



**Government of Karnataka**

**Curriculum Framework for Four-Year Undergraduate Multidisciplinary Programme (Honours) & Master Programme in Colleges and Universities of Karnataka State Under NEP 2020.**



**3<sup>rd</sup> and 4<sup>th</sup> Semester Model Syllabus  
for  
Bachelor of Science  
in  
Fashion and Apparel Design  
&  
Interior Design and Decoration**

**SUBMITTED TO  
KARNATAKA STATE HIGHER EDUCATION COUNCIL  
30, Prasanna Kumar Block, Bengaluru City University Campus,  
Bengaluru, Karnataka – 560009**

## Submitted By

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**III and IV Semester B.Sc. (Fashion and Apparel Design) and  
B.Sc. (Interior Design and Decoration) CBCS Syllabus as per  
NEP regulations**

**Syllabus for B.Sc. (Fashion and Apparel Design)  
III & IV Semester**



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Third Semester</b>
Course Code	<b>FD.3.1 T</b>	Course Credits	<b>3</b>
Course Name	<b>Fashion Art and Design (Theory)</b>	Contact hours	<b>42 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<ul style="list-style-type: none"><li>❖ Understand the role of fashion illustration in fashion design</li><li>❖ Create different silhouettes for designer wear</li><li>❖ Identify various design elements to incorporate details like collars, necklines, sleeves, cuffs.</li><li>❖ Develop complete designer fashion figures with silhouettes and apply rendering techniques.</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	
<b>Chapter 1</b> Fashion Research - Introduction, types, and source of research for design collection. Inspiration for fashion designers. Concepts and process of Fashion portfolio designing.	<b>6 Hrs</b>
<b>Chapter 2</b> Fashion forecasting-Introduction, types. Forecasting- (Time Based) Short term forecasting, long term forecasting. Techniques in forecasting- judgemental, initiative forecasting, Delphi technique, process of fashion forecasting, sources, Colour forecasting- Introduction, its importance, impact on fashion, 24 mood categorizations.	<b>3 Hrs</b>
<b>Chapter 3</b> Designing of garments based on figure types, garments to create optical illusion through elements and principles of design.	<b>4 Hrs</b>
<b>Unit -2</b>	
<b>Chapter 4</b> Trend Analysis- Identification/ selection of target market, trend analysis of earlier seasons to understand trend spotting methods and trend life cycles. Forecast interpretation of the current / subsequent season, developing style directions based on selected markets, trend reporting and data presentation.  Trend analysis for different seasons, trend analysis agencies.	<b>6 Hrs</b>

<p><b>Chapter 5</b> Flat Sketch - Introduction, its importance and application, drawing flats, styling the flats, sketching flats freehand, proportion for flats for women, men, and children, sketching technique for flats, structures for flats, coqui mixed with flats, portfolio flats, and croquis mixed with flats. Flats for manufacture.</p>	<p><b>2 Hrs</b></p>
<p><b>Chapter 6</b> SPEC – Introduction, importance, application, types- Manual, computerized, detailed content- Season, description, client, fabrication, trims and accessories, brand label, care label, style, size, and other details.</p>	<p><b>2 Hrs</b></p>
<p><b>Unit -3</b></p>	
<p><b>Chapter 7</b> Design Focus Layout-Design direction, attitude in a pose, Design emphasis, stylization for Designers, Design objectives, Design journal pages, Design journal thumbnail sketches, maximizing design impact, composition direction, grouping figures, layout, or line up.</p>	<p><b>8 Hrs</b></p>
<p><b>Chapter 8</b> High End Rendering Techniques-Introduction, depth and shine, highlights and pleats, drape and transparency, volume and gathers, folds and fringes, Ruffles, cowls, smocking and shirring, gathers, gore, pin tucks. Changing proportions, bridal looks, trains, dress and gown flats, drape, and volume. Luxury fabric rendering- feather, laces, embroidered fabrics.</p>	<p><b>8 Hrs</b></p>
<p><b>Chapter 9</b> Sustainable Fashion – meaning and significance; Environmental concerns related to fashion; Linear fashion and circular fashion; 4R’s in sustainability – Repair, recycle, reuse, and reduce. Moving towards sustainable fashion - Eco fashion, Slow fashion; Environmental impact of fast fashion.</p>	<p><b>4 Hrs</b></p>

References	
1	Bina Abling, “Fashion Sketchbook”, Fair child Books, 2012, Canada
2	Bina Abling, “Fashion Sketchbook”, Bloomsbury Academic USA, 6th edition, 2015
3	Jaeil Lee, Comitte Steen, “Technical Source Book for Designers”, Bloomsbury Academic USA, 2 <sup>nd</sup> edition, 2015.
4	John Wiley, "Theory of Fashion Design" John Wiley and Sons. Inc., New York, 1990.
5	Patrick John Ireland, “Fashion Design Illustration - Children", Batsford, London, 1996.
6	Patrick John Ireland, “Fashion Design Illustration - Women", Batsford, London, 1996.
7	Peacock J, “Fashion Source Books", Thames and Hudson, London, 1998.
8	Stecker P, “The Fashion Design Manual", Macmillan, Australia, 1997.
9	Tisianna Paci, “Figure Drawing for Fashion Design”, Pepin Press Publication, 2002.



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Third Semester</b>
Course Code	<b>FD.3.1 P</b>	Course Credits	<b>2</b>
Course Name	<b>Fashion Art and Design (Practical)</b>	Contact hours	<b>56 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
❖ Understand the concepts and usage of fashion research, forecasting and trend analysis in designing.	
❖ Incorporate designing skills using high end rendering techniques.	
<b>Course Content:</b>	
<b>Unit-1</b>	<b>12 Hrs</b>
Research Design- Preparation of portfolio based on Inspiration, mood, colour, client and texture, fabric swatch boards based on current trend.	
<b>Unit-2</b>	<b>6 Hrs</b>
Illusion in garments: line, print, colour and silhouette. Designing of various garments from the following categories: Children wear, Ladies' wear, Men's wear, Evening wear, Nightwear, summer wear, winter wear and party wear, etc.	
<b>Unit -3</b>	<b>12 Hrs</b>
Flat sketch - Sketching flats of women, men and children wear. SPEC - Preparation of spec-sheet with measurement and other details for formal and casual shirt, formal and casual trousers, and frocks.	
<b>Unit -4</b>	<b>10 Hrs</b>
Fashion sketching of advanced illustration techniques and 3 dimensional views (only hand). Foreshortening of figures, grouping of figures - thematic figure composition	
<b>Unit -5</b>	<b>8 Hrs</b>
Design Focus layout- Direction, attitude in a pose, emphasis, stylization for designers, Design journal pages, composition direction and line up.	
<b>Unit -6</b>	<b>8 Hrs</b>
High End Rendering techniques- Sketching ruffles, cascades, cowls, smocking, shirring, gathers, gores, pin tucks, dress and gown flats, bridal look and bridal trains, luxe fabric rendering, black fabric rendering.	



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Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Third Semester</b>
Course Code	<b>FD.3.2 T</b>	Course Credits	<b>3</b>
Course Name	<b>Garment Detailing -II (Theory)</b>	Contact hours	<b>42 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<ul style="list-style-type: none"><li>❖ Apply knowledge about industrial method of pattern making grading and marker plan.</li><li>❖ Understand about garment sizes and categories.</li><li>❖ Understand fitting techniques and pattern alteration techniques.</li><li>❖ Handle special fabrics for garment construction.</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	
<b>Chapter 1</b> Introduction to pattern development, manual and computerized pattern development, Marker making -Introduction, mini marker and marker plan development, digitizer, plotter, and scanner.	<b>3 Hrs</b>
<b>Chapter 2</b> Software- Introduction to software's used in computerized pattern making, computerized grading, and marker making, marker efficiency and computerized garment manufacturing process.	<b>4 Hrs</b>
<b>Chapter 3</b> Pattern Layout - Definitions, principles, types of layouts, importance of pattern layout and advantages. Estimation - Definitions, types of estimation, importance of fabric estimation and advantages.	<b>6 Hrs</b>
<b>Unit -2</b>	
<b>Chapter 4</b> Handling special fabrics – Introduction, types of special fabrics - stretch fabrics, knit, checks, plaids, stripes, velvet, corduroy, leather, fur and lace. Factors to be considered while pattern making, garment construction, garment finishing, washing care and storing.	<b>6 Hrs</b>
<b>Chapter 5</b> Grading - Introduction, definition, grading terminology, principles, types, sizes, grade points, manual and computerized grading, importance and advantage.	<b>4 Hrs</b>



<p><b>Chapter 6</b> Fitting - Introduction, principles of fitting, types of garments fit, standards for a good fit, e-fitting, Body scanner, 3D simulators.  Pattern alteration techniques - Introduction, methods of alteration technique, importance, and advantage. Pivot, slash and spread method (length, width, front, back, sleeve, shirt, skirt, trousers)</p>	<p><b>6 Hrs</b></p>
<p><b>Unit -3</b></p>	
<p><b>Chapter 7</b> Interlining &amp; Interfacing – Introduction, properties, types, materials, methods of applications. Machinery used -Continuous Fusing Press, Flatbed Fusing press, High-Frequency Fusing, Hand Iron.</p>	<p><b>4 Hrs</b></p>
<p><b>Chapter 8</b> Foundation garments- Introduction, Exploration of Design, fabric, study of the elasticity of materials, trim and accessories. Types of fitting for men’s innerwear briefs &amp; trunk., swimwear, Women’s innerwear brassier, panties and swim wear and fasteners used.</p>	<p><b>5 Hrs</b></p>
<p><b>Chapter 9</b> Sportswear/ Active wear- Introduction, Exploration of Design, fabric, garment fitting, materials used and types of sport wear for men and women. Interlining and interfacing used for sportswear.</p>	<p><b>4 Hrs</b></p>

<b>References</b>	
1	Elizabeth Liechty, Judith Rasband, “Fitting and Pattern Alteration”, Bloomsbury Academic USA, 2016.
2	Ruth E. Glock, Grace I.Kunz, “Apparel Manufacturing, sewn product analysis”, Pearson, 2018
3	Steven George Hayes, Praburaj Venkatraman, “Materials and Technology for Sportswear and Performance Apparel”, CRC Press Taylor and Francis Group, 2017
4	Helen J Armstrong, “Pattern Making for Fashion Design”, Pearson, 5th edition, 2009.
5	Martin M Shoben, Patrick J Taylor, “Grading for the Fashion Industry”, LCFS Fashion Media, 2004.
6	Natalie Bray, “Dress Fitting - Basic Principles and Practice”, BSP Professional Book Publishers, 2nd edition, 1991.
7	Patric Taylor, “Grading for the Fashion Industry”, Stanley Thomas Ltd., 1990.
8	Winfred Aldrich, “Metric Pattern Cutting”, Blackwell Science, UK, 1988



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Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Third Semester</b>
Course Code	<b>FD.3.2 P</b>	Course Credits	<b>2</b>
Course Name	<b>Garment Detailing -II (Practical)</b>	Contact hours	<b>56 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to: <ul style="list-style-type: none"><li>❖ Apply knowledge about pattern layout, fabric estimation and costing</li><li>❖ Design and construct garment for men, women, and sport categories</li><li>❖ Choose correct garment accessories and trims for the designed garments</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	<b>14 Hrs</b>
Designing and Development of women's wear (Pattern layout, Fabric estimation and costing must be developed for individual garment) <ul style="list-style-type: none"><li>➤ Ladies top/Blouse</li><li>➤ Salwar Kameez</li></ul>	
<b>Unit-2</b>	<b>14 Hrs</b>
Designing and Development of men's wear -Pattern layout, Fabric estimation and costing must be developed for individual garment. <ul style="list-style-type: none"><li>➤ Casual Shirt/Kurta</li><li>➤ Trouser</li></ul>	
<b>Unit -3</b>	<b>10 Hrs</b>
Designing and Development of sportswear for women's track and field events -Pattern layout, Fabric estimation and costing must be developed for individual garment <ul style="list-style-type: none"><li>➤ Women (one set each)</li></ul>	
<b>Unit -4</b>	<b>10 Hrs</b>
Designing and Development of sportswear for men's track and field events -Pattern layout, Fabric estimation and costing must be developed for individual garment. <ul style="list-style-type: none"><li>➤ Men (one set each)</li></ul>	
<b>Unit -5</b>	<b>6 Hrs</b>
Development of Manual grading of patterns – Men's shirt, Women's top	
<b>Unit -6</b>	<b>2 Hrs</b>
Collection and development of folio on special fabrics, Interlining & Interfacing	



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Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Third Semester</b>
Course Code	<b>FD.3.3 P</b>	Course Credits	<b>3</b>
Course Name	<b>Apparel Computer Aided Design (Practical)</b>	Contact hours	<b>84 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to: <ul style="list-style-type: none"><li>❖ Use designing software's to develop patterns.</li><li>❖ Create design by using different designing tools.</li><li>❖ Develop patterns for various garments with PDS.</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	
<b>Chapter 1</b> Introduction to Computer Aided Design-Fundamentals, general process of design, application of computers in design, benefits of CAD and CAD in today's fashion industry.	<b>4 Hrs</b>
<b>Chapter 2</b> Introduction to Fashion Design Software's- tools in detail, enhancing images, Masking, transforms, working with layers. Merging & blending layers, text effects. Creating an advertising brochure, Brand Label, care label designing, logo designing, development of Visiting card, letterhead.	<b>10 Hrs</b>
<b>Chapter 3</b> Painting & rendering using software's, creating & manipulating Fashion Model drawings, gradient use for rendering & 3D effects, making collage in Photoshop, Applying filters. Creating various boards- Mood/Inspiration/client/customer/colour and Texture board using Photoshop on various themes.	<b>12 Hrs</b>
<b>Unit-2</b>	
<b>Chapter 4</b> Designing using software's- Introduction, Learning basic tools. Using Basic Shapes, Transformations, Duplicate, Cloning. Applying fill, outlines, special effects, shaping objects, creating custom Shapes using basic shapes and other drawing tool, working with the text, Effects, shaping object with envelope tool, Power Clip objects, splitting and erasing portion of objects. Creating fashion accessories like necklace, bracelet, anklets, earring, and head gear etc.	<b>10 Hrs</b>

<p><b>Chapter 5</b></p> <p>Motifs development – Symmetrical/Asymmetrical, Balanced/Unbalanced, Repeat – ½ drop, ¼ drop, ¾ drop – H/V and Drop reverse. Design and develop of Saree with Borders, Pallu and Allover. Design and develop of Men’s Kurta with Neckline, Cuff, and Sleeve.</p>	<b>10 Hrs</b>
<p><b>Chapter 6</b></p> <p>Draping of garments on men’s, women’s &amp; children casual, party, night, sports, office/formal wears using software.</p>	<b>10 Hrs</b>
<b>Unit -3</b>	
<p><b>Chapter 7</b></p> <p>Design Develop of flat sketches along with stitch specification for the following: Children – Girls (A-line &amp; yoke frock), Boys (shirt &amp; shorts) Adults – Women’s (Top, Skirt, gown), Men’s (Shirt, Kurta, Trouser). For the above create spec sheets, cost sheets for each garment using software’s.</p>	<b>10 Hrs</b>
<p><b>Chapter 8</b></p> <p>PDS – Introduction, pattern for digitizing, Pattern Design – Introduction to PDS (pattern design screen), File menu, Opening and saving, Managing Pieces on the screen, measure, Edit and View functions. Point &amp; Notch Functions, line functions, Piece functions.</p>	<b>10 Hrs</b>
<p><b>Chapter 9</b></p> <p>Prepare basic Pattern set, grade the patterns to smaller, larger size, Grading and create Marker plan - A-Line Frock, Skirt, Shirt, Dress/ Top, Shorts/Trousers and Kurta.</p> <p>(Note: Fashion Studio software / Photoshop / Corel Draw/ Jindex 3D fashion etc. may be used)</p>	<b>8 Hrs</b>

<b>References</b>	
1	Kathleen Colursy M, “Fashion Design on Computers”, Prentice Hall, 2004. 32
2	Radhakrishnan R, Subramanian S, Raju V, “CAD/CAM/CIM Computer Aided Design & Manufacturing”, New Age International Publications, 2000.
3	Renee Weiss Chase, “CAD for Fashion Design”, Prentice Hall Publications, 1997.
4	Taylor P, “Computers in Fashion Industry”, Heinemann Publication, 1990.
5	Voisinet Donald D. “Computer Aided Drafting & Design-Concept & Application”, McGraw-Hill, 1987.
6	Winfred Aldrich, “CAD in Clothing & Textiles”, Blackwell Science, 1994.



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Third Semester</b>
Course Code	<b>OE-3T</b>	Course Credits	<b>3</b>
Course Name	<b>Fashion Make Over (Theory)</b>	Contact hours	<b>42 hrs</b>

**Course Outcomes:** On completion of the course, the student will be able to:

- ❖ Groom and style for any occasion.
- ❖ Acquire knowledge about various garments suitable different occasions.
- ❖ Demonstrate knowledge and skills of makeover through reflective experiential learning.
- ❖ Bring about a change in personality through makeover.

### Course Content:

#### Unit-1

##### Chapter 1

Fashion Make Over- Introduction to makeover, importance, types- clothing, makeup, accessories, materials.

**4  
Hrs**

##### Chapter 2

Introduction to different styles (Chic, exotic, classic, glamorous, sexy, sophisticated, tomboy, hippies, etc.) study of fashion appreciation- historical, contemporary and art style to understand fashion as a social phenomenon.

**4  
Hrs**

##### Chapter 3

Elements of Fashion and styling- women - Skirt, blouses, dresses, trousers, Tops.

Men's- shirts, trousers, casuals, formals, jackets, traditional.

**6  
Hrs**

#### Unit -2

##### Chapter 4

Selection of clothes- clothing for children, teenagers, youth, middle age, adults. Types of clothes, selection according to figure, region, season, and occasion.

**5  
Hrs**

##### Chapter 5

Planning clothing needs for school, college wear, parties, sports, rest, formal, corporate, traditional, festival, holiday.

**5  
Hrs**

<b>Chapter 6</b> Make up- Introduction to makeup, types based on skin type, shape of the face, eyes, nose, lips.	<b>5 Hrs</b>
<b>Unit -3</b>	
<b>Chapter 7</b> Make up materials- brushes, moisturizer, primer, concealer, foundation, compact. Eye makeup- introduction, types, materials, lip – introduction, types and materials. Choice of colors based on skin color, make up for corporates, traditional, formal, casual- beach, swim. Special occasions- wedding, part, award ceremony. Techniques for removal of Makeup and skin care and maintenance.	<b>6 Hrs</b>
<b>Chapter 8</b> Accessories- Introduction to men’s and women’s accessories, importance, types- heads gear, footwear, handwear, handbags, scarfs, stoles, watches, jewellery	<b>4 Hrs</b>
<b>Chapter 9</b> Styling and makeover for different Occasion- Formal wear, party wear- Indian, Wester wear, casual wear, beach wear, college wear for both men and women,	<b>3 Hrs</b>

<b>References</b>	
1	Trish McEvoy, “The makeover of a confident Women.” Harper wave publishers, 2017
2	Danielle Griffiths, “Fashion stylist Handbook”, Laurence King Publishers 2016
3	Rouse ‘Understanding Fashion”, Blackwell Science, UK 1989
4	Alison Freer, “How to get Dressed.” Ten speed press, Berkeley Publishers, 2015
5	Kendall Farr, “The pocket stylist.” Penguin Group Publishers, USA Inc, 2004
6	Clinton Kelly, Stacy London, “Dress you’re Best- The complete guide to finding the style that’s right for your body, “3 River Press Publication, 2005
7	Alan Flusser, “Dressing the Man- Mastering the Art of Permanent Fashion.” Harper Collins Publication, 2002
8	Boris Entrup,” 10 Minutes Make up,” Dorling Kindersley, London, 2014



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>FD.4.1 T</b>	Course Credits	<b>3</b>
Course Name	<b>Indian Textiles and Costumes (Theory)</b>	Contact hours	<b>42 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<ul style="list-style-type: none"><li>❖ Understand history of textiles and its influence with reference to fashion clothing.</li><li>❖ Understand and use symbolic motifs and colour in designing traditional textiles.</li><li>❖ Acquaint with sketching skills of costumes for different regions of India.</li><li>❖ Understand the importance of Indian Costumes and use them in designing fashion designer wear.</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	
<b>Chapter 1</b> History of Clothing & Textiles- Introduction, Pre-historic reference, influence of religion, art, trade, and royalty with respect to main features and relevance to industry today. Development of costumes - Introduction, beginning of costume - Body decorations, body staining, tattooing, cutting and scarification, adoption of fibrous apparel, initial manufacture of clothes. Earlier decoration of textiles, Types of ornaments used in the beginning - Tattooing, mutilation, and other methods of skin decoration.	<b>3 Hrs</b>
<b>Chapter 2</b> 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.	<b>3 Hrs</b>
<b>Chapter 3</b> Origin of Clothing (Dress), Stone age, Neolithic Age, Bronze Age, Indus Valley Civilization, Vedic age. Changing scenario of Indian costumes and influence on present day costume.	<b>6 Hrs</b>
<b>Unit -2</b>	
<b>Chapter 4</b> Middle Ages - 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. Mauryan, Guptas, Satavahanas, Kushans, Mughals.	<b>6 Hrs</b>

<p><b>Chapter 5</b>  <b>Hand Woven Textiles-</b> Saris - Banaras Brocades, Baluchari, Jamdani, Dhaka Muslin, Himru, Amru, Tancoi, Potala, Pochampalli, Paithani, Kanjeevaram, Chanderi, Maheshwari, Ilakal, Molakalmuru, Mysore silks, Kasuvu, Narayanpet, gadwall, Mangalagiri, Uppada, Venkatagiri  <b>Embroidered Textiles-</b> Kashmiri, Chikankari, phulkari, Kanta, Parsi Gara, Zardozi and Ari. Shawls-Kashmir Shawls, Kullu &amp; Kinnaur Shawls, Wraps of North-east. Floor coverings - Carpets, Durries &amp; Rugs.</p>	<b>4 Hrs</b>
<p><b>Chapter 6</b>  Printed and Painted Textiles of India- Introduction, history, types of printed, dyed, and painted textiles of India. Colors, motifs, stitches used in printed, dyed and painted Indian traditional textiles of India. Production processes of various dyed, printed and painted Indian textiles. Printed Textiles-Block prints, Bagru, Sanganer, Ajrakh. Painted Textiles – Kalamkari, Warli, Madhubani.</p>	<b>8 Hrs</b>
<b>Unit -3</b>	
<p><b>Chapter 7</b>  Resist Dyed Textiles- Introduction, Types, design used in Bandhej &amp; Lehariya of Rajasthan - Special Tie-Dyed Textiles from Rajasthan. Ikat - Patola of Gujarat, Bandhas of Odisha, Ikat Textiles of Andhra Pradesh, Pochampalli Ikats.</p>	<b>4 Hrs</b>
<p><b>Chapter 8</b>  Traditional costumes of North States of India – Jammu &amp; Kashmir, Punjab, Himachal Pradesh, Haryana, Madhya Pradesh, Uttarakhand, and Uttar Pradesh.  Traditional costumes of Eastern states of India – West Bengal, Bihar, Jharkhand, Arunachal Pradesh, Assam, Sikkim, Nagaland, Manipur, Mizoram, Meghalaya and Tirupura.</p>	<b>4 Hrs</b>
<p><b>Chapter 9</b>  Traditional costumes of Southern states of India – Tamil Nadu, Kerala, Karnataka, and Andhra Pradesh. Traditional costumes of Western states of India – Rajasthan, Gujarat, Maharashtra, and Goa.</p>	<b>4 Hrs</b>

<b>References</b>	
1	Gertrud Lehnert, “A History of Fashion in the 20th Century”, Konemann Publications, 2000.
2	Jamila Brij Bhushan, “The Costumes and Textiles of India”, Taraporevala, Bombay, 1958.
3	Martand Singh, “Hand Crafted Indian Textiles”, Lustre Press, 2005.
4	Parul Bhatnagar, “Decorative Design History in Indian Textiles and Costumes”, Abhishek Publications, 2011.



<b>References</b>	
5	Parul Bhatnagar, "Traditional Indian Costumes & Textiles", Abhishek Publication, 2009.
6	Phyllis Tortora, Keith Eubank, "Survey of Historical Costumes, A History of Western Dress", Bloomsbury Publishing India Private Limited, 5th edition, 2009.
7	Prakash, Raman K, Pradeesh K, "Warli Traditional Folk Art from India", Shree Book Centre Publication, 2016.



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**Model Curriculum**

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>FD.4.1 P</b>	Course Credits	<b>2</b>
Course Name	<b>Indian Textiles and Costumes (Practical)</b>	Contact hours	<b>56 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to: <ul style="list-style-type: none"><li>❖ Understand about evolution of Indian costumes since ancient times.</li><li>❖ Acquire knowledge of textiles and costumes and implement the techniques.</li><li>❖ Acquire skills in selecting fabrics for designing.</li><li>❖ Ability to sketch and incorporate ancient designs.</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	<b>10 Hrs</b>
Sketching of costumes and hairstyles of ancient India -Indus valley, Vedic period. (Men and Women).	
<b>Unit-2</b>	<b>10 Hrs</b>
Sketching of costumes and Hairstyles of Middle age- Mauryan, Kushans, Gupta and Mughal period (Men and Women).	
<b>Unit -3</b>	<b>10 Hrs</b>
Design and development of Sarees (Motif, all over, border, Pallu of any four states in India	
<b>Unit -4</b>	<b>12 Hrs</b>
Sketching of costumes -North India (Jammu and Kashmir, Punjab, and Rajasthan), Sketching of costumes of East India (West Bengal, Assam, Manipur) Male & female	
<b>Unit -5</b>	<b>10 Hrs</b>
Sketching of costumes -West India (Gujarat, Rajasthan, Maharashtra, Goa) Sketching of costumes of South India (Karnataka, Tamil Nadu, Kerala, Andhra Pradesh) Male and Female	
<b>Unit -6</b>	<b>4 Hrs</b>
Development of a detailed report and pictures of any one Textiles of India	



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>FD.4.2 T</b>	Course Credits	<b>3</b>
Course Name	<b>Textile &amp; Apparel Testing (Theory)</b>	Contact hours	<b>42 hrs</b>

**Course Outcomes:** On completion of the course, the student will be able to:

- ❖ Understand the procedure to be followed in Textile Testing.
- ❖ Analyse the various test for fibre, yarn, fabric, and garments.
- ❖ Understand the working principles of textile testing equipment.

**Course Content:**

**Unit-1**

**Chapter 1**

Introduction to textile testing, objectives of testing, Samples for testing- Types and its importance.

**3  
Hrs**

**Chapter 2**

Fiber terminologies, moisture and moisture relationship, moisture content and regain. Fiber maturity, fiber length, fiber fineness.

**2  
Hrs**

**Chapter 3**

Yarn count- Direct system and Indirect System. Its importance in fabric manufacturing. Yarn twist-twist direction, amount of twist, and effects of twist on fabric properties.

**4  
Hrs**

**Unit -2**

**Chapter 4**

Fabric testing- fabric dimensions- length, width, thickness, determination of fabric weight - GSM measurement and its application to different fabrics, cover factor, Fabric shrinkage.

**5  
Hrs**

**Chapter 5**

Testing of Fabric Strength - Terminology and definition-Tensile strength, bursting strength Tear strength.

**6  
Hrs**

**Chapter 6**

Fabric Air permeability, stiffness, drape, crease resistance, abrasion resistance, pilling, bow & skew

**9  
Hrs**

<b>Unit -3</b>	
<b>Chapter 7</b> Determination of colour fastness to laundering, rubbing, light and perspiration.	<b>5 Hrs</b>
<b>Chapter 8</b> Tensile properties of seams and stitches, zipper test.	<b>4 Hrs</b>
<b>Chapter 9</b> Garment and garment accessories testing – testing of fusible interlinings, zippers, elastic waistband, sewing threads, buttons, snap fasteners, wear testing.	<b>4 Hrs</b>

<b>References</b>	
1	J.E .Booth, —Principles of Textile Testing, CBS Publishers and Distributors, 1996
2	B.P. Saville, —Physical testing of Textiles, Woodhead Publishing Ltd. 1999
3	Pradeep V. Mehta, —Managing Quality in Apparel Industry, New Age international Ltd.
4	J.N. Mandal, D.G. Divshikar, A Guide to Geo Textiles Testing, New Age International Ltd
5	ArindamBasu, Textile Testing, SITRA Publications.



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>FD.4.2 P</b>	Course Credits	<b>2</b>
Course Name	<b>Textile &amp; Apparel Testing (Practical)</b>	Contact hours	<b>56 hrs</b>

**Course Outcomes:** On completion of the course, the student will be able to:

- ❖ Test fibers for various fiber parameters
- ❖ Handle the textile testing equipment with ease.
- ❖ Understand the procedure to be followed to test fibers and fabrics.

### Course Content:

<b>Unit-1</b>	<b>12 Hrs</b>
Determination of Geometrical properties of Fabrics: Thread density, Yarn count, GSM, thickness, cover factor	
<b>Unit-2</b>	<b>8 Hrs</b>
Determination of fabric bending and drape.	
<b>Unit -3</b>	<b>12 Hrs</b>
Determination of fabric tensile strength, abrasion resistance and pilling resistance.	
<b>Unit -4</b>	<b>6 Hrs</b>
Determination of fabric crease recovery.	
<b>Unit -5</b>	<b>10 Hrs</b>
Determination of fabric shrinkage, colour fastness to washing, rubbing and light.	
<b>Unit -6</b>	<b>8 Hrs</b>
Determination of garment accessories testing - Button Snap pull test, zipper test, seam strength test.	



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>FD.4.3 P</b>	Course Credits	<b>3</b>
Course Name	<b>Apparel Production (Practical)</b>	Contact hours	<b>84 hrs</b>

<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<ul style="list-style-type: none"><li>❖ Develop patterns for designer garments.</li><li>❖ Use skills in designing and garment construction of Men's and Women's garments</li><li>❖ Develop and understand Spec sheet and Tech pack.</li><li>❖ Work confidently in production line of an apparel industry.</li></ul>	
<b>Course Content:</b>	
<b>Unit-1</b>	
<b>Chapter 1</b> ASTM standards for Seams & stitches to be followed, study of international stitch number, Development of samples of seams and its types, Development of samples of Stitch types, Stitch length & stitch width.	<b>4 Hrs</b>
<b>Chapter 2</b> Apparel accessories & components - fasteners, labels, support materials, decorative trims, tapes & packing materials. Preparation of Folio on all Apparel Accessories & Components used in Apparel Industry.	<b>4 Hrs</b>
<b>Chapter 3</b> Analysis of style and fit of brands of kids, Men and women wear garments (any two brands). Develop a spec and tec pack for the analysed garments.	<b>4 Hrs</b>
<b>Unit -2</b>	
<b>Chapter 4</b> Design and Development of Men's Formal/Executive Shirt and Trouser using blocks. Development of flat sketch, spec sheet, Tec pack, fabric consumption, trims, and support materials, costing of the product.	<b>12 Hrs</b>

<b>Chapter 5</b> Design and Development of Men's Executive Blazer and casual Jacket using blocks. Development of flat sketch, spec sheet, Tec pack, fabric consumption, trims, and support materials, costing of the product/	<b>12 Hrs</b>
<b>Chapter 6</b> Design and Development of Men's Ethnic wear Sherwani Suit using blocks. Development of flat sketch, spec sheet, Tec pack, fabric consumption, trims, and support materials, costing of the product.	<b>12 Hrs</b>
<b>Unit -3</b>	
<b>Chapter 7</b> Design and Development of Women's Formal/Executive Shirt and skirt using blocks. Development of flat sketch, spec sheet, Tec pack, fabric consumption, trims, and support materials, costing of the product.	<b>12 Hrs</b>
<b>Chapter 8</b> Design and Development of Women's Executive Blazer and casual long coats using blocks. Development of flat sketch, spec sheet, Tec pack, fabric consumption, trims, and support materials, costing of the product.	<b>12 Hrs</b>
<b>Chapter 9</b> Design and Development of Women's Ethnic wear lehenga choli / wedding Gown using blocks. Development of flat sketch, spec sheet, Tec pack, fabric consumption, trims, and support materials, costing of the product.	<b>12 Hrs</b>

<b>References</b>	
1	Teresa Gilewska "Pattern Drafting for Fashion-Advanced" Bloomsbury Publishing, 2019.
2	Claire Shaeffer, "Sewing for the Apparel Industry", Pearson publication, second edition, 2012.
3	Chuter A J, "Introduction to Clothing Production Management", Wiley India Pvt. Ltd., 2nd edition, 2011.
4	Mary Ruth Shields, "Industrial Clothing Construction Methods", Fair Child Publications, 2010. 28
5	Paula J, Myers-Mcdevitt, "Apparel Production Management and the Technical Package", Fair Child Publications, 2010.
6	Ruth E. Glock, Grace I. Kunz, "Apparel Manufacturing Sewn Product Analysis", Pearson/Prentice Hall, 2005.



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## Model Curriculum

Program Title	<b>B.Sc. Fashion and Apparel Design</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>OE-4 T</b>	Course Credits	<b>3</b>
Course Name	<b>Textile Art and Crafts of India (Theory)</b>	Contact hours	<b>42 hrs</b>

**Course Outcomes:** On completion of the course, the student will be able to:

- ❖ Gain in-depth knowledge about Textile Art and Craft of India.
- ❖ Develop understanding of various Indian art and crafts.
- ❖ Understand the materials and process of developing arts and crafts in India.
- ❖ Appreciate the art and craft of India.

### Course Content:

#### Unit-1

##### Chapter 1

Textile Art & Craft – Introduction, meaning, definition, types of art and craft in India.

**2  
Hrs**

##### Chapter 2

Introduction to the basic concept in art & crafts. Journey of various crafts over several decades and centuries, Factors influencing Craft - Social, Economic, Psychological, Technological influence.

**4  
Hrs**

##### Chapter 3

Art & Crafts of Northern India- Kashmir- carpets rugs Pashmina shawls, Papier mache, silverware and woodworks. Punjab - Phulkari, Jootis, Durries and Parandas. Haryana -pottery, embroidery, weaving, Phulkari, Chope, Bagh, and Palm leaf work. Himachal Pradesh -shawls, paintings, leathercraft metal work and stone craft.

**6  
Hrs**

#### Unit -2

##### Chapter 4

Art & Craft of Northern India- Chhattisgarh -bell metal handicraft, clay art, godna art, bamboo craft, cowrie craft, kosa, wrought iron craft etc. Madhya Pradesh- metalcraft, stone carvings, folk paintings, iron craft, woodcraft, Zari and toys and doll making, Leather craft, Chanderi sarees.

**6  
Hrs**



<p><b>Chapter 5</b> Art &amp; Craft of West India-Rajasthan-Sculpture art, blue pottery, ivory works, Meenakari, Usta art, Lac works, Tie and Dye and Thewa art. Gujrat- Bead Craft, Khavda Pottery. Maharashtra- Kolhapur chappal, Warli painting, Banjara embroidery, seashell craft, Dhurrie weaving, Bidiri ware and metal embossing. Goa- funky crafts of Goa. Seashell crafts, hand painted tiles, brassware, wooden lacquerware, and papier Mache and Azulejos or Hand painted tiles.</p>	<p><b>5 Hrs</b></p>
<p><b>Chapter 6</b> Art &amp; Craft of North-East India-Arunachal Pradesh- colourful masks, silver objects and wooden vessels some bamboo and cane articles, wood carving, Mishmi shawls and Sherdukpen shawls, Thangka Painting, Weaving Craft. Assam- bamboo craft, silk textiles, cane craft, water hyacinth handicraft, bell metal craft and pottery. Manipur- wood carving, hand woven and embroidered textiles, hats made of water reed shawls and blankets and Manipuri dance doll. Kaun Grass Craft, Stone Carving. Meghalaya- Bamboo and cane. Mizoram- weaving. Nagaland- armlets, baskets hats, necklaces, mats, and other decorative fabrics. Tripura- handlooms and silk, cane, and bamboo works.</p>	<p><b>5 Hrs</b></p>
<p><b>Unit -3</b></p>	
<p><b>Chapter 7</b> Art &amp; Craft of East India- West Bengal- Terracotta, Madur, bell metal, Shola and Dashavatar cards. Odisha- fine stone carving to pattachitra, from sand sculpture to silver filigree, handicrafts. Uttarakhand-wooden handicrafts, wood craft, copper utensils Jewellery making and wood carving. Jharkhand- Jadupatua Painting, Sohrai Painting</p>	<p><b>6 Hrs</b></p>
<p><b>Chapter 8</b> Art &amp; Craft of South India- Karnataka -doll making, stone carving, Mysore paintings, ivory carving, wood carving and sandalwood craft. Kerala -carvings in metal and wood, metal jewellery, granite statues to coir products and lacquerware. Tamil Nadu- Tanjore glass paintings, Kolu dolls, grass mats, Muthangi, metalware, Toda embroidery, appliqué and stone carving. Telangana - dhokra craft, Bidiri craft, Nirmal artworks, Cherial paintings, Banjara needlecraft, pearls, and brassware. Andhra Pradesh- Kondapalli toys made of softwood, golden-hued Nirmal paintings, the world-famous Kalamkari paintings to Banjara needlecraft of the Banjaras (gypsies) Gadwal sarees, Pochampalli sarees.</p>	<p><b>6 Hrs</b></p>
<p><b>Chapter 9</b> Current Scenario of art &amp; crafts in India - Current scenario of Art &amp; craft in Domestic and International Market. Visit to any two Craft clusters.</p>	<p><b>2 Hrs</b></p>

<b>References</b>	
1	Aditi Rajan & M.P.Rajan, 'Crafts of India- Handmade in India', Mapin Publication Pvt Ltd, 2014
2	Jaya Jaitly, 'Crafts Atlas of India,' Niyogi Books, 2012
3	Marthand Singh, 'Handcrafted Indian Textiles,' Roli Books, 2005
4	Craft Traditions of India-Past, Present and Future, NCERT publication, 2011
5	K.Prakash,' Warli, Traditional Folk art from India, Shree Book Center, 2016
6	Chattopadhyaya K.D, Indian Carpets and Floor Coverings, All India Handicrafts Board, New Delhi, 1977
7	K.Prakash, 'Rajasthani Folk Art' English edition publishers.

**Syllabus for B.Sc. (Interior Design and Decoration)  
III & IV Semester**



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Curriculum Structure

**III Semester - B.Sc. (Interior Design and Decoration)**

SN	Course code	Course Name		
1	ID-T 3.1	<b>Space Planning in Interiors-Theory</b>	No. of Theory Credits	3
			No. of lecture hours/semester	42
2	ID-P 3.1	<b>Space Planning in Interiors-Practical</b>	No. of Practical Credits	2
			No. of Practical hours/semesters	56
3	ID-T 3.2	<b>Building Services – Lighting-Theory</b>	No. of Theory Credits	3
			No. of lecture hours/semester	42
4	ID-P 3.2	<b>Building Services–Lighting-Practical</b>	No. of Practical Credits	2
			No. of Practical hours/semesters	56
5	ID-P 3.3	<b>Cad In Interiors–II - Practical</b>	No. of Practical Credits	3
			No. of Practical hours/semesters	84
6	ID-OE 3.1	<b>Arts and Craft for Interiors- Theory</b>	3 Credits and 42hrs per Semester	
7	ID-OE 3.2	<b>Green Interiors- Theory</b>	3 Credits and 42hrs per Semester	

**IV Semester - B.Sc. (Interior Design and Decoration)**

SN	Course code	Course Name		
1	ID-T 4.1	<b>History of Interiors-Theory</b>	No. of Theory Credits	3
			No. of lecture hours/semester	42
2	ID-P 4.1	<b>History of Interiors -Practical</b>	No. of Practical Credits	2
			No. of Practical hours/semesters	56
3	ID-T 4.2	<b>Construction Detailing -Theory</b>	No. of Theory Credits	3
			No. of lecture hours/semester	42
4	ID-P 4.2	<b>Construction Detailing -Practical</b>	No. of Practical Credits	2
			No. of Practical hours/semesters	56
5	ID-P 4.3	<b>Interior Design- Residence - Practical</b>	No. of Practical Credits	3
			No. of Practical hours/semesters	84
6	ID-OE 4.1	<b>Home Automation - Theory</b>	3 Credits and 42hrs per Semester	
7	ID-OE 4.2	<b>Basics of Lighting - Theory</b>	3 Credits and 42hrs per Semester	



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Third Semester</b>
Course Code	<b>ID-T 3.1</b>	Course Credits	<b>3</b>
Course Name	<b>Space Planning in Interiors- (Theory)</b>	Contact hours	<b>42 hrs</b>

<b>OBJECTIVES:</b>	
❖ To enable the students to learn the concept of space in interior design.	
❖ To understand the importance of space planning	
<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<b>CO-1</b>	Analyse and solve space planning problems using physical, psychological, and sociological factors that influence client preferences
<b>CO-2</b>	Prepare a floor plan and colour board to illustrate residential space planning that incorporates specific needs of a client, and/or special populations.
<b>CO-3</b>	Identify & analyse design principles and integrate into spatial compositions.
<b>CO-4</b>	Communicate interior design concepts in accurate and professional graphic, oral and written formats.
<b>CO-5</b>	Assess cultural, regional, and historical interior design styles and factors that affect design solutions.
<b>CO-6</b>	Utilize creative visual presentation techniques for communication of design solutions.
<b>CO-7</b>	Demonstrate the use of design applications for special populations

<b>Course Content:</b>	
<b>Unit-1: Introduction</b>	<b>12 Hrs</b>
<b>Chapter 1</b>	
Space planning, terms and intent, necessity of space planning, synthesis of space planning, design program.	

<b>Chapter 2</b>	
Planning Methodology, Introduction to defining design, evaluating design - function, structure and materials, aesthetics, analysing existing space and its advantages.	
<b>Chapter 3</b>	
Space design, data collection, analysis, synthesis - zonal and block diagram, adjacency matrix, stacking plans, circulation, evaluation, execution, feedback- evaluation- literature study, case study, Prototypical plan sketches, relationship diagram.	
<b>Unit -2: Steps in Planning</b>	<b>15 Hrs</b>
<b>Chapter 4</b>	
Planning steps, Mind mapping, data collection, case study, literature study, Area calculation, bubble & circulation diagram, block diagram, explained using any sample projects.	
<b>Chapter 5</b>	
Factors influencing the spatial planning, Building codes, the building shell, plumbing, HVAC, electrical systems, human factors, furniture placement and planning.	
<b>Chapter 6</b>	
Introduction to space development, generate concepts, present preliminaries, Developing a rough floor plan, circulation spaces, construction reality, spatial quality, Basic room allocations, storage, furniture, equipment's.	
<b>Unit -3: Final Drawings</b>	<b>15 Hrs</b>
<b>Chapter 7</b>	
Introduction to types of consultants - Acoustical consultant, lighting consultant, plumbing consultant, AC consultant, special consultant based on project needs.	
<b>Chapter 8</b>	
Introduction to construction documents, layout plan, construction plans, telephone, and electrical plans, finishes plans, furniture plans and section details.	
<b>Chapter 9</b>	
Presentation drawing: circulation diagram, block diagram, stack diagram – development of elevations, sections, detailed drawings, 2 dimensional and 3 dimensional views according to design proposal.	

<b>References</b>	
1	Ching, Francis D.K.; Binggeli, Cork; Interior Design Illustrated; Willey Publications; New York; 2004.
2	Joseph De Chiara, Michael J Crosbie, Time Savers Standards for Building Types, McGraw Hill, Boston Burr Ridge, Dubuque, I A Madison, W I New York, San Francisco.
3	Joseph De Chiara, Julius Perero and Martin Zelnik, Time Saver Standards for Interior design and Space Planning, McGraw Hill, New York, San Francisco, Lisbon, London.
4	McGraw, Time saver Standards for Architectural Design Data, Publications, Delhi, 2011.
5	Rao M, Partap; Interior Design (Principles and Practice); Standard Publishers Distributors; Delhi; 2006



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Third Semester</b>
Course Code	<b>ID-P 3.1</b>	Course Credits	<b>2</b>
Course Name	<b>Space Planning in Interiors- (Practical)</b>	Contact hours	<b>56 hrs</b>

Course Content:	
<b>Unit-1: Development of a Design Program</b>	<b>16 Hrs</b>
Data collection, case study, literature study, Mind mapping, Relationship diagrams, Prototypical plans, Adjacency matrix, Criteria matrix. Developing a complete design program for a Café/ small residence/ small office space.	
<b>Unit-2: Steps in Space Planning</b>	<b>20 Hrs</b>
Area calculation, bubble & circulation diagram, block diagram, development of a concepts for a Café, a small residence, or a small office space.	
<b>Unit -3: Design Documentation</b>	<b>20Hrs</b>
Preparing the complete Design program, Planning steps, Design drawings and documentation for a small project Studio Apartment / Retail Showroom.	





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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Third Semester</b>
Course Code	<b>ID-T 3.2</b>	Course Credits	<b>3</b>
Course Name	<b>Building Services – Lighting - (Theory)</b>	Contact hours	<b>42 hrs</b>

### OBJECTIVES:

- ❖ To enable the students to understand basic principles of illumination and application of natural and artificial lighting in interiors.
- ❖ This subject will give basic understanding about the science behind lighting design.

**Course Outcomes:** On completion of the course, the student will be able to:

<b>CO-1</b>	Identify lighting requirements for a range of interior situations in terms of the needs of occupants and to meet statutory regulations.
<b>CO-2</b>	Apply advanced illumination engineering techniques to ensure lighting installations meet specified design objectives
<b>CO-3</b>	Implement lighting designs for selected projects
<b>CO-4</b>	Apply energy saving design techniques by integrating daylight in interior lighting design.
<b>CO-5</b>	Apply creative lighting techniques to selected scenarios.
<b>CO-6</b>	Implement emergency lighting designs to fulfil statutory requirements.

### Course Content:

<b>Unit-1: Lighting</b>	<b>12 Hrs</b>
<b>Chapter 1</b> Introduction to natural lighting, daylight factor, recommended daylight factors for interiors, calculation of the opening for natural lighting, guidelines for good natural lighting, factors affecting illumination reflection and transmission and their applications, advantages, and disadvantages	

<b>Chapter 2</b>	
Introduction to artificial lighting, different types of lighting, types of arrangements, principles of lighting, luminous intensity of light sources, position of lighting points, their importance, advantages, and disadvantages.	
<b>Chapter 3</b>	
Eco lighting: Introduction, types, materials and application of LED and solar	
<b>Unit -2: Electrical Services</b>	<b>15 Hrs</b>
<b>Chapter 4</b>	
Introduction to commonly used terminology – Voltage, Current, Power, Connected Load, Max. Demand, Load Factors, Diversity Factor etc., Importance of Electrical Services and Its implications on building design. Supply and distribution of electricity to buildings: Brief introduction to various Sources for Electricity generation. Introduction to Transmission and Distribution system	
<b>Chapter 5</b>	
Electrical Services - Protection Systems Switchgear & Protection Devices – Fuses, Breakers: Miniature Circuit Breakers; Earth Leakage Circuit Breakers; Molded Case Circuit Breakers & Air Circuit Breakers and Protection Relays. Wiring process, introduction to wiring, types of wiring, benefits, importance, and applications. Wiring of a typical residential unit, wiring layout of a typical commercial space.	
<b>Chapter 6</b>	
Earthing & Lightning Protection System: Definition, Purpose; Types of Earthing Systems, Factors affecting selection and system specification - Type of Soil, water table, soil resistivity etc. Brief about new advances in Earthing systems; Lightning system design - Factors affecting the system specification, basic rules as per NBC and other relevant codes.	
<b>Unit -3: Quality &amp; Quantity of Lighting design</b>	<b>15 Hrs</b>
<b>Chapter 7</b>	
Fundamentals Quality & Quantity of Lighting; Recommended Lux Levels; Type of Lamps –Incandescent, Discharge Lamps, Fluorescent, CFL, LED and OLED. Integration of Day lighting with Artificial Lighting, Control Systems, Laws of illumination	
<b>Chapter 8</b>	
Recommended level of illumination for various spaces as per the relevant building codes, guidelines for lighting design, lumen method of design. Preparation of lighting layouts for a typical residential unit and commercial unit.	

## Chapter 9

Techniques, Principles and Applications: Lighting Methods - Ambient, Task & Accent lighting; Systems of Luminaries - Up-Lighting, Down-Lighting, Spot Lighting etc.; Street Lighting, Façade Lighting, Landscape Lighting.

### References

1	Anna Yudina, “Lumitecture-Illuminating Interiors for Designers And Architects”, Thames and Hudson, 2016, ISBN: 9780 500 518342
2	Jason Livingston, “Designing with Light”, Wiley Publisher, 2014, ISBN: 9781 118 70477
3	Gary Gordon, “Interior Lighting for Designers”, 5th edition, Wiley Publishers, 2015, ISBN: 9780 47011 422 3
4	Malcolm Innes, “Portfolio Skills, Lighting for Interior Design”, Laurence King Publishing Ltd, London, 2012, ISBN: 9781856698368
5	Mark Karlen, “Lighting Design Basic” Wiley publishers, 2003, ISBN: 0471 38162 4



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Third Semester</b>
Course Code	<b>ID-P 3.2</b>	Course Credits	<b>2</b>
Course Name	<b>Building Services – Lighting - (Practical)</b>	Contact hours	<b>56 hrs</b>

Course Content:	
<b>Unit-1: Lighting</b>	<b>8 Hrs</b>
Types of lighting, lighting arrangements, lighting positions	
<b>Unit-2: Electrical Services</b>	<b>24 Hrs</b>
Preparation of drawing and presentation of a typical wiring plan for a residential and commercial space complete with all the symbols and specifications with legends	
<b>Unit -3: Lighting Design Documentation</b>	<b>24Hrs</b>
Preparing a lighting layout complete with all the calculations, symbols and specifications, as per the code for a typical residence and a commercial space	



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**Model Curriculum**

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Third Semester</b>
Course Code	<b>ID-P 3.3</b>	Course Credits	<b>3</b>
Course Name	<b>CAD in Interiors II - (Practical)</b>	Contact hours	<b>84 hrs</b>

<b>OBJECTIVES:</b>	
❖ To enable the students to understand the skill of computer aided drafting	
❖ 2D & 3D Skills, Rendering Techniques.	
<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<b>CO-1</b>	Perform basic to intermediate image correction to existing images.
<b>CO-2</b>	Enhance images using advance editing tools to create magazine covers
<b>CO-3</b>	Work with the Type tools and panels to type, insert and manage text.
<b>CO-4</b>	Work with layers and masks to manage your projects efficiently

<b>Course Content:</b>	
<b>Unit-1: Graphics Editing Software</b>	<b>10 Hrs</b>
Introduction to a Graphics Editing Software user interface, different file types, image types - vector and raster image, file formats and its applications, uses of Graphics Editing Software, colour types and applications, colour modes, selection menu-selection tools, marquee tools, lasso tools, magic wand tools vector and raster tools uses and its applications, image menu-image size and resolution, basic adjustments working with selections, re-touching photos.	
<b>Unit -2: Working with selecting tools</b>	<b>14 Hrs</b>
Working with selecting tools and saving, blending grouping and ungrouping of layers, image editing, image manipulation, gradient tool, eraser tool, red eye tool, edit menu, paper sizing, composing images, filters, effects and composition, Layers and composing images, working with multiple files, layers - understanding layers, layer styles, flattening adding to existing images, working with selections, blur, smudge, burn, sponge tools, uses and its applications, adding & editing text.	

<b>Unit -3: Renderings</b>	<b>18 Hrs</b>
Pen tool, add anchor point, delete anchor point, convert point, path selection, direct selection tool, shape tools and its application, photo merge and its applications. Filter menu-blur distort, noise, pixelate, automate, export, uses and its application, save as different formats, rendering basics: Output image sizes, exports as jpeg, file handling- save, save as, save copy as, save Selected, archive, summary info, view image file, hold, fetch, and undo/redo.	
<b>Unit -4: Introduction –3D Modelling Software</b>	<b>14 Hrs</b>
Introduction to 3D Modelling Software, importance, and application of the tool in interiors. Fundamentals of computers, file menu-saving closing files, importing and exporting files, saving files in different formats.	
<b>Unit -5: Object Editing</b>	<b>10 Hrs</b>
Introduction to object editing, types in editing the drawing with different command push/pull, arch, paint bucket, trim, extend, stretch, erase delete, introduction to viewing, types of viewing – zoom, pan, material application, browsing for materials hatch, editing, introduction to grouping, working with grouping ungrouping, creating objects, editing scene.	
<b>Unit -6: Viewports &amp; Models</b>	<b>18 Hrs</b>
Introduction about 3d warehouse/ library viewports, camera, extension warehouse, creating models, creating furniture's, lamps, working with complete residence model.	

<b>References</b>	
1	Ascent, “Autodesk 3ds Max 2017”, Fundamentals Publisher, ISBN:13:9781943184477
2	Kelly L. Murdock’s, “Autodesk 3ds max 2017 Complete Reference Guide”, Publisher CRC Press, ISBN -13: 978 1 63057 033 0
3	Lydia Cline, “SketchUp for Interior Design: 3D Visualizing, Designing, and Space Planning”, John Wiley & Sons, 2014
4	Sham Tickoo, “Autodesk 3DS Max 2015, A Comprehensive Guide”, Cadcim Technologies, 2014, ISBN:13-978 1 936646 75
5	David Martin, “Instant Revit: A Quick and Easy Guide to Learning Autodesk Revit 2018”, 2017, ISBN:9781 5455 5 384 8 30
6	Dean Muccio, “AutoCAD 2016 for the Interior Designer”, SDC Publications, 2015, ISBN13: 978 1 58503 863 3
7	James M Kirkpatrick, “AUTO CAD for Interior Design and Space”, Pearson Education, 2015, ISBN: 9780133144857.
8	Joseph A fiorello, “CAD for Interiors: Beyond the Basics”, Wiley publisher, 2010, ISBN:9780 470 4388 55



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>		Semester	<b>Third Semester</b>
Course Code	<b>ID-OE 3.1</b>	<b>OPEN ELECTIVE</b>	Course Credits	<b>3</b>
Course Name	<b>Arts and Craft for Interiors - (Theory)</b>		Contact hours	<b>42 hrs</b>

### OBJECTIVES:

- ❖ To enable the student to understand the importance of crafts of India
- ❖ To understand the various Art forms.

**Course Outcomes:** On completion of the course, the student will be able to:

<b>CO-1</b>	Identify different art forms for interiors.
<b>CO-2</b>	Know arts of various regions of India.
<b>CO-3</b>	Appreciate traditional crafts of India.
<b>CO-4</b>	Recognize natural fibres used in crafts
<b>CO-5</b>	Distinguish localized crafts of various regions of India.

### Course Content:

<b>Unit-1: Art forms for Interiors</b>	<b>15 Hrs</b>
<b>Chapter-1:</b> Introduction to different art forms used in interiors, Types of paintings – Madhubani, Pattachitra, Pithora, Kalamkari, Mysore, Tanjore, Kalighat, Wall painting of Chhattisgarh	
<b>Chapter-2:</b> Warli, Gond, Murals – Characteristics, Techniques, types of murals – Painted, Abstract and ceramic.	
<b>Chapter-3:</b> Floor decoration- Rangoli- Types of rangoli: Chowk dotted, free hand, flower petal, Alpana, Floating and glass rangoli, Artificial/ flower arrangement in Interiors.	

<b>Unit -2: Traditional Crafts of India</b>	<b>15 Hrs</b>
<p><b>Chapter 4:</b> Traditional crafts of various states of India – Andhra Pradesh (Kalamkari), Karnataka (Chittarahase) Goa, Rajasthan, Gujarat, Kutch, Uttar Pradesh, West Bengal, Bihar, Jammu and Kashmir, etc. Temple arts of Tamil Nadu (Tanjore paintings), Karnataka (Mysore paintings), Orissa (Pattachitra), Kerala (Murals).</p>	
<p><b>Chapter 5:</b> Terracotta crafts in India. - Karnataka, Bengal, Gujarat, Rajasthan, Orissa &amp; Bihar. Different forms of terracotta arts – jewellery, pottery, crockery, tiles, decorative items.</p>	
<p><b>Chapter 6:</b> Bamboo and Cane Craft of India Arunachal Pradesh and Mizoram and Tripura, Wood Craft of Jharkhand, Lavo Mandri of Goa.</p>	
<b>Unit -3: Textiles and Other materials crafts</b>	<b>12 Hrs</b>
<p><b>Chapter-7:</b> Traditional and modern materials and methods. Tie and die printing, batik printing, appliqué, macramé and braiding</p>	
<p><b>Chapter-8:</b> Weaving and Embroidery of Assam, Weaving of Meghalaya, Chikankari of Lucknow, Zari Work of Gujarat, Wool weaving of Himachal Pradesh, Pashmina Shawls of Jammu and Kashmir,</p>	
<p><b>Chapter-9:</b> Bidriware of Karnataka, Dhokra metal casting of West Bengal, Pembarti Sheet metal work of Telangana, Blue Pottery of Rajasthan Kondapalli dolls of Andhra Pradesh, Coconut shell handicraft of Kerala, Wood Carving of Manipur</p>	

<b>References</b>	
1	The Fundamentals of Architecture (Fundamentals (Ava)) (Paperback) by Lorraine Farrelly (Author)
2	Francis D.K.Ching - Architecture - Form Space and Order Van Nostrand Reinhold Co.,
3	Design Methods (Architecture) (Paperback), by John Chris Jones (Author).
4	How Designers Think, Fourth Edition: The Design Process Demystified (Paperback) by Bryan Lawson
5	Basics Design Ideas (Paperback) by Bert Bielefeld (Author), Sebastian El khouli (Author)
6	Graphic Thinking for Architects, Paul Laseau.



<b>References</b>	
7	Design Drawing, Francis D. K. Ching.
8	Foundations of Art and Design (Paperback) by Alan Pipes (Author)
9	John W.Mills - The Technique of Sculpture, B.T.Batsford Limited, New York - Reinhold Publishing Corporation, London, 1966.
10	C.Lawrence Bunchy - Acrylic for Sculpture and Design, 450, West 33rd Street, New York, N.Y.10001, 1972.
11	The Elements of Graphic Design: Space, Unity, Page Architecture, and Type (Paperback) by Alexander W. White (Author)
12	Geometry of Design: Studies in Proportion and Composition, Kimberly Elam.David Gibson



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Program Title	<b>B.Sc. Interior Design and Decoration</b>		Semester	<b>Third Semester</b>
Course Code	<b>ID-OE 3.2</b>	<b>OPEN ELECTIVE</b>	Course Credits	<b>3</b>
Course Name	<b>Green Interiors - (Theory)</b>		Contact hours	<b>42 hrs</b>

<b>OBJECTIVES:</b>	
❖ Understand the importance of green building technology	
❖ Acquired knowledge in recent green building materials and to trap rain water.	
<b>Course Outcomes:</b> On completion of the course, the student will be able to:	
<b>CO-1</b>	Identify different art forms for interiors.
<b>CO-2</b>	Know arts of various regions of India.
<b>CO-3</b>	Appreciate traditional crafts of India.
<b>CO-4</b>	Recognize natural fibres used in crafts
<b>CO-5</b>	Distinguish localized crafts of various regions of India.

<b>Course Content:</b>	
<b>Unit-1: Materials</b>	<b>15 Hrs</b>
<b>Chapter-1:</b> Introduction to Green interiors, definition and concept of Green interiors, aims and objectives. Importance and necessity of Green interiors. Brief history and development of green interiors. Principles of green interiors	
<b>Chapter-2:</b> Materials and finishes used in green building – Bamboo, straw, wood, dimension stone, Recycled stone, non-toxic metals, Earth blocks-compressed, rammed, baked; vermiculites, flax linen, sisal, wood fibres, cork, coconut, polyurethane block.	
<b>Chapter-3:</b> Green building practices and technologies. Roof, walls, floors – electrical, plumbing, windows, and doors, heating, ventilation, and air conditioning (HVAC), insulation, Interior finishes, landscaping	

<b>Unit -2: Renewable Energy Resources</b>	<b>15 Hrs</b>
<b>Chapter 4:</b> Renewable energy resources – meaning and importance, solar energy – advantages, principles, and functions of solar devices – solar room heater, solar lights, solar water heater, solar air conditioners.	
<b>Chapter 5:</b> Water conservation - Rainwater harvesting-importance, requirements of rainwater harvesting structure, types of rain water harvesting systems, advantages.	
<b>Chapter 6:</b> Parameters to be considered for making buildings green, basic concepts of building design, systems design, and controls.	
<b>Unit -3: Green Building Design</b>	<b>12 Hrs</b>
<b>Chapter-7:</b> Heat Insulation and Building Density, Solar Protection, Glare Protection, Daylight Utilization, Noise Protection	
<b>Chapter-8:</b> Green Building Design, Reducing Material Impact, Increasing Energy Efficiency, Green wall system, Roofing system, green floor finish system	
<b>Chapter-9:</b> Rating systems of green buildings, green buildings certification, and carbon credits. Certification systems and certification authority-IGBC, GRIHA, BEE	

<b>References</b>	
1	Diesendorf, Mark (2007). Greenhouse Solutions with Sustainable Energy.
2	Faulkner, R., and Faulkner. S, (1987) Inside Today's Home, Rinehart publishing House, New York
3	Rai G.D (1996), Solar Energy Utilization, Khanna Publishers, Delhi.
4	Riggs, J.R. (1992) Materials and components of Interior Design, Regents Hall, New Jersey
5	Roa, M.P. (1998), Interior design, principles and practice, standard publishers, Delhi.
6	Abbaszadeh, S, L. Zagreus, D. Lehrer, and C. Huizenga, "Occupant Satisfaction with Indoor Environmental Quality in Green Buildings",
7	4. Miles Keeping, David Shiers, "Sustainable Building Design: Principles and Practice",
8	WileyBlackwell, 1st edition, 2017. 5. Susan M Winchip, "Sustainable Design for Interior Environment", Fairchild Publication, 2nd revised edition, 2011.
9	WileyBlackwell, 1st edition, 2017. 5. Susan M Winchip, "Sustainable Design for Interior Environment", Fairchild Publication, 2nd revised edition, 2011.



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>ID-T 4.1</b>	Course Credits	<b>3</b>
Course Name	<b>History of Interiors - (Theory)</b>	Contact hours	<b>42 hrs</b>

### OBJECTIVES:

- ❖ To study the History and its influences on social and cultural aspects on interior design.

**Course Outcomes:** On completion of the course, the student will be able to:

- ❖ Understanding of the theory and methodologies associated with Interior design.
- ❖ Acquire basic skills for analysing and describing interiors. Gain an appreciation for the built environment, its history, its development over time, and its conservation and interpretation which is very crucial for the professional practice in future

### Course Content:

<b>Unit-1: History of interiors and furniture of the ancient world</b>	<b>15 Hrs</b>
<b>Chapter-1:</b> Elements of style and determinants of architectural and interior environments, including furniture styles of ancient civilizations. Greek, Roman, Egyptian. Early medieval period – Early Christian, Byzantine, Gothic.	
<b>Chapter-2:</b> Elements of style and determinants of architectural and interior environments, including furniture styles of Romanesque, Renaissance, Baroque, Rococo & Colonial.	
<b>Chapter-3:</b> Elements of style and determinants of architectural and interior environments, including furniture styles of Regency, Neoclassical, Art Nouveau, Art deco style, the arts and craft movement, and designers.	
<b>Unit -2: Chinese &amp; Indian Furniture style</b>	<b>15 Hrs</b>
<b>Chapter 4:</b> Elements of style and determinants of architectural and interior environments, including furniture styles of Oriental style – Chinese and Japanese.	

<b>Chapter 5:</b> Elements of style and determinants of architectural and interior environments, including furniture styles of Indian Interiors: Hindu style – Rajasthani, Saharanpur, Dravidian style, Jain style, Buddhist style.	
<b>Chapter 6:</b> Elements of style and determinants of architectural and interior environments, including furniture styles of Indian Interiors: Islamic style, Indo-Saracenic style.	
<b>Unit -3: Modern &amp; Post Modern</b>	<b>12 Hrs</b>
<b>Chapter-7:</b> English furniture from 16th to 18th century. Tudor, Stuart, Jacobean, Restoration period, Queen Ann period, Gregorian period, Chippendale, Sheraton.	
<b>Chapter-8:</b> Modern era – Elements of style, furniture elements and interior in Art movements’ cubism, surrealism, romanticism, mid-century modern.	
<b>Chapter-9:</b> Postmodern era Industrial style Bauhaus, Charles and Ray Eames	

<b>References</b>	
1	Alan Barnard & Jonathan Spencer, Encyclopedia of Social and Cultural Anthropology, Taylor & Francis, 1996
2	Alan Colquhoun, Modern Architecture, History of Arts, First Edition, Paperback publishers, ISBN: 13978-0192842268
3	Barry Burgdoll, European Architecture (1750-1890) Oxford History of Arts, First Edition, Paperback publishers, ISBN: 13978-0192842220
4	Charles. V. Stanford, Studies in Indian society, Culture and Religion, South Asia Books, 1988.
5	Clifford Geertz, the Interpretation of Cultures, Basic Books, 1977.
6	Human Behaviour in the Social Environment: A Social Systems Approach, Gary Lowe, Irl Carter, Ralph Anderson, Aldine Transaction, 1999
7	Kenneth Frampton, Modern Architecture: A Critical History, Fourth Edition, Thames and Hudson, ISBN: 13978-0500203958
8	Kumar Raj (Ed) Essays on Indian Art and Architecture. Discovery pub., New Delhi, 2003
9	Niggel Rapport, Social and Cultural Anthropology: The Key Concepts, Routledge, 2000



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>ID-P 4.1</b>	Course Credits	<b>2</b>
Course Name	<b>History of Interiors - (Practical)</b>	Contact hours	<b>56 hrs</b>

Course Content:	
<b>Unit-1: Greek, Roman</b>	<b>8 Hrs</b>
Sketching of Furniture of Ancient Style – Greek, Roman, Gothic style & Egyptian.	
<b>Unit -2: Renaissance</b>	<b>24 Hrs</b>
Sketching and rendering of Renaissance period – Furniture Baroque, Neo classical, Regency, Rococo and Colonial.	
<b>Unit -3: 20th Century</b>	<b>24 Hrs</b>
Sketching and Rendering of English Furniture, Sketching and rendering of 20th Century Furniture & Sketching of Indian Furniture- Hindu, Islamic, Saracenic, Rajasthan, Dravidian,	



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Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>ID-T 4.2</b>	Course Credits	<b>3</b>
Course Name	<b>Construction Detailing - (Theory)</b>	Contact hours	<b>42 hrs</b>

### OBJECTIVES:

- ❖ To enable the students, understand the construction in detail and to learn about the specific.
- ❖ Each students the various building components design, uses and detailing methods.
- ❖ Provide students with opportunities to develop basic supervision skills with respect to simple structures and high-rise buildings

**Course Outcomes:** On completion of the course, the student will be able to:

CO1: This is an advanced study of building component, their design, and detailing methods. Building

CO2: Do a careful detailing of various components of buildings.

CO3: Supervise the construction of buildings and their components.

CO4: Identify snags in defective construction detailing.

### Course Content:

**Unit-1: Arches, Lintels, Carpentry Joints**

**15 Hrs**

#### Chapter-1:

Introduction to arches, and lintels terminology, classification of arch - according to shape, classification of arch - according to material, classification of arch according to number of centres.

#### Chapter-2:

Introduction to lintels - classification according to material, advantages, and its disadvantages,

#### Chapter-3:

Introduction to carpentry joints principles, classification and terminology in joints, lengthening & widening joints, and angle & oblique joints, bearing & framing joints.

<b>Unit -2: Doors, Windows &amp; Ventilators</b>	<b>15 Hrs</b>
<p><b>Chapter 4:</b> Introduction to doors: Terminology, evolution of doors, types of doors based on materials – wooden metal &amp; PVC doors, classification of doors based on method - rolling shutters, collapsible doors, sliding doors, special doors and its applications</p>	
<p><b>Chapter 5:</b> Introduction to windows, terminology, evolution of windows, types of windows based on materials, types of windows based on method, types of windows based on design, special types of windows and its applications and benefits</p>	
<p><b>Chapter 6:</b> Introduction to Ventilators, types, uses, advantages, and disadvantages. Hardware fixtures used in Doors, windows &amp; Ventilators, types, materials, and uses of fixtures.</p>	
<b>Unit -3: Staircases, False Ceilings, &amp; Roofs</b>	<b>12 Hrs</b>
<p><b>Chapter-7:</b> Introduction to staircases, terminology, types of stairs – straight, dog-legged, circular, spiral, stairs of different material – timber, steel, RCC, balustrades and handrails.</p>	
<p><b>Chapter-8:</b> Introduction to false ceiling, types of false ceiling &amp; materials used for false ceiling, wooden &amp; gypsum board false ceiling, plaster of Paris false ceiling, PVC and decorative sheets false ceiling, application and its advantages</p>	
<p><b>Chapter-9:</b> Types of roofs, concept of flat, pitched and arched roofs. Glossary of terms for pitched roofs - batten, eaves, fascia board, gable, hip, lap, purlin, rafter, rag bolt, valley, ridge, rainwater gutter, anchoring bolts, Roof drainage, Roof treatment-brick Koba</p>	

<b>References</b>	
1	Arora, S.P. Bindra, “Text book of Building Construction”, Dhanpat Rai Publications, New Delhi, 2010.
2	Gurcharan Singh, “Building materials”, Standard Publishers Distributors, Delhi, 2016
3	Rangwala, “Building Construction”, Charotar Publishing House Pvt. Ltd., Gujarat, 2008
4	Punmia, B.C.; A Textbook of Building Construction; Laxmi Publications (P) Ltd; New Delhi; 2005.
5	Sushil Kumar, “Building Construction”, Standard Publishers Distributors, Delhi, 2006





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Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>ID-P 4.2</b>	Course Credits	<b>2</b>
Course Name	<b>Construction Detailing - (Practical)</b>	Contact hours	<b>56 hrs</b>

Course Content:	
<b>Unit-1: Arches, Lintels, Joints</b>	<b>8 Hrs</b>
Drafting different types of arches (any 5 based on points and styles) and lintels (Any 4 on Materials) with all the necessary details. Drafting of different types of joints, (any10)	
<b>Unit -2: Doors, Windows</b>	<b>24 Hrs</b>
Drafting different types of doors (any 5) and windows with all the necessary details (any 5)	
<b>Unit -3: staircases, False Ceiling, Lift Interiors</b>	<b>24 Hrs</b>
False ceiling details (any 3). Drafting different types of staircases based on material and design with all the necessary details (any 3 each) Lift Interiors any materials (anyone)	



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Program Title	<b>B.Sc. Interior Design and Decoration</b>	Semester	<b>Fourth Semester</b>
Course Code	<b>ID-P 4.3</b>	Course Credits	<b>3</b>
Course Name	<b>Interior Design – Residence- (Practical)</b>	Contact hours	<b>84 hrs</b>

### OBJECTIVES:

- ❖ To enable the students to learn the Process of interior design and to understand the relationship of space with that of function for basic living activity.
- ❖ To enable the students to learn to convert creative ideas into practical designs

**Course Outcomes:** On completion of the course, the student will be able to:

CO1: Comprehend and communicate basic concepts and theories of residential interiors.

CO2: Apply theories and tools to analyse and communicate studio projects.

CO3: Conceptualize new designs and resolve real-life projects/challenges with confidence

### Course Content:

<b>Unit-1: Case study &amp; Literature Study</b>	<b>12 Hrs</b>
Introduction to Designing of a given Interior spaces such as layout & working methods. Case studies and Literature studies for a given project Interiors and studying various aspects like Requirements, Planning, Circulation, Aesthetics, Furniture design, Material adopted etc.	
<b>Unit -2: Data Collection</b>	<b>12 Hrs</b>
Designing the Interior of a given project includes, measured drawings of the site, Observation of special design elements, Analysis of the data collected & creating a design program. Area calculation,	
<b>Unit -3: Requirement &amp; Area Analysis</b>	<b>14 Hrs</b>
Client Profile, Requirements, Area Analysis, Bubble Diagram, Block Diagram, Site Analysis	
<b>Unit -4: Concept Development</b>	<b>14 Hrs</b>
Mind mapping of the design program, arriving and presentation of conceptual design with help of sketches, material samples etc.	

<b>Unit -5: Design Development</b>	<b>16 Hrs</b>
Development of Space with furniture Layout, Flooring Layout, Lighting and wiring layout with legend	
<b>Unit -6: Presentation Drawings</b>	<b>16 Hrs</b>
Converting conceptual design into final drawings suitable for execution with anthropometrics. Development of Plans, Elevations, Sections. Working Drawings	

<b>References</b>	
1	Ernst and Peter Neufert, “Neufert Architect’s Data”, Wiley Blackwell Publication, United Kingdom, 2012 ISBN:9781 4051 9253 8
2	Joseph De Chiara, Julius Perero and Martin Zelnik, “Time Saver Standards for Interior design and Space Planning”, McGraw Hill, London, 2011, ISBN:978 0 07170 465 6
3	Joseph De Chiara, Michael J Crosbie, “Time Savers Standards for Building Types”, 4 editions, McGraw Hill Education, 2014, ISBN: 9780070163874
4	Joseph De Chiara, Julius Panero, “Standards for Interior Design and Space Planning”, McGraw-Hill Professional, 2011, ISBN: 9780 07170 465 6



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Program Title	<b>B.Sc. Interior Design and Decoration</b>		Semester	<b>Fourth Semester</b>
Course Code	<b>ID-OE 4.1</b>	<b>OPEN ELECTIVE</b>	Course Credits	<b>3</b>
Course Name	<b>Home Automation - (Theory)</b>		Contact hours	<b>42 hrs</b>

### OBJECTIVES:

- ❖ To learn about various controls or monitoring signals from different appliances, or basic services.
- ❖ To learn about energy efficiency and different networking and fire alarm systems

**Course Outcomes:** On completion of the course, the student will be able to:

CO1: Develop project based on automated systems

CO2: Build own Bluetooth operated Home Automation System

CO3: Get hands-on experience on control devices and electrical loads

CO4: Program and test Home Automation

### Course Content:

#### Unit-1: Fundamentals of Building Management System

15 Hrs

##### Chapter-1

Home automation – Introduction, definitions, objectives, scope, concept of green & smart design, energy management systems, MEP design fundamentals, advantages and disadvantages

##### Chapter-2

Automation in Interiors – introduction, definitions advantages and disadvantages. Sensors –classification – based on types and requirement, design consideration, advantages, and disadvantages

##### Chapter-3

Introduction to CCTV Systems, Types of CCTV Systems, Camera Selection and Design Concepts, Camera Types, Camera Specifications & Features. Introduction to Digital Video Recorder, Setting a DVR, DVR Structure and Sections, Classification Of DVR, Special DVRs, Networking.

<b>Unit -2: Intrusion Detection &amp; Alarm System</b>	<b>15 Hrs</b>
<b>Chapter-4</b>	
Smart homes – introduction, definition, terminologies, elements of smart homes advantages and disadvantages. Smart appliances – introduction, advantages and disadvantages	
<b>Chapter-5</b>	
Smart kitchens – introduction, definition, advantages and disadvantages. Smart gadgets – Bluetooth operated appliances, Alexa or Google voice controls, sensor based plumbing fixtures	
<b>Chapter-6</b>	
Sensor based Lighting systems – introduction, types, controls, advantages, disadvantages. Energy efficient lighting system – introduction, types of sensors, advantages and disadvantages	
<b>Unit -3: Networking &amp; Fire Alarm Systems &amp; Panels</b>	<b>12 Hrs</b>
<b>Chapter-7</b>	
Smart Communication – Introduction, definitions, importance of smart communication, types, and properties. Wireless communication systems – uses in homes, types, advantages, and disadvantages.	
<b>Chapter-8</b>	
Introduction to concept of Cloud Services - LAN, WAN, implementing of networks, Introduction to Cloud services - sharing of files, printing and scanning, network protocols- TCP/IP, Ethernet, Modbus	
<b>Chapter-9</b>	
Introduction To Fire Alarm System, Need For Fire Alarm System, Types Of Fire Detectors Types Of Fire Panels, Conventional And Addressable System, Input-Output Modules, Indicators & Annunciators Fire Cables And Classes Of Wiring, Fire Alarm Wiring And Configuration, Conventional Addressable Fire Panel Interfacing With access control System, Sensors-heat, smoke, pir, conventional fire alarm panels, addressable fire alarm panels, cabling, safety standards, alarms, pa systems, recorders	

<b>References</b>	
1	Gerard O’Driscoll, In the Essential Guide to Smart Home Automation Safety & Security.
2	O’Driscoll Essential Guide to Smart Bulbs & Lighting Control Essential Guide to Smart Home Entertainment James Gerhart, Home Automation & Wiring.
3	Nick-Vandome, Smart Homes in easy steps: Master smart technology for your home
4	Donald Norris, Home Automation with Raspberry Pi: Projects Using Google Home, Amazon Echo, and Other Intelligent Personal Assistants.



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## Model Curriculum

Program Title	<b>B.Sc. Interior Design and Decoration</b>		Semester	<b>Fourth Semester</b>
Course Code	<b>ID-OE 4.2</b>	<b>OPEN ELECTIVE</b>	Course Credits	<b>3</b>
Course Name	<b>Basics of Lighting - (Theory)</b>		Contact hours	<b>42 hrs</b>

### OBJECTIVES:

- ❖ To enable the students to understand basic principles of illumination and application of natural and artificial lighting in interiors.
- ❖ This subject will give basic understanding about the science behind lighting design.

**Course Outcomes:** On completion of the course, the student will be able to:

<b>CO-1</b>	Identify lighting requirements for a range of interior situations in terms of the needs of occupants and to meet statutory regulations.
<b>CO-2</b>	Apply advanced illumination engineering techniques to ensure lighting installations meet specified design objectives
<b>CO-3</b>	Implement lighting designs for selected projects
<b>CO-4</b>	Apply energy saving design techniques by integrating daylight in interior lighting design.
<b>CO-5</b>	Apply creative lighting techniques to selected scenarios.
<b>CO-6</b>	Implement emergency lighting designs to fulfil statutory requirements.

### Course Content:

<b>Unit-1: Lighting</b>	<b>12 Hrs</b>
<b>Chapter 1</b> Introduction to natural lighting, daylight factor, recommended daylight factors for interiors, calculation of the opening for natural lighting, guidelines for good natural lighting, factors affecting illumination reflection and transmission and their applications, advantages, and disadvantages	

<b>Chapter 2</b>	
Introduction to artificial lighting, different types of lighting, types of arrangements, principles of lighting, luminous intensity of light sources, position of lighting points, their importance, advantages and disadvantages.	
<b>Chapter 3</b>	
Eco lighting: Introduction, types, materials and application of LED and solar	
<b>Unit -2: Electrical Services</b>	<b>15 Hrs</b>
<b>Chapter 4</b>	
Introduction to commonly used terminology – Voltage, Current, Power, Connected Load, Max. Demand, Load Factors, Diversity Factor etc., Importance of Electrical Services and Its implications on building design. Supply and distribution of electricity to buildings: Brief introduction to various Sources for Electricity generation. Introduction to Transmission and Distribution system	
<b>Chapter 5</b>	
Electrical Services - Protection Systems Switchgear & Protection Devices – Fuses, Breakers: Miniature Circuit Breakers; Earth Leakage Circuit Breakers; Molded Case Circuit Breakers & Air Circuit Breakers and Protection Relays. Wiring process, introduction to wiring, types of wiring, benefits, importance, and applications. Wiring of a typical residential unit, wiring layout of a typical commercial space.	
<b>Chapter 6</b>	
Earthing & Lightning Protection System: Definition, Purpose; Types of Earthing Systems, Factors affecting selection and system specification - Type of Soil, water table, soil resistivity etc. Brief about new advances in Earthing systems; Lightning system design - Factors affecting the system specification, basic rules as per NBC and other relevant codes.	
<b>Unit -3: Quality &amp; Quantity of Lighting design</b>	<b>15 Hrs</b>
<b>Chapter 7</b>	
Fundamentals Quality & Quantity of Lighting; Recommended Lux Levels; Type of Lamps –Incandescent, Discharge Lamps, Fluorescent, CFL, LED and OLED. Integration of Day lighting with Artificial Lighting, Control Systems, Laws of illumination	
<b>Chapter 8</b>	
Recommended level of illumination for various spaces as per the relevant building codes, guidelines for lighting design, lumen method of design. Preparation of lighting layouts for a typical residential unit and commercial unit.	

## Chapter 9

Techniques, Principles and Applications: Lighting Methods - Ambient, Task & Accent lighting; Systems of Luminaries - Up-Lighting, Down-Lighting, Spot Lighting etc.; Street Lighting, Façade Lighting, Landscape Lighting.

### References

1	Anna Yudina, “Lumitecture-Illuminating Interiors for Designers And Architects”, Thames and Hudson, 2016, ISBN: 9780 500 518342
2	Jason Livingston, “Designing with Light”, Wiley Publisher, 2014, ISBN: 9781 118 70477
3	Gary Gordon, “Interior Lighting for Designers”, 5th edition, Wiley Publishers, 2015, ISBN: 9780 47011 422 3
4	Malcolm Innes, “Portfolio Skills, Lighting for Interior Design”, Laurence King Publishing Ltd, London, 2012, ISBN: 9781856698368
5	Mark Karlen, “Lighting Design Basic” Wiley publishers, 2003, ISBN: 0471 38162 4