruction-ironing instruction-dry cleaning instruction. Placement of labels on garments.</p>			7
<p>Unit 6</p>			

<p>Stain removal: Principles of laundering - stain removal - various solvents for stain removing blood, tea, rust; oil/grease etc. – different methods of washing - application of friction by hand rubbing - scribing – tumble wash. General rules and ways of stain removal</p>	<p>7</p>
<p>References</p>	
<ul style="list-style-type: none"> • Dantyagi S., “Fundamentals of Textile and Their Care”, Oriental Longmans Ltd, New Delhi, 1996. • Denlkar, “Household Textiles and Laundry Work”, Atma Ram and Sons, Delhi, 1993. • Davis, “Laundry and Clothing Care”, Drama Book Publishers, 1995. • Neomi D'Souza, “Fabric Care”, New Age International Publisher, 1998. • Parthiban M, Srikrishnan MR, “Apparel Finishing and Clothing Care”, WPI, 2020. • Rajkishore Nayak, Saminathan Ratnapandian, “Care and Maintenance of Textile Products Including Apparel and Protective Clothing”, CRC Press, 1st edition, 2018. 	

QUESTION PAPER PATTERN (Theory)

**I/II Sem. B.Sc. Examination
(2021-22 Onwards)
FASHION AND APPAREL DESIGN
Paper code and Title of the paper**

MAX MARKS-60

TIME: 3Hrs

**Instructions to the Candidates: i. *All sections are compulsory*
ii. *Illustrate wherever necessary***

SECTION – A

1. Answer any 10 of the following (10x2=20)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.
- 11.
- 12.

SECTION – B

II. Answer any 5 of the following (5x4=20)

- 13.
- 14.
- 15.
- 16.
- 17.
- 18.

SECTION – C

III. Answer any 4 of the following (4x5=20)

- 19.
- 20.
- 21.
- 22.
- 23.

QUESTION PAPER PATTERN (Practical)

**I/IISem. B.Sc. Examination
(2021-22 Onwards)
FASHION AND APPAREL DESIGN
Paper code and Title of the paper**

MAX MARKS-25

TIME: 4Hrs

Instructions to the Candidates: i. *All sections are compulsory*

- | | |
|---------------------|-----------------|
| 1. | 10 Marks |
| 2. | 10 Marks |
| 3. Viva Voce | 05 Marks |

QUESTION PAPER PATTERN (Practical)

**I/IISem. B.Sc. Examination
(2021-22 Onwards)
FASHION AND APPAREL DESIGN
Paper code and Title of the paper**

MAX MARKS-50

TIME: 4Hrs

Instructions to the Candidates: i. *All sections are compulsory*

- | | |
|---------------------|-----------------|
| 1. | 20 Marks |
| 2. | 20 Marks |
| 3. Viva Voce | 10 Marks |

Outline for Continuous Assessment

Theory with 3 credits

Activity	C1	C2	Total
Session Test	15%	15%	30%
Seminars/Presentations/Activity	5%	-	05%
Assignment/Field Work	-	5%	05%
Total	20%	20%	40%

Practicals with 2/3 Credits

Activity	C1	C2	Total
Test / Performance	20%	20%	40%
Record Maintenance		10%	10%
Total			50%