



**SRI KANYAKA PARAMESWARI  
ARTS & SCIENCE COLLEGE FOR  
WOMEN  
CHENNAI – 01**



**M.Sc. DEGREE COURSE IN HOME SCIENCE –  
INTERIOR DESIGN & DÉCOR  
CHOICEBASED CREDIT SYSTEM  
REGULATION (w.e.f 2022-23)**

**Vision:** To impart knowledge, stimulate creativity and develop competencies to become professionals in the Art and Design Industry. **Mission:** Enhance all round development of students and to give them practical and skill- based education to create space with beauty, expressiveness and functionalism.

**1. ELIGIBILITY CONDITION FOR ADMISSION :**

Pass in B.Sc. Interior Design and Decor/ B. Sc. Home Science or a graduate from any discipline.

**2. Programme Objectives (POB)**

<b>The M.Sc. Programme in Home Science – Interior Design and Decor aims to achieve the following objectives :</b>	
<b>POB1</b>	Develop ability to apply design principles in day-to-day life and expose students to the various developments seen in art and design industries.
<b>POB2</b>	Acquire the ability and behavioral skills required for successful social adaptation, that enables students to work in groups, apply knowledge and ideas effectively both verbally and in writing.
<b>POB3</b>	Train students with appropriate skills required to adapt easily to the ever-changing global scenario and gain access to suitable career opportunities.
<b>POB4</b>	Improve skills in observation and drawing logical inferences from space planning.
<b>POB5</b>	Explore various mediums and technologies to express their creativity and understand the role of art making in the larger social context.

**3. Programme Outcomes (PO)**

<b>On successful completion of M.Sc. Home Science Interior Design and Décor degree programme the student is expected to :</b>	
<b>PO1</b>	Develop designs for both residential and commercial spaces by applying the concept of art and interior design with suitable building materials and which create a sustainable environment.
<b>PO2</b>	Assess and analyze the art principles and colour theories that are most suitable and applicable to surface finishes.
<b>PO3</b>	Design and develop 2D and 3D floor plans, building system, kitchen and furniture arrangements using ergonomic principles
<b>PO4</b>	Formulate hypotheses and thus find solutions for research problems.
<b>PO5</b>	Cultivate professional skills to be inducted in the field of interior design and décor.

#### 4. Programme Specific Outcomes (PSO)

<b>On successful completion of M.Sc. degree in Home Science – Interior Design and Decor the student is expected to :</b>	
<b>PSO1</b>	Implement the concepts of design elements, art principles, color and lighting theories, household equipment's in planning interiors and exteriors with optimum use of resources in building services.
<b>PSO2</b>	Evaluate the characteristics of various hard & soft materials, household equipment's and finishes in planning residential and commercial spaces and in turn providing eco-friendly environment to meet the community needs.
<b>PSO3</b>	Analyze the various styles of interiors from historical period till modern days to create an aesthetic and ergonomic design in planning furniture, household equipment's, interior and exterior spaces.
<b>PSO4</b>	Implement the skills of communication, graphic design, various perspectives of home science and professional practice to develop new research ideas and meet the consumer requirements with effective use of resources.
<b>PSO5</b>	Demonstrate designs and plans effectively to the clients using various software, apps and technology and possess entrepreneurial skills and competencies.
<b>PSO6</b>	Develop research ideas in creating aesthetic and sustainable buildings with efficient use of renewable resources for that are eco-friendly.

#### 5. SCHEME OF EXAMINATION:

##### FIRST SEMESTER

Course Component	Subject	Sub code	Sem	Inst Hours	Credits
Core - 1	<b>PAPER 1</b> History of Design	MN21A	1	6	4
Core - 2	<b>PAPER 2</b> Application of Art and Design	MN21B	1	6 4+2	4
Core – 3	<b>PAPER 3</b> Landscaping & Ornamental Gardening	MN21C	1	6 4+2	4
Core – 4	<b>PAPER 4</b> Furniture Design	MN21D	1	5	4
Core – 5	<b>PAPER 5</b> Space Planning and Furniture Design(Practicals)		1	5	4
Soft skill – I			1	2	2
<b>Total</b>				<b>30</b>	<b>22</b>

## SECOND SEMESTER

Course Component	Subject	Sem	Inst Hours	Credits
<b>Core – 6</b>	<b>PAPER 6</b> Furnishing in Interiors (Practicals)	2	5	4
<b>Core – 7</b>	<b>PAPER 7</b> Sustainability in Building Science	2	5	4
<b>Core – 8</b>	<b>PAPER 8</b> Textile Science	2	5	4
<b>Core – 9</b>	<b>PAPER 9</b> Household Equipment	2	5	4
<b>Elective – 1</b> Inter Disciplinary – 1	<b>PAPER 10</b> Research Methodology and Applied Statistics	2	4 2+2	3
<b>Elective – 1</b> Extra Disciplinary– 1	<b>PAPER 11</b> Advanced Graphic Design	2	4 2+2	3
<b>Soft Skill – II</b>		2	2	2
<b>Total</b>			30	24

## THIRD SEMESTER

Course Component	Subject	Sem	Inst Hours	Credits
<b>Core – 10</b>	<b>PAPER 12</b> 3d Modelling in Design (Practical)	3	6	4
<b>Core – 11</b>	<b>PAPER 13</b> Commercial Interiors	3	6 4+2	4
<b>Core – 12</b>	<b>PAPER 14</b> Resource Management and Consumer Issues	3	6	4
<b>Elective – 2</b> Inter Disciplinary – 2	<b>PAPER 15</b> Visual Merchandising	3	5	3
<b>Elective – 2</b> Extra Disciplinary– 2	<b>PAPER 16</b> Renewable Energy Resources	3	5	3
<b>Soft Skill – III</b>		3	2	2
Internship*	Interior Design Internship (30 Days)	3	-	2
<b>Total</b>			30	22

\*Internship will be carried out during the summer vacation of the second semester and the report will be evaluated by the two examiners within the department/ college/institution.

#### FOURTH SEMESTER

Course Component	Subject	Sem	Inst Hours	Credits
Core – 13	<b>PAPER 17</b> Dissertation	4	6	8
Core – 14	<b>PAPER 18</b> Styles in Interiors	4	6	4
Elective - 3 Inter Disciplinary – 3	<b>PAPER 19</b> Perspectives of Home Science	4	6	3
Elective - 4 Inter Disciplinary – 4	<b>PAPER 20</b> Ergonomics in Interiors	4	5	3
Elective - 5 Inter Disciplinary – 5	<b>PAPER 21</b> Professional Practice in Interiors (Practical)	4	5	3
Soft skill - IV		4	2	2
<b>Total</b>			<b>30</b>	<b>23</b>

#### QUESTION PAPER PATTERN :

##### PART A

(50words): Answer All Questions 5x2 =10 marks

##### PART B

(200words): Answer 4 out of 6 Questions 4x5 = 20 marks

##### PART C

(600 words): Answer 3 out of 5 Questions 3x15 = 45 marks

#### SCOPE

The scope of interior designing involves executing commercial spaces and homes' designs to create a client's desired environment. More people are now moving to smaller and more compact homes. In this scenario, the Interior designer with their theme-based designs can save space and give a personal and alluring touch to the place. In metropolitan cities, there is always a renovation of homes and offices. The trend followed by the present generation is to purchase homes and then take the help of interior designers to decorate it. New restaurants, cafes and offices always require interior designers for renovation. It would be a fulfilling experience as your work is driven by passion rather than working merely to meet others desires alone. Thus, people who have done interior designing courses have multiple opportunities. Interior designers can set up their own firms and work as a professional designers. For higher studies they can directly opt for a doctorate.

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**CORE 1**  
**PAPER 1 - HISTORY OF DESIGN**

**CODE: MN21A**

**Time/Hrs: Theory: 6 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: I**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the history of art and architecture.
2. Analyze the historical styles of architecture.
3. Create styles and designs based on the materials and design used in different periods

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Understand the architectural features of prehistoric & Egyptian period	K1, K2, K4, K5
CO2	Analyze the different European styles of architecture	K1, K2, K4, K5
CO3	Interpret the colonial and oriental influence in interiors	K1, K2, K4, K5
CO4	Compose modern architecture based on the Indian historical features	K1, K2, K4, K5
CO5	Illustrate the modern and post-modern styles of interiors	K1, K2, K4, K5
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 - Create		

**THEORY**

Unit No.	Content	No. of hrs.
I	<b>Prehistoric &amp; Egyptian interiors-</b> Plan, Materials, Furniture Ornamentation & Accessories Used for Shelters in Stone Age – Cave paintings, Parts & Plan of Stonehenge & Egypt - symbolism, characteristic features of Obelisks, Pyramids, Egyptian paintings - Egyptian dance & battle of Nubia.	10

II	<b>European Interiors-</b> Categorization of Rooms, Furniture, Materials Used for Buildings in Greece & Rome- Orders, Parthenon, Pantheon & Colosseum, Medieval - Pantheon, Early Renaissance - Santa Maria Novella, Late Renaissance- St. Peter's Basilica, Laurentian Library, Baroque- St. Peter's Basilica and Rococo Architecture - Ballroom in the Schaezlerpalais.	25
III	<b>Oriental and Colonial interiors</b> - Types of Materials used, Parts of the Building, Furniture and other Interior Aspects of Buildings in Japanese- wood, roofs, shoji & fusuma, Tatami, Engawa, Genkan, Nature inspired. Chinese- Lumber, Low Rise, Roof, Colours, Symmetrical Layouts, Hierarchical Layout, South Facing, Consistency, and Indian Colonial Architecture - Victorian Memorial Hall, Secretariat in Delhi, Madras High Court.	20
IV	<b>Indian interiors</b> - Historical Perspectives, Architectural Styles and Contemporary Trend in Furniture, Space Allocation, Local Material Usage and Furniture Used in Rajasthan - Amber Palace, Gujarat- Rajmahal at Mehsana, Chettinad - Karaikudi houses, Kerala - The Mattancherry Palace and Pondicherry - White town Architecture.	20
V	<b>Modern &amp; Post-Modern interiors-</b> The Style Statements of Modern Periods - Art Nouveau- Casa Battlo, Art Deco- Chrysler Building, Eclecticism- Carson Mansion, High Tech - Lloyd's Building, Minimalism- Heydar Aliyev Center, St. Moritz Church, Deconstructivism - Walt Disney Concert Hall, Contemporary Art - The blue planet.	15
<b>Total</b>		<b>90</b>

## REFERENCES

1. Hinchman, Mark. History of Furniture: A Global View: New York: Fairchild Books, Inc., 2009. (ISBN: 978-1-56367-544-7)
2. Jeannie Ireland (2009), History of Interior Design, air child publications, illustrated ed.,
3. Jim Postell, Furniture Design, Wiley publishers, 2007.
4. John Wiley & sons. Inc (2013), A history of interior design – 4th edn.
5. Robbie. G. Blakemore, (2005), History of Interior Design and Furniture. From Ancient Egypt to Nineteenth – Century Europe, Wiley Publishers
6. Wim Pauwels (2012), Contemporary Architecture & Interiors.

## E-LEARNING RESOURCES

- [www.thoughtco.com/architecture-timeline-historic-periods-styles-175996](http://www.thoughtco.com/architecture-timeline-historic-periods-styles-175996)
- <https://www.britannica.com/art/Egyptian-architecture>
- <https://www.e-architect.com/european-architecture>
- <http://www.thebangala.com/architecture>
- <https://www.toki.tokyo/blogt/2020/4/8/eight-elements-of-japanese-architecture>
- <https://www.chinahighlights.com/travelguide/architecture/>
- <https://www.chinahighlights.com/travelguide/architecture/features.htm>
- <https://www.houzz.in/magazine/what-is-kerala-architecture-stsetivw-vs~116858736>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	W	M	M
CO2	M	S	S	W	M	M
CO3	M	S	S	W	M	M
CO4	M	S	S	W	S	M
CO5	M	S	S	M	S	M

CODE: MN21B

## CORE 2

## PAPER 2 - APPLICATION OF ART & DESIGN

Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs  
Credits: 4

Year: I  
Semester: I

## LEARNING OBJECTIVES

### To enable the students to

1. Use design elements and principles of art effectively in designing interiors and exteriors.
2. Analyze and use the appropriate color schemes and lighting fixtures for the interiors and exteriors.
3. Create and implement innovative ideas in developing interior accessories and flower arrangement styles.

## COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Understand and apply the art and design in interiors and exteriors.	K1, K2, K3
CO2	Create innovative flower arrangement styles and apply them in various occasions and needs.	K3, K6

<b>CO3</b>	Develop or schemes using color palette and suggesting them in various areas of interiors and exteriors.	<b>K5, K6</b>
<b>CO4</b>	Apply proper lighting for efficient lighting in interiors and exteriors.	<b>K2, K3, K5</b>
<b>CO5</b>	Understand and apply various accessories and pictures in selection and arrangement with relation to the background of interiors.	<b>K2, K3, K6</b>
<b>K1</b> - Remember; <b>K2</b> - Understand; <b>K3</b> - Apply; <b>K4</b> - Analyze; <b>K5</b> - Evaluate; <b>K6</b> – Create		

## **THEORY**

<b>Unit No</b>	<b>CONTENT</b>	<b>No of hours</b>
<b>I</b>	<b>Design:</b> Design - Definition, Concept, Requirements of Good Design, Types of Design - Structural and Decorative - Naturalistic, Conventional, Geometric, Abstract. Elements of Design - Line & its Type, Shape and Form, Texture, Direction, Space and Size, Color, Value. Principles of design - Proportion, Balance, Rhythm, Emphasis and Harmony. Application of Design in Interiors and Exterior Wall Finishes.	<b>20</b>
<b>II</b>	<b>Flower Arrangement:</b> Flower Arrangement - Definition, importance of flower arrangement, Styles of flower arrangement – Traditional, Oriental/Japanese styles - Ikebana, Moribana, Nagarie, Shikibana, Morimono, Rikka, Ukibana and Modern. Selection of containers based upon styles of arrangement. Flowers – Names, its colours, textures and its visual perception in various indoor spaces.	<b>20</b>
<b>III</b>	<b>Colour:</b> Colour Theory - Additive Colour, Subtractive Colour, Warm & Cool Colours. Developing colour schemes related to colour harmony – Achromatic, Accented, Analogous, Triadic, Tetradic, Rectangles & Square. Application of colour psychology and illusion in various areas of interiors and exteriors.	<b>15</b>
<b>IV</b>	<b>Lighting:</b> Lighting requirements - Definition and Importance of lighting. Ideal light requirements, Lighting Units - foot candle, candela, Lumen, Watt. Types of light bulb - Incandescent lamps, Compact fluorescent lamps (CFL), Halogen lamps, Metal halide Lamps, Light Emitting Diode (LED), Fluorescent tube, Neon lamps, High intensity discharge lamps. Types of lighting - General/ Ambient lighting, Task/Spot lighting, Architectural lighting - valance, soffit, bracket, cone, recessed, cornice. Lighting fixtures – Movable and immovable fixtures. Principles of home lighting, Glare - types and causes of glare. Suggestions for improving daylight illumination.	<b>20</b>



V	<b>Accessories:</b> Definition, Types of accessories, Selection and arrangement of accessories in various areas – living room, Dining room, bed room, study room with application of art principles and elements of design. Pictures – Concept, Selection of pictures, framing and mounting of pictures – glass, mat backing, frame, pictures. Types of picture frame – Shadow box, decorative, standard, floating and collage. Hanging law of margin in picture framing.	15
<b>Total</b>		<b>90</b>

## PRACTICALS

1. Creating hand-made accessories using waste materials and pictures frames in different styles.
2. Painting different rooms using colour psychology and illusion of colours.
3. Developing innovative flower arrangement styles for various occasions and needs.
4. Applying design in interior and exterior wall.
5. Market survey on recent trends in accessories.
6. Draw lighting layout and Market survey on light and lighting fixtures.
7. Prepare Catalog for wall accessories and various designs.

## REFERENCES

1. Andal and Parimalam (2015), “A Textbook of Interior Decoration”, Satish Serial Publishing House, ISBN-13: 978-8189304508
2. Frida Ramstedt, (2020), “The Interior Design Handbook”, Particular Books, ISBN-13: 978-0241438114
3. Gary Gordon (2015), “Interior Lighting for Designers”, Wiley; 5th edition, ISBN-13: 978-0470114223
4. Grimley C and Mimi Love (2018), “The Interior Design Reference & specification Book”, Rockport Publishers, ISBN-13: 978-1631593802.
5. Mark Karlen, Christina Spangler, et al (2017), “Lighting Design Basics”, Wiley; 3rd edition, ISBN-13: 978-1119312277
6. Nikita Mittal (2021), “The Key of Interior Design (Illustration of Methods & Principles), STANDARD BOOK HOUSE; 1st edition, ISBN-13: 978-8194359753
7. Pratap Rao. M (2020), “Interior Design: Principles and Practice”, Standard Publishers and Distributors Pvt Ltd, ISBN-13: 978-8180141560
8. Seetharaman. P (2019), “Interior Design and Decoration”, CBS; 1st edition, ASIN: 8123911920, ISBN-13: 978-8123911922

## E-LEARNING RESOURCES

- Stanpro (2018), “Basics of Lighting”, <https://www.standardpro.com/3-basic-types-of-lighting/>
- Greg Batten (2015), “Lighting Control Methods”, <https://www.controlco.com.au/blog/2015/7/16/lighting-control-methods>
- Frankel Building Group (2021), “7 Elements of Interior Design”, <https://www.frankelbuildinggroup.com/resources/7-elements-of-interior-design/>
- Prerna Makhija (2022), “The 7 Elements of Design – and how to use them in your home interiors”, <https://www.beautifulhomes.com/home-decor-ideas/interior-design/the-7-elements-of-design-and-how-to-use-them-in-your-home-interiors.html>
- Foyr (2020), “Importance of Accessories in Interior Design”, <https://foyr.com/learn/accessories-in-interior-design/>
- Hamstech (2021), “Selection of Accessories in Interior Designing”, <https://www.hamstech.com/selection-of-accessories-in-interior-designing>
- Shuani, “Interior Decoration – Arrangement of Flowers”, <https://www.yourarticlelibrary.com/home-management/interior-decoration-arrangement-of-flowers/47903>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	M	M	M	S	M
CO2	S	M	S	M	M	M
CO3	S	S	M	M	S	M
CO4	S	S	M	M	S	M
CO5	S	S	S	M	M	M

**CODE: MN21C**

**CORE 3**

**PAPER 3 - LANDSCAPING & ORNAMENTAL GARDENING**

**Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: I**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Acquire skill in identifying the ornamental flowers, shrubs and trees.
2. Develop a conceptual understanding of landscape design principles and gardening components for various built forms
3. Create designs in integrating landscape and ornamental gardening with built environment

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Apply principles of design to create best suited design in lawn making and landscaping.	<b>K1, K2, K3, K6</b>
<b>CO2</b>	Evaluate the integral and supplementary elements to create ornamental garden design.	<b>K2, K3, K5, K6</b>
<b>CO3</b>	Assess, understand and evaluate the different styles and kinds of garden.	<b>K2, K4, K6</b>
<b>CO4</b>	Create designs in urban landscape and prepare bio-aesthetic plans for different areas.	<b>K3, K6</b>
<b>CO5</b>	Classify different kinds of indoor and outdoor plants; analyze factors for developing patterns in the landscape area.	<b>K3, K4, K6</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No.	Content	No. of hrs.
I	<b>Landscaping</b> –Definition, Importance and Principles of Design in Landscaping. Requirements in Landscape Area- Site & Location, Site Evaluation, Soil Properties, Water Systems, Climatic Conditions and Lighting. Lawn and Lawn Maintenance-Planning and Execution of Lawn Making, Public and Private Garden. Importance of Kitchen Garden.	15
II	<b>Ornamental Gardening</b> -Definition, Components of Garden- Arboretum. Shrubbery, Fernery, Palmatum, Arches and Pergolas, Edges and Hedges. Integral Elements of Garden- Climbers and Creepers, Cacti & Succulents, Herbs, Annuals & Perennials, Flower Borders & Beds. Supplementary Elements of Garden- Ground Covers, Carpet Beds, Bamboo Grooves, Topiary and Garden Adornments. Planning and Designing of Ornamental Gardens	15
III	<b>Styles and Types of Landscape Garden:</b> Garden Styles: Formal, Informal And Freestyle, Wild Gardening, Types of Garden: Persian, Mughal, Japanese, English, Italian, Buddha, Spanish And Vanams. Special Types of Garden: Vertical Garden, Roof Garden, Bog Garden, Sunken Garden, Rock Garden, Clock Garden, Bonsai Gardens, Temple Garden & Sacred Groves.	25
IV	<b>Urban Landscaping:</b> Landscape Design for Specific Areas & Occasions- Industries, Institutions, Hospitals, Roadsides Residents, IT Parks, Restaurants, And Corporate Offices. Bio Aesthetic Planning- Eco Tourism, Botanical Gardens, Theme Parks, Indoor Gardening, Terrarium, Hydroponic Gardens, Therapeutic Gardening, Non -Plant Components, Waterscaping, Xeriscaping and Hardscaping.	25
V	<b>Indoor-Outdoor Plants</b> -Kinds and Classification, Factors Influencing Growth of Plants. Planning and Execution of Landscape Design Based on the Styles and Kinds of Plants.	10
<b>Total</b>		<b>90</b>

## PRACTICALS

1. Selection of ornamental plants, practices in preparing home garden designs/industrial gardens/institutional gardens/corporate.
2. Avenue planting, lawn making, planting herbaceous and shrubbery borders, project preparation on landscaping for different situations,
3. Visit to parks and botanical gardens.
4. Draw 2D and 3D landscape design.

## REFERENCES

1. A K Tiwari (2012) Fundamentals of Ornamentals Horticulture and Landscape Gardening, NIPA publisher
2. Alka singh (2015) A colour handbook: Landscape gardening, NIPA publisher
3. Desh raj (2017) Floriculture at a glance, Kalyani publishers
4. G. S. Randhawa, A.N. Mukhopadhyay, A. Mukhopadhyay (1998) Floriculture in India, Jai deep publishers Delhi.
5. Harikrishnan Paliwal (2013) Ornamental Gardening- A user's Companion, Jain Publishing Company, New Delhi
6. M Kannan, P Ranchana, S Vinodh (2016) Ornamental Gardening and Landscaping, New India publishing agency

## E-LEARNING RESOURCES

- [http://www.megagriculture.gov.in/PUBLIC/floriculture\\_objectives.aspx](http://www.megagriculture.gov.in/PUBLIC/floriculture_objectives.aspx)
- <http://ncert.nic.in/vocational/pdf/kegr101.pdf>
- [http://agritech.tnau.ac.in/horticulture/horti\\_Landscaping\\_freshflower.html](http://agritech.tnau.ac.in/horticulture/horti_Landscaping_freshflower.html)
- <https://www.basicsofgardening.com/types-of-garden>
- <https://www.designcad.com.au/wp/Docs/Landscape%20Design%20and%20CAD.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	M	M	S	S
CO2	S	S	M	M	S	M
CO3	S	S	S	M	S	M
CO4	S	S	S	S	S	S
CO5	S	S	M	M	S	M

**CODE: MN21D**  
**CORE 4**  
**PAPER 4 - FURNITURE DESIGN**

**Time/Hrs: Theory: 5 Hrs,**  
**Credits: 4**

**Year: I**  
**Semester: I**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the basic guidelines of furniture design
2. Get familiar with the different types of materials used in designing furniture
3. Learn the styles of popular furniture designers

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand the design details of a furniture	<b>K1, K2, K5</b>
<b>CO2</b>	Summarize the templates and proportions	<b>K1, K2, K3</b>
<b>CO3</b>	Analyze the methods of cabinet construction and select the best suitable method for the given purpose on hand	<b>K2, K4, K6</b>
<b>CO4</b>	Analyze the designs of popular designers from Medieval to modern period	<b>K1, K3, K4</b>
<b>CO5</b>	Understand the features of various materials used in furniture design.	<b>K1, K2</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No.	CONTENT	No. of hrs.
I	<b>Contributions to furniture design</b> Contributions by famous designers and associations from medieval to modern period - Michael Thonet, Werkbund Association, Bauhaus, Le Corbusier, Charlotte Perriand, Alvar Aalto, Ettore Sottsass, Eero Aarnio, Joe Colombo & Verner Panton.	25
II	<b>Basics of furniture design</b> Introduction to furniture design, classification of Furniture based on different areas, classification of Furniture based on utility - Multi-purpose Furniture Design. Application of Golden Ratio in furniture design. Art principles in furniture design.	15
III	<b>Templates &amp; Proportions</b> Placement and arrangement of furniture in different rooms - Living room, Bedroom & Dining room. Basic guidelines involved in furniture proportions & templates.	20
IV	<b>Materials</b> Types classified by materials, advantages & disadvantages – wooden furniture, bamboo furniture, wicker or rattan furniture, metal furniture, plastic furniture, glass furniture, concrete furniture and contemporary materials.	15
V	<b>Construction of Cabinets</b> Steps involved in cabinet construction, T V units, wall accessories unit & Bedding furniture. Construction techniques- Shaping, carving, turning and joinery methods. Care & Maintenance - Renovation & refinishing of furniture	15
<b>Total</b>		<b>90</b>

## REFERENCES

1. Francis D.K. Ching, John Wiley & Sons, (2018), Interior Design 4th edition, New York.
2. Jeannie Ireland (2009), History of Interior Design, air child publications, illustrated ed.,
3. Jim Postell, (2007), Furniture Design, Wiley publishers.
4. John Wiley & sons (2013), A history of interior design – 4th edn – Inc
5. Lawsun Stuart (2013), Furniture Design- An Introduction to Development, Materials, Manufacturing, Lawrence King Publishing Ltd
6. Postel Jim (2012), Furniture Design, New York

## E-LEARNING RESOURCES

- [http://homes.ieu.edu.tr/ffd301/INSTRUCTOR%20PRESENTATIONS/FFD301\\_Presentation01\\_history\\_of\\_furniture.pdf](http://homes.ieu.edu.tr/ffd301/INSTRUCTOR%20PRESENTATIONS/FFD301_Presentation01_history_of_furniture.pdf)
- <https://catalogimages.wiley.com/images/db/pdf/9781118090787.excerpt.pdf>
- ([https://www.google.co.in/books/edition/Illustrated\\_History\\_of\\_Furniture/j8AgAAAAMAAJ?hl=en&gbpv=1](https://www.google.co.in/books/edition/Illustrated_History_of_Furniture/j8AgAAAAMAAJ?hl=en&gbpv=1))
- <https://koalaliving.com.au/blog/golden-ratio-design-template>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	M	S	W	S	S
CO2	M	M	S	M	S	S
CO3	W	M	S	M	S	S
CO4	S	M	S	S	S	S
CO5	S	S	S	W	S	S

CODE:

### CORE 5

### PAPER 5 – SPACE PLANNING & FURNITURE DESIGN (Practicals)

Time/Hrs: Practical: 5 Hrs  
Credits: 4

Year: I  
Semester: I

## LEARNING OBJECTIVES

To enable the students to

1. Learn about the requirements in housing and design spaces accordingly
2. Design commercial spaces suited to the needs
3. Know the standard dimensions of furniture

## COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Understand the needs and requirements of planning different spaces in residences. Apply designs to suit the requirements, create residential layouts for different Sq.ft areas.	K2, K3, K6
CO2	Outline the features of art principles. Apply various art principles to furnish a room thereby creating a specific mood.	K2, K3, K6
CO3	Analyze the requirements for designing commercial spaces. Design interior spaces for various commercial places	K3, K4, K6



<b>CO4</b>	Apply ergonomics in the design of furniture. Design furniture as per ergonomic standards.	<b>K2, K3, K6</b>
<b>CO5</b>	Categorize built in furniture in accordance to use. Design built in furniture with complete details	<b>K3, K4, K6</b>
<b>K1</b> - Remember; <b>K2</b> - Understand; <b>K3</b> - Apply; <b>K4</b> - Analyze; <b>K5</b> - Evaluate; <b>K6</b> – Create		

## PRACTICALS

Unit No	CONTENT	No of hours
<b>I</b>	<b>House Plan:</b> Designing a residential space by implementing the principles of planning spaces with aspect, prospect, grouping, privacy, roominess, circulation and flexibility. Types of house plan, planning for different Sq.ft areas.	<b>25</b>
<b>II</b>	<b>Residential Interior Spaces:</b> Interior space arrangement like living room, bedroom dining, study and kitchen to achieve different moods – formal, informal, traditional, exotic, romantic, masculine and feminine. Creation of mood boards.	<b>15</b>
<b>III</b>	<b>Commercial Interior Spaces:</b> Designing commercial interior spaces like cafe, beauty parlor, boutique, kids store, snack bar, kiosk and office layout.	<b>20</b>
<b>IV</b>	<b>Furniture design:</b> Measured drawings of freestanding furniture, Multi-purpose, Innovative furniture, Door, Window, - Chair, Sofa, Bed, Dining table, Workstation - plan, elevation and view drawn to scale.	<b>15</b>
<b>V</b>	<b>Storage systems:</b> Functional analysis of storage systems and thereby deriving types of built in cabinets needed for interior spaces – Wardrobe, Kitchen cabinets, Designer shelves, Vanity Mirror, Vanity Storage, Book shelf, TV wall unit, display systems.	<b>15</b>
<b>Total</b>		<b>90</b>

## REFERENCES

1. Christine M. Piotrowski(2016), Designing Commercial Interiors, Wiley Publishers
2. James Orrom (2018), Chair Anatomy: Design and Construction, Thames and Hudson Publishers
3. Lulu Lytle & Mitchell Owens (2020), Rattan: A World of Elegance and Charm, Rizzoli Publishers
4. Mark Karlen & Rob Fleming (2016), Space Planning Basics, Wiley Publishers
5. Maureen Mitton & Courtney Nystuen (2016), Residential Interior Design: A Guide to Planning Spaces, Wiley Publishers

## E-LEARNING RESOURCE

- [https://www.academia.edu/8258292/Space\\_Planning\\_Basics](https://www.academia.edu/8258292/Space_Planning_Basics)
- <http://www.aboutcivil.org/site-selection-for-residential-buildings.html>
- [https://web.hettich.com/fileadmin/media/company/Das\\_Ideenbuch\\_2018\\_HHW\\_17785\\_en.pdf](https://web.hettich.com/fileadmin/media/company/Das_Ideenbuch_2018_HHW_17785_en.pdf)
- <https://catalogimages.wiley.com/images/db/pdf/9781118090787.excerpt.pdf>
- [https://cdn2.hubspot.net/hubfs/3360471/RhinoInteriorsGroup\\_May2018/Docs/Rhino\\_officeinteriordesign.pdf](https://cdn2.hubspot.net/hubfs/3360471/RhinoInteriorsGroup_May2018/Docs/Rhino_officeinteriordesign.pdf)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	M	M	M	M	W
CO2	S	M	M	M	M	W
CO3	S	S	M	M	M	W
CO4	M	S	S	M	M	M
CO5	M	S	S	M	M	M

CODE:

### CORE 6

### PAPER 6 – FURNISHINGS IN INTERIORS (Practicals)

**Time/Hrs: Practical: 5 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: II**

## LEARNING OBJECTIVES

**To enable the students to**

1. Learn the importance of furnishings in interiors.
2. Identify various types of furnishings, criteria for their selection and care.
3. Acquire awareness on the use of textiles in home furnishings.

## COURSE OUTCOME

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Recall the basic stitches and demonstrate the application of seams and fullness.	K1, K2, K4
CO2	Extend and apply the concepts of seams and fullness in different types of curtains and draperies.	K1, K2, K3,
CO3	Understand the design and choose suitable methods of repair for soft floor coverings.	K1, K2, K3

<b>CO4</b>	Categorize bedding and seating furnishings and design them aesthetically.	<b>K1, K2, K6</b>
<b>CO5</b>	Compile various accessory furnishings and select suitable textile embellishments.	<b>K3, K5, K6</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
<b>I</b>	<b>Introduction to Stitching</b> a. Basic Seams: Plain, Top stitched Seam, Lappet Seam. b. Seam Finishes: Pinked, Overcast, Herringbone, and Edge Stitched Seam. c. Introduction to Fullness Pleats - Box, Inverted and Pinch pleats Gathers - Gathering by Hand and Machine. Prepare an album of samples of seams, seam finishes and fullness.	<b>10</b>
<b>II</b>	<b>Window Treatments</b> a. Types of Curtains: Glass, Tie-Backs, Café, Casement, Criss-cross, Tier and Sheer Curtains. b. Types of Draperies: Panel, Valence, Cornice, Swags and Cascades. Application of suitable seams and fullness to construct any two types of curtains and any two types of draperies.	<b>15</b>
<b>III</b>	<b>Soft floor Coverings</b> a. Carpets and Rugs, Accent and Spot Rugs. Rugs based on shapes and sizes. b. Carpets based on construction - Woven and Non-woven. Repair of Carpets and Rugs - Mending, Darning, Appliqué and Patchwork.	<b>20</b>
<b>IV</b>	<b>Bedding and Seating Furnishings</b> a. Bed linens, Pillow covers, Quilts, Slipcovers, Cushion covers and Upholstery. b. Construction of Pillow Cover, Cushion Cover and Bolster c. Decoration of Bedding and Seating Furnishings i) Basic Hand Embroidery Stitches: Outline stitches - Running, Back, Stem Looped Stitches: Chain, Blanket, Feather Knot Stitches: Bullion, French Flat Stitches: Satin, Long and Short ii) Traditional Embroidery: Chikankari of Lucknow, Kanta of Bengal, Phulkari of Punjab, Kasuti of Karnataka and Kashida of Kashmir Application of Basic hand Embroidery stitches on pillow covers. Application of any one Traditional Embroidery on cushion covers or bolsters, tablecloth handkerchief bedspread shawl.	<b>15</b>

V	<b>Accessory Furnishings</b> a. Wall hangings, tablecloths, table runners, throw blankets, lamp covers, vases, tapestries and accent furniture. Visit Home Furnishing Centres and collect swatches of home furnishings. Prepare a catalogue using swatches of home furnishings.	<b>15</b>
<b>Total</b>		<b>75</b>

## REFERENCES

1. “Soft Furnishings Room by Room” (2000), Eaglemoss Publications Limited, United States.
2. Mathews, M. (2005), “Practical Clothing Construction Part I & II”, Cosmic Press, Chennai.
3. Mehta, R.J (2010), “Masterpieces of Indian Textiles”, B.B Taraporewala & Sons Pvt. Ltd, India.
4. Philips. B., (2000), “Hamlyn Book of Decorating”, Octopus Publishing Ltd., London.
5. Shailaja D. Naik, (1997) “Traditional Embroideries of India”, P.H Publishing Corporation, New Delhi.
6. Wilhide, E and Copestick, I., (2000), Contemporary Decorating, Conron Octopus Ltd., London

## E- LEARNING RESOURCES

- <http://www2.ca.uky.edu/agcomm/pubs/fcs2/fcs2304/fcs2304.pdf>
- [https://conservancy.umn.edu/bitstream/handle/11299/168709/mn\\_2000\\_eb\\_264.pdf;sequence=1](https://conservancy.umn.edu/bitstream/handle/11299/168709/mn_2000_eb_264.pdf;sequence=1)
- <http://cepc.co.in/>
- [https://sites.create-cdn.net/sitefiles/20/6/6/206653/Making\\_an\\_overlap\\_cushion\\_cover.\\_Colour\\_pics.\\_July\\_2017.pdf](https://sites.create-cdn.net/sitefiles/20/6/6/206653/Making_an_overlap_cushion_cover._Colour_pics._July_2017.pdf)
- <https://catalogimages.wiley.com/images/db/pdf/9780470101490.excerpt.pdf>
- <https://www.momtastic.com/family/diy-for-moms/diy-for-home/104055-revamp-your-lamp-how-to-make-a-pretty-lampshade-cover/>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	M	S	M	M	S	S
<b>CO2</b>	M	S	M	M	S	S
<b>CO3</b>	M	S	W	M	S	S
<b>CO4</b>	M	S	W	M	S	S
<b>CO5</b>	M	S	W	M	S	S

**CODE:**  
**CORE 7**  
**PAPER 7 – SUSTAINABILITY IN BUILDING SCIENCE**

**Time/Hrs: Theory: 5 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the importance of sustainability in the built environment.
2. Analyze the features of various materials that can be used to attain sustainability in buildings.
3. Get familiar with energy conservation and rating systems in buildings

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Analyse the role of sustainability in human health & environment.	<b>K1, K3, K4</b>
<b>CO2</b>	Identify the materials that can reduce energy consumption in buildings.	<b>K2, K3, K4</b>
<b>CO3</b>	Discuss various construction strategies in buildings for sustainability.	<b>K1, K2, K4, K5</b>
<b>CO4</b>	Analyse the ways of conserving water in the built environment.	<b>K1, K2, K4, K5</b>
<b>CO5</b>	Examine the ways of implementing energy conservation in buildings.	<b>K1, K2, K4</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Concept of Sustainability</b> Sustainable building technology – Meaning, need for developing sustainable building concept in India, Importance of sustainable building technology, benefits of green buildings – environmental benefits, economic benefits, social benefits, Disadvantages of green buildings. Impact of sustainable building on human health and the natural environment.	15
II	<b>Eco friendly building materials &amp; Finishes</b> Environmental impact study of building materials and finishes about composition, production, recycling and physical properties. Benefits of materials & finishes – Bamboo, straw bale, steel, wood, dimension stone, recycled plastic, Recycled stone, non-toxic metals, fly ash bricks, precast concrete slabs, Earth blocks-compressed, rammed earth and baked; flax linen, sisal, wood fibers, cork, coconut, non- VOC paints and polyurethane block, gypsum, cork, hempcrete, ferrock & timbercrete.	15
III	<b>Sustainable Construction techniques</b> Daylighting Passive heating methods: Direct solar gain, thermal mass, massing and orientation, trombe wall construction Passive cooling methods: Natural ventilation – single sided, cross ventilation, stack effect; cooling tower, earth air tunnels, shading devices, courtyard effect, evaporative cooling, insulation. Cool roofs and roof ponds.	20
IV	<b>Water conservation</b> Water conservation technology – need for water conservation, Difference between water conservation and water efficiency, Strategies to save water at home. Rain water harvesting- meaning, importance of rain water harvesting, requirements of rain water harvesting structure, methods of rainwater harvesting systems – surface runoff and Roof top rainwater harvesting, advantages, Greywater usage.	15
V	<b>Energy conservation &amp; rating systems</b> Building regulations-norms and standards, zoning, housing for special groups and areas, housing finance. Housing and environment - building materials - impact on environment, green rating systems - ECBC, NBC, GRIHA, IGBC, BEE energy efficiency in buildings, energy auditing, indices of indoor comfort.	10
<b>Total</b>		<b>75</b>

## REFERENCES

1. J. Paul Guyer (2015), An Introduction to Water Conservation for Buildings, Createspace Independent Pub
2. Kathryn Rogers Merlino (2020), Building Reuse: Sustainability, Preservation, and the Value of Design (Sustainable Design Solutions from the Pacific Northwest), University of Washington Press
3. Liliane Wong (2016), Adaptive Reuse: Extending the Lives of Buildings, Birkhäuser Publishers
4. Lori Dennis (2021), Green Interior Design: The Guide to Sustainable High Style, Allworth Publishers
5. Umberto Desideri & Francesco Asdrubali (2018), Handbook of Energy Efficiency in Buildings: A Life Cycle Approach, Butterworth-Heinemann Publishers

## E- LEARNING RESOURCES

- [https://content.kopykitab.com/ebooks/2018/09/22255/sample/sample\\_22255.pdf](https://content.kopykitab.com/ebooks/2018/09/22255/sample/sample_22255.pdf)
- [https://library.uniteddiversity.coop/Ecological\\_Building/Strategies\\_for\\_Sustainable\\_Architecture.pdf](https://library.uniteddiversity.coop/Ecological_Building/Strategies_for_Sustainable_Architecture.pdf)
- [https://s3.ap-south-1.amazonaws.com/aipnpc.org/downloads/T\\_5053\\_GENERAL\\_ASPECTS\\_OF\\_ENERGY\\_MANAGEMENT\\_AND\\_ENERGY\\_AUDIT.pdf](https://s3.ap-south-1.amazonaws.com/aipnpc.org/downloads/T_5053_GENERAL_ASPECTS_OF_ENERGY_MANAGEMENT_AND_ENERGY_AUDIT.pdf)
- <https://www.grihaindia.org/sites/default/files/pdf/ECBC-Code.pdf>
- <https://www.hyderabadwater.gov.in/en/themes/HMWS/downloads/rainwaterharvesting.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	M	M	W	S
CO2	S	S	M	M	W	S
CO3	S	S	M	W	M	S
CO4	S	S	M	M	M	S
CO5	S	S	M	M	M	S

**CODE:**  
**CORE 8**  
**PAPER 8 – TEXTILE SCIENCE**

**Time/Hrs: Theory: 5 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the processes of manufacture of textile fibers and yarns.
2. Become familiar with the types of yarns, their properties and usage.
3. Acquire a broad awareness of textile uses in home furnishings.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Recall the basic concepts of classification and properties of textile fibers and describe the method of manufacture.	<b>K1, K2</b>
<b>CO2</b>	Classify the various types of yarn and summarize the steps of yarn manufacture.	<b>K2</b>
<b>CO3</b>	Illustrate the parts of a loom and weaving mechanism and categorize the different types of weaves.	<b>K3, K4</b>
<b>CO4</b>	Analyze the concepts of dyeing, printing and finishing and compile them according to their application, manufacture on the environment and utility.	<b>K5, K6</b>
<b>CO5</b>	Evaluate the impact of textiles on the environment.	<b>K5</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		



## THEORY

Unit No	CONTENT	No of hours
I	<b>Fiber Study</b> Classification of textile fibers - natural and man-made fibres. Essential properties of textile fibers - primary and secondary properties. Manufacturing process and uses of natural fibres - cotton, jute, silk, wool. Manufacturing process and uses of synthetic fibres – polyester, rayon and nylon.	15
II	<b>Yarn Study</b> Definition of yarn, Steps involved in the processing of yarn. Classification of yarns: Based on length - Staple and Filament Yarns, Based on number of parts in a yarn - Simple yarns (simple, ply and doubled, cable) and Novelty yarns (slub, flake, spiral, ratine, boucle, knot and chenille) Based on Twist - S twist and Z twist	15
III	<b>Weaving</b> Definition of Warp and Weft. Parts of a loom. Basic weaving operations. Basic fabric weaves - Plain, Twill, Satin. Fancy Weaves - Jacquard, Leno, Double Cloth, Lappet, Swivel, Spot and Pile.	10
IV	<b>Dyeing, Printing and Finishing</b> The definition of dyeing, difference between dyeing and printing. Classification of Dye - Natural and Synthetic. Methods of dyeing - Stock, Top, Yarn and Piece dyeing. Styles of printing - Direct - Block, Roller and Duplex printing, Discharge - Blotch, Photo and Resist printing - Tie and dye, Batik, Stencil and Screen printing. Definition of finishes, classification of finishes, types of finishes - scouring, bleaching, tentering, calendaring, sizing, mercerizing, napping and sanforizing.	20
V	<b>Textiles and the environment</b> Ecofriendly Dyes: Natural - Vegetable, Herbal, Fruit based and Mineral. Advantages of natural Dye over synthetic Dye. Banned Dye and environmental harm reduction. Sustainable textiles: Description and applications of Organic Cotton, Lyocell, Tencel, Spandex, Bamboo and Carbon fibers. Growth and applications of Nano textiles and Technical textiles.	15
<b>Total</b>		<b>75</b>

## REFERENCES

1. Bernard, B. Corbman (2002), "Fibre to Fabric", Mc Graw Hill Company Inc, Singapore.
2. Dantyagi. S (2004), "Fundamentals of Textiles and their Care", V edition, Orient Longman, India.
3. Horrock AR and S. C. Anand (2000)" Handbook of technical textiles", The Textiles Institute, Wood Head Publishing Ltd, England.
4. Marjory, L. Joseph (1986), "Introductory Textile Science", Holt, Rhinehart and Winston, New York.
5. Pizzuto's, J.J (2010), "Fabric Science", 9<sup>th</sup> Edition, Fairchild Books, U.S.A.
6. Wynne, A (1997)"The Motivate Series, Textiles" Macmillan, Hongkong.

## E- LEARNING RESOURCES

- [www.fibersource.com/fiber-world-classroom/manufacturing](http://www.fibersource.com/fiber-world-classroom/manufacturing)
- <https://www.slideshare.net/namit129/lyocell-final-ppt-28-1013?>
- [textilelearner.blogspot.com/2012/03/carbon-fiber-characteristicsproperties.html](http://textilelearner.blogspot.com/2012/03/carbon-fiber-characteristicsproperties.html)
- [gpktt.weebly.com/classification-of-textile-fibers.html](http://gpktt.weebly.com/classification-of-textile-fibers.html)
- [www.fibre2fashion.com Knowledge Article](http://www.fibre2fashion.com/Knowledge/Article)
- <https://textileapex.blogspot.com/2014/08/polymer.html>
- [textilelearner.blogspot.com/2011/07/dyeing-process-different-types-of-dye\\_1720.html](http://textilelearner.blogspot.com/2011/07/dyeing-process-different-types-of-dye_1720.html)
- [www.makeinindia.com/article/-/v/technical-textiles-a-bright-future](http://www.makeinindia.com/article/-/v/technical-textiles-a-bright-future)
- [www.technicaltextile.net Articles Nonwovens](http://www.technicaltextile.net/Articles/Nonwovens)
- [www.technicaltextile.net Articles Sports Textiles](http://www.technicaltextile.net/Articles/Sports%20Textiles)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	S	M	M	S	W
CO2	W	S	M	M	S	W
CO3	W	S	M	M	S	W
CO4	M	S	M	M	M	M
CO5	M	S	M	M	W	S

**CODE:**

**CORE 9**  
**PAPER 9 – HOUSEHOLD EQUIPMENT**

**Time/Hrs: Theory: 5 Hrs**  
**Credits: 4**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Learn about the classification and selection of common household equipment.
2. Enumerate the methods for proper use, care and maintenance of equipment.
3. Get an overview of smart home technologies under household equipment.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand and apply the selection criteria in purchase of common household equipment.	<b>K2,K3</b>
<b>CO2</b>	Analyse and implement the proper care and maintenance of all major equipment.	<b>K1,K3,K4</b>
<b>CO3</b>	Enumerate the methods for proper care and maintenance of minor equipment.	<b>K1,K3,K4</b>
<b>CO4</b>	Highlight the concepts, uses, types of electric household equipment.	<b>K1, K2</b>
<b>CO5</b>	Identify and analyze the need for smart home gadgets and automation in modern living.	<b>K1, K3, K4</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Household Equipment's</b> - Concept, importance, uses, Influence of household equipment in modern family life, Selection criteria of household equipment's-Specification, time, money and energy saving, quality, durability, features, colour and design, safety, cost, Ease of Service, size, brand, space storage, Ease of cleaning, Ease of use, warranty and guarantee. Conservation of Fuel, Electricity and Water.	20
II	<b>Major equipment's</b> - Uses, Merits and Demerits, Care and Maintenance. Ranges, Stoves, Refrigerator, Washing machines, Dish washers, Food Waste Disposers and Vacuum Cleaner. Significance of Labour-saving equipment.	15
III	<b>Minor equipment's</b> - uses, care and maintenance, Merits and demerits. Measuring cups, Peelers, mincers, choppers, Spatula, pots, pans, knives - types - knife sharpener, whisks, bowls, Juice extractor, Hand food mixer, whisk, spoons and strainer/colander. <b>Materials of Kitchen Utensils and Equipment:</b> Iron, Cast Aluminum, Copper bottom, Laminated steel bottom, Glass, Ceramic, Nonstick pan, Steel pot, Plastic, Earthenware, Wood and stone.	15
IV	<b>Electric devices</b> – meaning and its uses, merits and demerits. electronic ignition, electrical garage door, opener, Blender, Knife sharpener, Electric toaster, electric kettle, Rice cooker, Coffee Maker, Waffle maker, Toaster, Sandwich maker, Micro oven and food processor.	10
V	<b>Smart home gadgets</b> – concept, need for smart home gadgets – Comfort or ease of control, Entertainment, Security, Convenience at all time, lifestyle personalization and user friendly, Challenges and benefits. Home automation system, Lighting automation system, Curtain automation system, Security and alarm system, Window and Door Control system, Remote control system, and Surveillance camera.	15
<b>Total</b>		<b>75</b>

## REFERENCES

- Bhargava S.C (2020), Household Electricity and Appliances, BS Publications, ISBN-13: 978-9390211265.
- Eric Kleinert, (2012), “Troubleshooting and Repairing Major Appliances”, Edition 3, McGraw-Hill Professional Publishing, ISBN-13: 9780071770187
- Helen Woodard (2016), “Selection of Household Equipment” Wentworth press, ISBN-13:978-1372591389
- Jean B MacLeod (2018), “The Kitchen Paraphernalia Handbook: Hundreds of Substitutions for Common and Uncommon Utensils” Jean B. MacLeod ISBN-13: 978-0997446432
- Chin Robert (2020), “ A DIY Smart Home Guide: Tools for Automating Your Home Monitoring and Security Using Arduino, ESP8266, and Android (ELECTRONICS)”, ISBN-13: 978-1260456134

## E- LEARNING RESOURCES

- <https://www.slideshare.net/loggcity/smart-home-technologies>
- <https://nios.ac.in/media/documents/srsec321newE/321-E-Lesson-16.pdf>
- <https://www.trendhunter.com/slideshow/home-appliances>
- <https://www.aylanetworks.com/blog/what-is-a-smart-appliance-and-how-do-you-make-one>
- <https://www.spencerstv.com/blog/7-benefits-of-smart-home-appliances>
- [http://www.dleindia.in/?gclid=CjwKCAjwq5-WBhB7EiwAl-HEkhi\\_zVGOWRxlqFXrwAx\\_MuUL8cD2fL7KdbgLiW7EF66E1-Y3Yg2rFRoC1XsQAvD\\_BwE](http://www.dleindia.in/?gclid=CjwKCAjwq5-WBhB7EiwAl-HEkhi_zVGOWRxlqFXrwAx_MuUL8cD2fL7KdbgLiW7EF66E1-Y3Yg2rFRoC1XsQAvD_BwE)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	M	M	M
CO2	S	S	S	M	M	M
CO3	S	S	S	M	M	M
CO4	S	S	S	M	M	M
CO5	S	S	S	M	M	M

**CODE:**  
**ELECTIVE 1: INTER DISCIPLINARY 1**  
**PAPER 10 – RESEARCH METHODOLOGY AND APPLIED STATISTICS**

**Time/Hrs: Theory: 2 Hrs, Practical: 2 Hrs**  
**Credits: 3**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the fundamental principles and techniques in Research Methodology.
2. Get an overview of the methodologies used in research.
3. Apply statistical procedures to analyze numerical data and draw inferences

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Understand Research and its characteristic features and explore the different types of research design. Analyze the research problems and formulate suitable Hypothesis.	K1, K2, K4
CO2	Analyze different sampling techniques and selecting the suitable sampling technique for data collection.	K2, K3, K4, K5, K6
CO3	Identify methods of Data collection using scaling techniques and assessment of data.	K2, K3, K5
CO4	Process and Analyze data using statistical analysis and SPSS software.	K2, K4, K6
CO5	Present research data in a scientific manner and understand the key elements of a research report.	K1, K2, K3, K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create		

## THEORY

Unit No.	CONTENT	No. of hrs.
I	<p><b>Research Formulation and Design:</b> Meaning of Research - objectives of Research – Characteristics of Research – Significance of Research. Steps involved in Research – Types of research – Descriptive - vs. Analytical, Applied vs. fundamental, Quantitative vs. Qualitative, Conceptual vs. Empirical, Exploratory research. Steps involved in the Research Process. Importance of Ex-post Facto research design.</p> <p><b>Research design:</b> Identification of Research problem, Developing research proposal, need and scope of the research design. Variable: Dependent variable, independent variable, extraneous variable. Hypothesis - Definition, types - null and alternate hypothesis</p>	20
II	<p><b>Sampling design:</b> definition of sample, Determine Sample size, types of sampling design- probability sampling- simple random, complex random, stratified sampling, multistage sampling and non-probability sampling - deliberate sampling, purposive sampling, convenience sampling and judgment sampling.</p>	15
III	<p><b>Methods of data collection</b> – Collection of Data - Preparation of tools for data collection –</p> <p>Primary Data - questionnaire, interview and observation.</p> <p>Secondary Data</p> <p>1. Published Sources 2. Unpublished Sources</p> <p>Scaling technique - Nominal, Ordinal, Interval and Ratio. Validity and reliability of tools.</p> <p><b>Processing of data</b> – Editing, coding, classification &amp; tabulation.</p> <p>Descriptive analysis – Graphical and diagrammatic presentation.</p>	15
IV	<p><b>Quantitative Analysis</b>– Basic Concept and Simple Sums Measures of Central Tendency – Mean, Median &amp; Mode – Basic concept and simple sums. Measure of Dispersion - Standard Deviation.</p> <p><b>Statistical Inference</b> – Basic Concept, t – test, ANOVA – Chi – Square test – Goodness of Fit &amp; Test of Independence, Regression and Correlation.</p>	15
V	<p><b>Basics of Report writing and presentation:</b> Significance of report writing, layout of research report, Types of report – technical and popular. Journal abstract, APA format reference, Footnotes.</p>	10
<b>Total</b>		<b>75</b>

## Practicals

1. Create e- form for survey method
2. Analysis: Cross Tabulation, Frequency, Mean, Median, Mode,
3. Correlation, t test, ANOVA (F test), Chi-Square
4. Graphical and diagrammatic representation of tables
5. Applicable Statistical Analysis Software-  
Literature Searching-PubMed  
Data Analysis- Micro Soft Excel, SPSS, Plagiarism Checker –Turnitin, Scribbr  
Reference Manager - Mendeley

## REFERENCES

1. Gupta, S.P., (2021) Statistical Methods, Sultan Chand and Sons, New Delhi,
2. John W Creswell & David Creswell (2018) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches Sage Publications
3. Kerlinger F. N. and Lee, H.B. (2000) Foundations of Behavioural Research 4th Ed. Harcourt College Publishers
4. Kothari, C. R. (2019) Research Methodology: Methods and Techniques 2nd Ed. New Age International Pvt Ltd, New Delhi.
5. Kumar R. (2005) Research Methodology: A Step by Step Guide for Beginners. Sage Publications, New Delhi.
6. R Paneerselvam (2014) Research Methodology, PHI learning

## E-LEARNING RESOURCES

- <https://southcampus.uok.edu.in/Files/Link/DownloadLink/RM%20U1%20P1.pdf>
- <https://ccsuniversity.ac.in/bridge-library/pdf/Research-Methodology-CR-Kothari.pdf>
- [https://www.researchgate.net/publication/303381524\\_Fundamentals\\_of\\_research\\_methodology\\_and\\_data\\_collection](https://www.researchgate.net/publication/303381524_Fundamentals_of_research_methodology_and_data_collection)
- [https://www.researchgate.net/publication/333015026\\_Chapter\\_3\\_-\\_Research\\_Methodology\\_and\\_Research\\_Method](https://www.researchgate.net/publication/333015026_Chapter_3_-_Research_Methodology_and_Research_Method)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	M	M	S	W	S
CO2	W	M	M	S	W	S
CO3	W	M	M	S	S	S
CO4	W	M	M	S	W	S
CO5	W	M	M	S	S	S



**CODE:**  
**ELECTIVE 1: EXTRA DISCIPLINARY 1**  
**PAPER 11 – ADVANCED GRAPHIC DESIGN**

**Time/Hrs: Theory: 2 Hrs, Practical: 2 Hrs**  
**Credits: 3**

**Year: I**  
**Semester: II**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Acquire basic knowledge of drawing and sketching exercises.
2. Know and effectively use photography, calligraphy and typography in developing logos and poster designs.
3. Explore various social media and digital apps used in promoting brand names.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand the concept of drawing and sketching and know the basic material and mediums used for sketching.	<b>K1, K2</b>
<b>CO2</b>	Create Logos and posters using graphic design.	<b>K1, K2, K6</b>
<b>CO3</b>	Apply calligraphy and typography in developing graphic design.	<b>K3, K4</b>
<b>CO4</b>	Choose social media for brand promotion.	<b>K3, K4</b>
<b>CO5</b>	Visualize interior design themes through digital apps.	<b>K5, K6</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Drawing &amp; sketching</b> – Meaning and concept, Materials - Different sketching techniques and drawing mediums - Pencil and its types, Charcoal, Pastels, types of Paints. Usage of different points of pencils, handling of pencils. Drawing sheets and its sizes.	15
II	<b>Graphic Design</b> - Introduction, Types - Booklets, Brochures, Posters. Roles and responsibilities of graphic designer. Logo Design - Definition and its importance, Types of Logos, Guidelines for creating logos.	20
III	<b>Photography</b> - Definition, Importance of photography in Graphic Design, Effective Ways of using Photography in graphic design. Calligraphy - Definition, Styles of calligraphy, Equipment used in calligraphy. Typography - Definition, Styles of fonts - Formal, Informal, Creative lettering.	15
IV	<b>Branding</b> - Concept, Importance of branding, Selection of Brand elements, Methods of Branding, Choosing social media for brand promotion. Packaging for products.	15
V	<b>Visualization</b> - Visualizing interior design themes and implementing them through digital apps. Ideation, Mood board - types - Digital and physical, Components of mood board.	10
<b>Total</b>		<b>75</b>

## PRACTICALS:

1. Pencil exercises
2. Creation of logos, poster making.
3. Calligraphy and typography.
4. Designing Web page and creating designs using digital apps.
5. Creating mood boards, Swatch board

## REFERENCES

1. George Hlavacs (2022), “The Exceptionally Simple Theory of sketching”, BIS; Expanded edition, ISBN-13: 978-9063696405
2. Gilles Ronin (2019), “Drawing for Interior Designers”, Herbert Press, ISBN-13: 978-1789940053
3. Jorge Paricio Garcia (2019), “Hybrid Drawing Techniques for Interior Design”, Routledge; 1st edition, ISBN-13: 978-1138280663
4. Koos Eissen and Roselien Steur (2019), “Sketching: the basics”, BIS; Illustrated edition, ISBN-13: 978-9063695347
5. Robert Philip Gordon (2016), “Integrated Drawing Techniques: Designing interiors with Hand Sketching”, Fairchild Books, ISBN-13: 978-1628923353
6. Stephanie Travis (2015), “Sketching for Architecture, Interior Design”, Laurence King Publishing, ISBN-13: 978-1780675640

## E-LEARNING RESOURCES

- Cowling & Wilcox (2020), “A Guide to Pencil Sketching Techniques”, <https://www.cowlingandwilcox.com/blog/2020/05/28/a-guide-to-pencil-sketching-techniques/>
- Susie Hodge and Lan Sidaway (2019), “The Pencils, Papers and Erasers you need to start drawing”, <https://www.artsy.net/article/artsy-editorial-pencils-papers-erasers-start-drawing>
- Casey Schmidt, (2020), “5 Methods of Branding that could make all the difference”, <https://www.canto.com/blog/methods-of-branding/>
- Arek, (2022), “10 ways to Use Photography in Graphic Design”, <https://www.ebaqdesign.com/blog/graphic-design-photography>
- Farkas (2022), “Graphic Design- Principles of Web Design”, <https://faculty.washington.edu/farkas/dfpubs/Farkas-Farkas-Graphic%20Design-Ch11Principles%20of%20Web%20Design.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	W	W	S	S	W
CO2	M	W	M	S	S	W
CO3	M	W	M	S	S	W
CO4	M	W	W	S	S	W
CO5	S	W	W	S	S	M

**CODE:**

**CORE 10**  
**PAPER 12 – 3D MODELLING IN DESIGN (Practicals)**

**Time/Hrs: Practical: 6 Hrs**  
**Credits: 4**

**Year: II**  
**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the application of 3D Modeling & thereby upgrade their presentation skills in the design field.
2. Analyze the features of various tools in Google Sketch up for 3D Modeling
3. Create rendered 3D views using 3ds Max Software

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Outline the importance of 3D Modeling in designing spaces. Analyse the features of different software's available for 3D Modeling.	<b>K1, K2, K4</b>
<b>CO2</b>	Interpret the user interface of Google Sketch up software. Examine the uses of tools available for creating 3D models. Create 3D models for residential or commercial buildings using the tools available.	<b>K2, K4, K6</b>
<b>CO3</b>	Identify different materials and finishes available and utilize them as per the requirements and evaluate the light and camera settings for 3D views.	<b>K3, K5, K6</b>
<b>CO4</b>	Create rendered 3D views both interior and exterior spaces using Google Sketch up. Outline the features of 3Ds Max software	<b>K1, K2</b>
<b>CO5</b>	Create rendered 3D views of residential and commercial spaces using 3Ds Max.	<b>K3, K5, K6</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## PRACTICAL

Unit No	CONTENT	No of hours
I	<b>Concept of 3D Modeling</b> <ol style="list-style-type: none"> <li>Need &amp; purpose of 3D models and views in the design field.</li> <li>Overview on different software's &amp; plugins used for 3D modeling - Google Sketchup, 3Ds Max, Revit, Vray.</li> </ol>	10
II	<b>User Interface of Google Sketch up</b> <ol style="list-style-type: none"> <li>Components of Google Sketchup screen</li> <li>Basic tools - Rectangle, Circle, Select, Pencil, Push-pull, Groups, Components, Move, Array, Copy, Rotate, Offset &amp; Paint bucket</li> <li>Navigation tools - Zoom, Orbit, Pan</li> <li>Creating the components of a building such as walls, doors, window openings, furniture's using the available rooms</li> </ol>	25
III	<b>Materials &amp; Lighting</b> <ol style="list-style-type: none"> <li>Creating and applying materials to the models created.</li> <li>Exploring setting options in lights and camera tools.</li> <li>Create rendered views by using Vray plugin</li> </ol>	25
IV	<b>Overview of 3Ds Max</b> <ol style="list-style-type: none"> <li>User Interface of 3Ds Max</li> <li>Compare the features of 3Ds Max with Google SketchUp</li> </ol>	10
V	<b>Rendering using 3Ds Max</b> <ol style="list-style-type: none"> <li>Import of 3D models from Google Sketchup</li> <li>Create 3D rendered views after applying materials, set the lights and camera positioning.</li> </ol>	20
<b>Total</b>		<b>90</b>

## REFERENCES

1. Aidan Chopra, SketchUp 2014 For Dummies, John Wiley & Sons
2. Alexander C. Schreyer, Architectural Design with SketchUp: 3D Modeling, Extensions, BIM, Rendering, Making, and Scripting 2nd Edition, Wiley Publishers.
3. Daniel Tal, Rendering in SketchUp: From Modeling to Presentation for Architecture, Landscape Architecture, and Interior Design, Wiley Publishers.
4. Kelly L. Murdock, Autodesk 3ds Max 2020 Complete Reference Guide, SDC Publications
5. Markus Kuhlo, Architectural Rendering with 3ds Max and V-Ray: Photorealistic Visualization 1st Edition, Routledge Publishers.

## E- LEARNING RESOURCES

- <https://www.sketchup.com>
- <https://vdoc.pub/download/building-blocks-of-sketchup-69si3ltjgke0>
- <https://www.bgsu.edu/content/dam/BGSU/libraries/documents/collab-lab/Sketchup-Tutorial.pdf>
- [https://www.academia.edu/31650716/Architectural\\_Rendering\\_with\\_3ds\\_Max\\_and\\_V-Ray](https://www.academia.edu/31650716/Architectural_Rendering_with_3ds_Max_and_V-Ray)
- [http://images.autodesk.com/adsk/files/3dsmax\\_2010\\_lighting\\_rendering.pdf](http://images.autodesk.com/adsk/files/3dsmax_2010_lighting_rendering.pdf)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	W	W	S	S	W
CO2	S	W	W	S	S	W
CO3	S	S	W	S	S	M
CO4	S	W	W	S	S	W
CO5	S	W	W	S	S	S

**CODE:**

### CORE 11 PAPER 13 - COMMERCIAL INTERIORS

**Time/Hrs: Theory: 4 Hrs, Practical: 2 Hrs**

**Year: II**

**Credits: 4**

**Semester: III**

## LEARNING OBJECTIVES

**To enable the students to**

1. Learn about the importance and application of principles of art for commercial purpose.
2. Understand the technical need and specialised features for commercial buildings.
3. Know the holistic approach in commercial architecture.

## COURSE OUTCOME

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Outline the importance of commercial interior space design and analyse various materials used both in interior and exterior.	K1, K2, K4
CO2	Apply art in commercial space designing and planning based on various purpose. Create 3D miniature models for commercial buildings with suitable materials.	K3, K6
CO3	Understand the various technical services in commercial high-rise building.	K1, K2, K3
CO4	Describe the need of specialised facilities for commercial building.	K1, K2
CO5	Discuss the holistic approach in commercial architecture. Outline the goals of designing commercial buildings.	K1, K2, K4, K5,
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Introduction to commercial interior space design</b> Definition, Purpose, Importance of commercial interior design. Factors influencing the design of buildings – Type of Building, Location, Nature of Activity, Customers and Clients. Materials used in designing commercial interior spaces.	15
II	<b>Art in Commercial Space</b> – Planning space for various commercial requirements - Public space Vs. Private Space, Designing Aesthetic and functional aspects in Mall, Restaurant, Hotel, Theatres, Bank, Airport, Hospital, Educational Institutions, Offices and Computer Centers.	20
III	<b>Technical Services for Commercial Building</b> – Need of Technical Service, Selection of Suitable air conditioning, mechanical system - HVAC, Security system, Simple intrusion detection, Access control and Surveillance systems and communication system – EPABX, Wireless Intercomand Door Phone Intercom.	25
IV	<b>Specialised Facilities for commercial buildings</b> – Need of specialised facilities, Amenities - Elevator, Lift, Ramps, Basement Parking. Plumbing system – Aspects of plumbing system, Public Toilets, lighting, Emergency lighting staircase and evacuation routes. Building safety system – Fire Safety, Automatic Fire Sprinkler system, Fire Alarm and smoke alarm.	15
V	<b>Holistic Approach in Commercial Design.</b> Importance of Holistic design approach for commercial interiors. Designers and Steps in the design process. Goals of well-designed commercial interior – Healthy, Security and Safety, Comfort, Reliability, Flexibility, Brand Image and Equality. Design Issues – Accessible design, Facilities for operations and maintenance, Recent trends to support emerging technologies.	15
<b>Total</b>		<b>90</b>

## PRACTICALS

1. Collection of materials used for designing interior space.
2. Model making of commercial building.
3. Visit to shops to identify the eco-friendly materials and their cost in the market.
4. Built a demo model on Rainwater harvesting system.
5. Prepare chart on the rating methods of government agencies.

## REFERENCES

1. Bonda P., Sosnowchik K., Sustainable commercial interiors, 2014, 2nd Edition, John Wiley and sons.
2. Buildings Energy Efficient Lighting by David Nelson, AIA David Nelson & Associates, Last updated: 07-23-2010
3. Mark karlen, James Benya, Lighting design basics, 2004, John wiley and sons Inc USA.
4. Sangeet Sharma, Architectural Aesthetics, 2005, Abhishek publications, India.

## E- LEARNING RESOURCES

- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119114>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119115>
- <http://ecoursesonline.iasri.res.in/course/view.php?id=664>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119113>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119097>
- <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=119099>
- <https://www.jietdat.ac.in/blog/what-is-the-scope-of-interior-designing>
- <https://www.workdesign.com/2013/04/7-design-trends-for-commercial-interiors/>
- <https://study.com/academy/lesson/what-is-commercial-interior-design.html>
- <https://www.mooc-list.com/tags/water-supply>
- <https://www.mooc-list.com/tags/sanitation-policy>
- <https://core.ac.uk/download/pdf/83574285.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	M	W	M	M
CO2	S	M	M	S	S	M
CO3	S	M	S	S	S	M
CO4	S	S	S	S	S	M
CO5	S	S	S	S	S	M



**CODE:**

**CORE 12**

**PAPER 14 - RESOURCE MANAGEMENT & CONSUMER ISSUES**

**Time/Hrs: Theory: 6 Hrs**

**Year: II**

**Credits: 4**

**Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the Concepts, Significance and Principles of Resource Management.
2. Apply the skills in efficient use and management of time, energy and Money.
3. Understand Consumer behaviors, Problems and to learn the importance of consumer protection.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Identify and analyze the need for resources and apply decision making skills.	<b>K1, K3, K4</b>
<b>CO2</b>	Understand work simplification techniques and prepare time plans.	<b>K1, K2, K6</b>
<b>CO3</b>	Apply work simplification techniques for efficient use of energy.	<b>K2, K3</b>
<b>CO4</b>	Develop skills to prepare a budget within the available income and to maintain accounts.	<b>K1, K2, K6</b>
<b>CO5</b>	Highlight the need of consumer protection by understanding and identifying the consumer behavior & problems.	<b>K1, K2</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Resource Management</b> – Definition, concept, approaches, characteristics, factors affecting use of resources, motivating factors and motivation theories. Functions of management process - planning, supervision, controlling, organizing, evaluation. Decision making - Meaning and its importance, Types of decisions, Decision making process, Methods of resolving conflicts.	25
II	<b>Human resource management</b> - functions, need, manpower planning, training need assessment, training methodologies, training evaluation. Time management – Definition, concept, work simplification techniques, Tools in time management- Time norms, Peak loads, Work Curves and rest periods, Time management process – Time plans - Planning - Steps in making time plans - Controlling the planning action - Evaluation.	15
III	<b>Energy Management</b> - Energy requirements for household activities, Fatigue-concepts, Types - Physiological and Psychological fatigue and Managerial process applied to energy. Work Simplification - Definition, Importance, Techniques - Process chart, Operation chart, Multiman chart and cycle graph techniques - Mundel's Classes of change - Planning efficient work areas-kitchen.	15
IV	<b>Money management</b> - Money Management - Family Income - Types, sources and methods of augmenting family income. Family Expenditure - Budget - Meaning - Types of budget, Planning a budget for a family of a fixed income, advantages of budgeting, Factors affecting family budget, Engel's law of consumption, methods of handling money - Family financial records, Savings- importance and types of savings.	20
V	<b>Consumer-definition</b> , Role, Rights and Responsibilities, Consumer behavior, Consumer problems, Education and Empowerment. Consumer protection- consumer organization, cooperatives, alternative redressal, standardization, standard marks, quality control, buying aids, consumer legislation.	15
<b>Total</b>		<b>90</b>

## REFERENCES

1. Bela Bhargava (2005), "Family resource Management & Interior Decoration", university book house pvt ltd, ISBN-13: 978-8187339229
2. Marion Giordan(2016), "Consumer Education: A handbook for Teachers", Routledge; 1st edition, ISBN-13: 978-1138839151
3. Nickell & Dorsey(2002), "Management in Family Living", CBS; 4th edition, ISBN-13: 978-8123908519
4. Rao (2020), "Taxmann's Human Resource Management", Taxmann Publications Pvt. Ltd.; 2nd edition, ISBN-13: 978-9390128396
5. Ready GB (2021), "EBC consumer Protection Act", LAW BOOKS, ASIN: B097TQ64QV
6. Seetharaman P, (2019), "An Introduction to Family Resource Management", CBS (11 July 1905); 01149344934, ISBN-13: 978-8123911861
7. Steven, D.S, (2016). Consumer Economics: A Practical Overview", NewYork: Routledge Taylor and Francis group.
8. Sudhir Dixit (2018), "Time Management", Manjul Publishing House, ISBN-13: 978-9388241106

## E- LEARNING RESOURCES

- Saviom(2022), "What is Resource Management and its Importance", <https://www.saviom.com/blog/what-is-resource-management/>
- Jason Westland (2022), "Resource Management: Process, Tools & Techniques", <https://www.projectmanager.com/blog/quick-guide-resource-management>
- eGyanKosh, "Work Simplification", file:///C:/Users/sysmz/Downloads/Unit-19%20(1).pdf
- Shalu Gupta, "Work simplification", [http://homescience10.ac.in/storage/pages/ecurriculum/Bsc\\_Hsc\\_Sem\\_2/Work%20simplification.pdf](http://homescience10.ac.in/storage/pages/ecurriculum/Bsc_Hsc_Sem_2/Work%20simplification.pdf)
- Consumer Education in Resource management, <https://www.nios.ac.in/media/documents/srsec321newE/321-E-Lesson-17.pdf>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	W	W	S	M	S
CO2	M	W	W	S	M	S
CO3	M	W	W	S	M	S
CO4	M	W	W	S	M	S
CO5	M	W	W	S	M	S

**ELECTIVE 2: INTER DISCIPLINARY 2  
PAPER 15 - VISUAL MERCHANDISING**

**CODE:**

**Time/Hrs: Theory: 5 Hrs  
Credits: 3**

**Year: II  
Semester: III**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the concept of Visual Merchandising.
2. Analyse the display merchandising techniques used.
3. Analyse current trends and forecast future trends in merchandising.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Understand Visual merchandising and retailing.	<b>K1, K2, K3,</b>
<b>CO2</b>	Categorize Merchandise presentation.	<b>K2, K3</b>
<b>CO3</b>	Analyse the different types of display.	<b>K2, K3, K4</b>
<b>CO4</b>	Summarize the display merchandising techniques.	<b>K1, K2, K3</b>
<b>CO5</b>	Propose and forecast trend.	<b>K2, K3, K4, K5, K6</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Fundamentals of Visual Merchandising</b> - Visual Merchandising - Introduction, Objectives, Techniques, Visual Merchandising at different stores- Apparel store, Furniture store, Gift store. Store exteriors - store signs, façade, banners, planters, signage and awnings. Elements of display. Product display –hierarchy of product display, Exhibition spaces – display for exhibition.	15
II	<b>Material exploration-</b> Types of display- Window Display—Meaning and Scope, Vis-à-vis Merchandise, Types of Setting, Promotional Display Vs. Institutional Display, Window Display—Construction. Art principles in arrangement of display.	15
III	<b>Display Merchandising</b> - Basics of Display, Design Basics, Principles of Design, Signage, Understanding Materials, the Purpose of Planning Fixtures, Types of Fixtures. Colour Blocking & Colour Psychology - Interiors & Exteriors	15
IV	<b>Merchandise Presentation</b> - Meaning, Principles of Merchandise Presentation, Categories in Merchandise Presentation, Dominance Factor in Merchandise Presentation, Cross Merchandising.	15
V	<b>Trend analysis &amp; Forecasting</b> - Styling, Display Calendar, Sales Tracking, Handling the Props, Lighting, Organizing an In-store Event, Quality and Process in Visual Merchandising, Standard Operating Procedures (SOPs).	15
<b>Total</b>		<b>75</b>

## REFERENCES

1. Ebster Clause, Garaus Marion (2015), Store Design and Visual Merchandising, Second Edition, Business Expert Press
2. Levy, Michale & Barton A. Weitz (2009). Retailing Management. Tata Mc Graw Hill.
3. Morgan Tony (2010), Window Display: New Visual Merchandising, Laurence King Publishing
4. Murugan (2018), Retail Marketing, Thakur Publication.
5. Pradhan Swapana (2009). Retailing Management. Tata Mc Graw Hill.
6. Swati Bhalla and Anurag S (2010). Visual Merchandising. Tata Mc Graw Hill.

## E- LEARNING RESOURCES

- <http://www.slideshare.net/dianhasan/iiscm-retail-innovation-seminar-jakartaapril-8-2011>
- [www.businessdictionary.com/definition/visual-merchandising.html](http://www.businessdictionary.com/definition/visual-merchandising.html)
- [www.managementstudyguide.com/visual-merchandising.html](http://www.managementstudyguide.com/visual-merchandising.html)
- [www.rmsservicing.com/articles/what-is-visual-merchandising](http://www.rmsservicing.com/articles/what-is-visual-merchandising)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	M	W	S	S	M
CO2	M	M	W	S	S	M
CO3	M	M	W	S	S	M
CO4	M	M	W	S	S	M
CO5	M	M	M	S	S	M

**CODE:**

**ELECTIVE 2: EXTRA DISCIPLINARY 2  
PAPER 16 - RENEWABLE ENERGY RESOURCES**

**Time/Hrs: Theory: 5 Hrs**  
**Credits: 3**

**Year: II**  
**Semester: III**

## LEARNING OBJECTIVES

**To enable the students to**

1. Know the various forms of renewable energy
2. Understand the Indian and Global energy need and consumption scenario.
3. Identify the types of non-Conventional energy sources.
4. Recognize the modern techniques involved in harnessing renewable energy and its challenges
5. Acquire skills in extracting and handling renewable energy.

## COURSE OUTCOME

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Understand the theory of energy sources and the need for renewable energy in the present scenario.	K1, K2, K4
CO2	Appraise the new technological innovation and the efficiency of solar energy applications and its working principles.	K4, K5
CO3	Analyze and adapt the significance of utilizing wastes into energy.	K2, K3, K6
CO4	Evaluate the new venture of wind energy technologies and its applications	K1, K6
CO5	Compare and apply other forms of renewable energy, wave power, tidal power and geothermal principles, its applications.	K3, K6
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No.	CONTENT	No. of hrs.
I	<b>Energy as a resource</b> - conventional and non- conventional sources, renewable /non-renewable energy, energy management, national efforts on energy conservation. Need and Consumption Scenario in Renewable Energy. Forecasts for Renewable Energy. Environmental Impacts of Energy Sources.	15
II	<b>Solar Energy:</b> Sun as a Source Energy – Solar Photovoltaic Technology and Principles – Application in Solar Water Heater - Solar Dryer – Solar Distillation (Still) – Solar Pumping Systems – Solar Air Conditioning and Refrigeration – Solar Cooker – Solar Green House.	15
III	<b>Bio Energy:</b> Introduction to Biomass – Biomass Resources - Conversion Technologies – Thermal Conversion – Chemical Conversion – Biochemical Conversion – Background of Biogas – Source and Composition – Types of Biogas Plants – Operational Factors of Biogas Plant – Extraction of Energy from Wastes.	15
IV	<b>Wind Energy:</b> Fundamentals of Wind Energy Conversion System (WECS) – Basic Components of Wind Power System – Types of Wind Turbines – Modes of Wind Power Generation – Stand Alone Mode – Backup Mode – Grid – connected mode.	15
V	<b>Other Renewable Energy Sources:</b> Geothermal Energy – Basic Concepts – Geothermal Resources – Benefits and Challenges – Applications of Geothermal Energy – Tidal and Wave Energy, Technologies, Turbines, Prospects and Constraints of Tidal and Wave Energy.	15
<b>Total</b>		<b>75</b>

## REFERENCES

1. Banerjee, B.P, (2005). Handbook of Energy and Environment in India, Oxford University Press, India.
2. Goswami D.Y., and Kreith F., Kreider J.F., Principles of Solar Engineering, Taylor & Francis, 1999, USA
3. Ristinen, R.A. & Kraushaar, J.J, (2006). Energy and the Environment, 2nd edition, John Willey & Sons, USA.
4. Thipse, S.S, (2014). Non-Conventional and Renewable Energy Sources, Narosa Publishing House PVT Ltd, India.
5. Thiagarajan, V, (2013). Renewable Energy Sources, Lakshmi Publications, India
6. Tiwari G.N., Solar Energy, Fundamentals design, modelling and Applications, Narosa Publishing House PVT Ltd, 2002, India.
7. Twidell, J., and Weir, T., Renewable Energy Resources, 2nd Edition, Taylor & Francis, 2006, USA.
8. Twidell, J., and Weir, T., Renewable Energy Resources, 3rd Edition, Routledge, 2015, New York.
9. Yogi Goswami, S. & Frank Kreith, (2016), II Edition, Energy Efficiency and Renewable Energy Handbook, CRC Press, Florida.

## E- LEARNING RESOURCES

- <https://www.edfenergy.com/for-home/energywise/renewable-energy-sources>
- <https://www.solarreviews.com/blog/what-equipment-do-you-need-for-a-solar-power-system>
- <https://mccoymart.com/post/solar-water-heater-working-types-and-uses/#:~:text=The%20working%20principle%20of%20solar,passed%20to%20a%20water%20tank.>
- <https://www.cielowigle.com/blog/solar-powered-air-conditioner/>
- <https://www.energy.gov/energysaver/small-wind-electric-systems>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	S	W	S	M	S
CO2	M	S	W	S	M	S
CO3	M	S	W	S	M	S
CO4	M	S	W	S	M	S
CO5	M	S	W	S	M	S

**CODE:**

## INTERIOR DESIGN INTERNSHIP

**Time/Hrs: 30 Days**

**Credits: 2**

**Year: II**

**Semester: III**

Students in the interior design program are required to participate in the department – coordinated internship program with interior design firms that involves a minimum of 30 days professional experience. At the conclusion of this experience students submit a final project that demonstrates their growth of knowledge and skills in the field of interior design.

**Objective:** The Internship is committed to preparing graduates in the M.Sc., Interior Design and Décor Degree to join as entry level Designers with a strong foundation with professional experience.

### **Expected Outcome of the Internship**

**On successful completion of the internship, the student:**

- Gains knowledge about industry/company process.
- Develops skills in 2D and 3D software.
- Analyze cost estimation of building materials and finishes.
- Learns the methods and strategies used in cost control.
- Develops managerial skills in the areas of managing works required by the client.
- Adapts to working in a team and contributes to needs as they arise.
- Demonstrates competency in professional presentation, communication and writing skills.

**Internships will be permitted in the following areas:**

- b) Regional and National Interior design firms/Architecture firms.



- c) Construction companies – Space planning.
- d) Manufacturing Sectors – Metal arts and crafts, Ceramic design, building products.
- e) Companies related to Building Material and Finishes.
- f) Interior design specializations - Lighting design, Furniture design, sustainable design, facilities management and community development.
- g) Related specializations - Model home design, kitchen and bath design, art representation,color specialist and architectural photography.

### Evaluation

Internship will be carried out during the summer vacation of the second semester and the report will be evaluated by the two examiners within the department.

**CODE:**

### CORE 13 PAPER 17 - DISSERTATION

**Time/Hrs: Theory: 6 Hrs**

**Credits: 8**

**Year: II**

**Semester: IV**

### LEARNING OBJECTIVES

**To enable the students to**

1. Develop skills in conducting a research study
2. Learn the art and science of preparing and presenting a research document.

### COURSE OUTCOMES

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

CO	CO STATEMENT	K LEVEL
CO1	Develop a research design on a topic relevant to their field.	K1,K2,K3, K4, K5, K6
CO2	Prepare a systematic literature review on the topic selected.	K2, K3, K4, K5
CO3	Select and execute the most appropriate methodology for the study and provide justification for the choice made.	K2,K3, K4, K5, K6
CO4	Acquire skill in collecting, analyzing, presenting and interpreting data accurately.	K3,K4,K5,K6
CO5	Present findings of the study in a logical and sequential manner and discuss them against a backdrop of available scientific literature; Cite references in prescribed format and conduct plagiarism check on the document prepared.	K2, K3,K4,K5,K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create		

### COURSE OUTLINE:

The structure of the dissertation includes  
 Unit 1: Introduction  
 Unit 2: Review of Literature  
 Unit 3: Methodology  
 Unit 4: Results and Discussion  
 Unit 5: Summary and Conclusion, Bibliography

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	S	S	S	S	S
CO2	S	S	S	S	S	S
CO3	S	S	S	S	S	S
CO4	S	S	S	S	S	S
CO5	S	S	S	S	S	S

**CODE:**

**CORE 14**  
**PAPER 18 - STYLES IN INTERIORS**

**Time/Hrs: Theory: 6 Hrs**

**Credits: 4**

**Year: II**

**Semester: IV**

### LEARNING OBJECTIVES

**To enable the students to**

1. Understand the needs of styles in interiors in various aspects.
2. Develop a conceptual understanding in the Interior Design field.
3. Familiarize the different smart home devices used in interiors for better environment
4. Obtain a conceptual framework of Event Management.

### COURSE OUTCOME

**On successful completion of the course the student will be able to**

CO	CO STATEMENT	K LEVEL
CO1	Outline the importance of interior styles and analyse various aesthetics based on themes, design and colour.	K1, K2, K4
CO2	Compare and Summarize the different classic and modern styles in interiors.	K1, K2, K3,
CO3	Understand the styling steps in interior rooms	K1, K2, K3
CO4	Adapt styles to transcend from traditional to modern smart homes	K1, K2, K6
CO5	Manage and Organize events for various occasions efficiently.	K3, K5, K6
K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Intangibles of Design</b> - Authenticity, Juxtaposition & Luxury. Styles based on Design – Formal, Informal and Free styles. Styles based on Elements - Wood and Stone. Styles based on Theme – Traditional, Modern and Contemporary. Theme based on Colour – Warm and Cool, Monotone, complementary, Split Complementary, Triad and tetrad.	15
II	<b>Classic-Modern Styles</b> – Concept and Characteristic features of Retro style, Bohemian style, Rustic Style and Vintage Style – Boho, Punk, Country, Coastal and Atomic age. <b>Modern styles</b> - Luxury, Minimalist, Scandinavian, Shabby Chic, Industrial, Farm House, Coastal and Transitional.	20
III	<b>Styling of a House</b> - Individual House - Bungalow/Duplex, Twin House and Prefabricated House. Flats - Importance of Amenities in gated Community. Analysis of beauty, Expressiveness and Functionality of the following areas - Foyer, Living room, Bed room, Kitchen, Dining room, Home Office/Study room, Bathroom, Open Terrace, Balcony and Staircase.	25
IV	<b>Smart Interiors</b> - Concept of smart home, Characteristics of smart home, smart home Communication System - Wiring home automation and wireless home automation (Wi-Fi, Radio Wave), Smart home devices (Alexa, Google Assistant and Smart Switches) - Smart speaker, Smart TV, Smart Thermostats, Smart plugs, smart Light, Smart switches, Smart Locks Video Doorbells, Voice Assistants and Robot Vacuums. Pros and cons.	15
V	<b>Elegance of Events</b> - Prepare Schedule, Design Backdrops, Organize Cultural program for the event, Plan Budget for event, Checklist for the following event. Personal Events - Birthday Party, Wedding, Baby showers and themed celebrations. Leisure Events - Get together, Festival, Stage Show and Sports. Corporate Events - Conference, Exhibition, Product or Service launch.	15
<b>Total</b>		<b>90</b>

## REFERENCES

1. Annie Stephen Hariharan (2015), Principles of event management, Himalaya Publishing House, Mumbai.
2. Emily Henderson (2015), Styled: Secrets for Arranging Rooms, from Table tops to Bookshelves. Random House LLC
3. Lauren Liess (2015), "Habitat: The Field Guide to Decorating" Abrams, New York.
4. Marlon Buchanan, (2020) "The Smart Home Manual: How To Automate Your Home To Keep Your Family Entertained, Comfortable, And Safe" Paperback.
5. Nick Vandome (2018), Smart Homes in easy steps: Master smart technology for your home, Paperback - Import

## E- LEARNING RESOURCES

- <https://www.thespruce.com/modern-architecture-4797910>
- <https://www.2020spaces.com/blog-interior-design-styles/>
- <https://foyr.com/learn/types-of-interior-design-styles/>
- <https://www.investopedia.com/terms/s/smart-home.asp>
- <https://www.techtarget.com/iotagenda/definition/smart-home-or-building>
- <https://www.decorilla.com/online-decorating/interior-design-styles-101/>
- <https://www.decoraid.com/blog/interior-design-styles-definition-2019/>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	S	M	S	M	M	M
CO2	S	M	S	M	M	M
CO3	S	M	S	M	M	M
CO4	S	M	S	M	M	S
CO5	S	M	S	M	M	S

CODE:

### ELECTIVE 3: INTER DISCIPLINARY 3 PAPER 19 - PERSPECTIVES OF HOME SCIENCE

Time/Hrs: Theory: 5 Hrs

Credits: 3

Year: II

Semester: IV

## LEARNING OBJECTIVES

To enable students to

1. Understand the concepts of Home Science and extension education
2. Develop a conceptual understanding in the field of human development.
3. Recognize the food groups and choose the appropriate foods for different age groups and disease conditions.
4. Know the communication models and theories.
5. Be prepared to face UGC- NET, SLET examinations in Home Science

## COURSE OUTCOME

On successful completion of the course the student will be able to

CO	CO STATEMENT	K LEVEL
CO1	Compare and analyze the nutrient value of foods, and prepare menu plans for different age groups.	K1, K2, K4
CO2	Plan nutritional care for people with nutritional deficiencies, involved in sports, and at times of emergency and disasters.	K1, K2, K6

<b>CO3</b>	List the principles of growth and development and realize the importance of mastering developmental tasks at each lifestage.	<b>K1, K2, K3</b>
<b>CO4</b>	Understand the concept, theories and models of communication	<b>K1, K2, K5</b>
<b>CO5</b>	Understand the principles of extension education and analyze the qualities of extension worker.	<b>K1, K2, K4</b>
<b>K1</b> - Remember; <b>K2</b> - Understand; <b>K3</b> - Apply; <b>K4</b> - Analyze; <b>K5</b> - Evaluate; <b>K6</b> – Create		

## **THEORY**

<b>Unit No.</b>	<b>CONTENT</b>	<b>No. of hrs.</b>
<b>I</b>	<b>Food science</b> Food groups – balanced diet, food pyramid, macro and micro nutrition. Effects of cooking and processing techniques on nutritional components and other physical parameters, food preservation and application. Perspectives of food service-menu planning, food cost analysis. Food service management of institutional level-hospital, educational institutions, social and special institutions	<b>15</b>
<b>II</b>	<b>Nutrition and Dietetics</b> Nutrients-role of nutrients in the body, nutrient deficiencies and requirements for Indians. Nutrition through life span-physiological changes, growth and development from conception to adolescence, nutritional needs and dietary guidelines for adequate nutrition through life cycle, nutrition concerns. Community nutrition, sports nutrition, nutrition in emergencies and disasters. Menu planning – Meaning, Factors considered in preparation of menu plan, Menu plan for all age groups.	<b>20</b>
<b>III</b>	<b>Human Development</b> Principles of growth and development. Early childhood care and education – activities to promote holistic development. Influence of family, peers, school, community and culture on personality development. Adolescence and youth: changes, challenges and programs to promote optimal development. Aging-physical and psychological changes and care needs.	<b>15</b>

<b>IV</b>	<b>Communication for development:</b> Basics of communication- nature, characteristics, functions, process, models, elements, principles, barriers, perception, persuasion and empathy, types of communication, levels (settings) of communication transactions, process of listening. Communication systems and communication theories- human interaction theories, mass communication theories, and message design theories, communication systems, culture and communication.	<b>15</b>
<b>V</b>	<b>Extension Education</b> Meaning, Definition, objectives, characteristics, principles Extension teaching methods- types and methods Qualities of a good Extension Worker. Communication, Innovation and Social change.	<b>10</b>
<b>Total</b>		<b>75</b>

## REFERENCES

1. Anshika Srivastava Dr. Manju Yadav, Dr. Barbhai Mrunal D (2020) A Competitive Book of Home Science and Community Science, Jain brothers
2. Balda and Shanti; Verma and Deepak Kumar; Prabhakar P K (2015) Objective Home Science At A Glance Scientific Publishers
3. Premalata Mullick (2012), Text book of Home Science, Kalyani Publishers.
4. UGC NET Home Science (2021) Arihant Publication.
5. UGC NET study Manual (2013) S S book publishers

## E-LEARNING RESOURCES

- <https://www.kopykitab.com/blog/ugc-net-home-science/>
- <https://www.flexiprep.com/NIOS-Notes/Senior-Secondary/Home-Science/NIOS-Home-Family-and-Home-Science-Ch-14-Stages-of-the-Life-Span-Growth-and-Cognitive-Development.html>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
<b>CO1</b>	W	W	W	S	M	M
<b>CO2</b>	W	W	W	S	M	M
<b>CO3</b>	W	W	W	S	M	M
<b>CO4</b>	W	W	W	S	M	M
<b>CO5</b>	W	W	W	S	M	M

**CODE:**

**ELECTIVE 4: INTER DISCIPLINARY 4**

**PAPER 20 - ERGONOMICS IN INTERIORS**

**Time/Hrs: Theory: 5 Hrs**

**Year: II**

**Credits: 3**

**Semester: IV**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Become aware of the ergonomic principles for improving work efficiency.
2. Know the anthropometric dimension of workers and acquire practical knowledge in designing furniture.
3. Inculcate work efficiency using various work simplification techniques.
4. Know the importance of Healthy Buildings and plan an effective workplace.

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Describe the basic ergonomic principles and understand the need of the work environment in a place.	<b>K1, K2, K4</b>
<b>CO2</b>	Understand the anthropometric dimension of humans and analyze spatial requirements.	<b>K2, K3, K4</b>
<b>CO3</b>	Critically evaluate the environmental factors affecting human beings such as light, sound, noise, climate and vibrations.	<b>K2, K5</b>
<b>CO4</b>	Outline the importance of body mechanics. Demonstrate application of work simplification techniques effectively.	<b>K2, K3, K4</b>
<b>CO5</b>	Discuss the need for ergonomics in buildings, analyze the issues and appraise the importance of Healthy Building.	<b>K1, K2, K4, K5</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## THEORY

Unit No	CONTENT	No of hours
I	<b>Ergonomics</b> <ol style="list-style-type: none"> <li>Ergonomics - significance, scope, man, machine, environment relationship, factors affecting physiological cost of work, body mechanics, functional design of workplace, time and motion study, energystudies.</li> <li>Concept of work, workplace and work environment – designing workareas based on ergonomic principles and workers.</li> <li>Factors influencing the Work environment – Location, space, comfort anddiscomfort, indoor and outdoor climate, furniture, lighting and ventilation, flooring and noise.</li> </ol>	15
II	<b>Anthropometry Spatial requirement</b> <ol style="list-style-type: none"> <li>Definition, Type of data – Structural and Functional, Anthropometric measurements – Head circumference, Height, Weight IBW and BMI.</li> <li>Work heights when seated and standing - Stature, Eye Height, Elbow height, Elbow Rest Height, Knee height, Popliteal Height, normal andmaximum reach, vertical and horizontal reach.</li> <li>Anthropometric consideration in furniture designing.</li> </ol>	15
III	<b>Environmental factors</b> <ol style="list-style-type: none"> <li>Lighting - Adequacy of lighting at workplace, physiological requirement,psychological effect of lighting and the work efficiency of the worker.</li> <li>Noise - Definition, sources of noise, indoor and outdoor noise level, effects of noise on psychological and intellectual activities, measurementof noise.</li> <li>Temperature - air movements, humidity, exchange of heat between human bodyand surroundings.</li> </ol>	15
IV	<b>Improving Product design and work efficiency</b> <ol style="list-style-type: none"> <li>Product design - design thinking process, diffusion and innovation,design communication, ergonomic considerations.</li> <li>BodyMechanism - effective use of body mechanics, posture in House work, Good Posture and Bad Posture.</li> </ol>	15
V	<b>Ergonomics in public building</b> <ol style="list-style-type: none"> <li>Importance ofHealthyBuilding and Ergo Issues.</li> <li>Elements of Ergonomic Consideration in Building Interiors – Good SpacePlanning, Circulation and Access.</li> <li>Well Planned ergonomic workplace and furniture for Old Age and Physically Challenged persons, to prevent Work-Related MusculoskeletalDisorder (WMSD) and Prevent Occupational Injuries and Illnesses</li> </ol>	15
<b>Total</b>		<b>75</b>



## REFERENCES

1. Gavriel Salvendy and Waldemar Karwowski, (2021) Handbook of Human Factors and Ergonomics, Wiley, 5th edition, ISBN-13: 978-1119636083
2. Jan Dul, Bernard Weerdmeester (2008), Ergonomics for Beginners, A Quick Reference Guide, Third Edition, CRC Press, ISBN 9780367242145
3. Jhamb, (1991). Work study and Ergonomics At work, John Wiley
4. Ralph M. Barnes (2009), Motion and time study, Design and measurement of work. New York, 30 John Wiley, 7th Edition.
5. Robert Bridger, (2018), Introduction to Human Factors and Ergonomics, 4th Edition, CRC Press, ISBN 9781138582897
6. Stephen Pheasant (2005), Body Space: Anthropometry, Ergonomics and the Design of Work, Third Edition Hard Cover - Illustrated. CRC Press;
7. Theresa Stack, Lee T. Ostrom, Cheryl A. Wilhelmsen, (2016), Occupational Ergonomics: A Practical Approach, ISBN: 978-1-118-81421-5, Wiley

## E-LEARNING RESOURCES

- [https://onlinecourses.nptel.ac.in/noc20\\_me11/preview](https://onlinecourses.nptel.ac.in/noc20_me11/preview).
- <https://study.com/learn/lesson/anthropometric-measurements-purpose.html>
- <https://ftp.idu.ac.id/wp-content/uploads/ebook/ip/BUKU%20ERGONOMI/BUKU%20INGGRIS/Ergonomics%20For%20Beginners.pdf>
- [https://www.youtube.com/watch?v=Hf5b\\_Ad5biM](https://www.youtube.com/watch?v=Hf5b_Ad5biM)

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	M	M	S	M	M	M
CO2	M	M	S	M	M	M
CO3	M	M	S	M	M	M
CO4	M	M	S	S	M	S
CO5	M	M	S	S	M	S

**CODE:**

**ELECTIVE 5: INTER DISCIPLINARY 5:**

**PAPER 21 - PROFESSIONAL PRACTICE IN INTERIORS (Practicals)**

**Time/Hrs: Practical: 5 Hrs**

**Year: II**

**Credits: 3**

**Semester: IV**

**LEARNING OBJECTIVES**

**To enable the students to**

1. Understand the client requirements in a project.
2. Estimate and prepare the bill of quantities as per the budget requirements.
3. Design their own portfolio in finding a professional job

**COURSE OUTCOME**

**On successful completion of the course the student will be able to**

<b>CO</b>	<b>CO STATEMENT</b>	<b>K LEVEL</b>
<b>CO1</b>	Describe the need and purpose of professional practice in Interior Design field. Understand the ethical standards to be followed by designers.	<b>K1, K2, K4</b>
<b>CO2</b>	Analyze the client needs, their budget and design preferences in a project Build a sense of trust with the clients for smooth execution of the project.	<b>K2, K3, K4</b>
<b>CO3</b>	Examine the process of Project management Construct a schedule for design projects.	<b>K3, K4, K6</b>
<b>CO4</b>	Evaluate the cost required for materials and construction work and thereby create a budget for a project.	<b>K4, K5, K6</b>
<b>CO5</b>	Understand the importance of design portfolio in career. Create a design portfolio.	<b>K2, K4</b>
<b>K1 - Remember; K2 - Understand; K3 - Apply; K4 - Analyze; K5 - Evaluate; K6 – Create</b>		

## PRACTICALS

Unit No	CONTENT	No of hours
I	<b>Interior Design as a Profession</b> <ol style="list-style-type: none"> <li>Definition, concept and need of studying professional practice in Interior Design, Site management for professional Interior Design.</li> <li>Ethical standards and professional ethics to be followed in the design field.</li> </ol>	10
II	<b>Building Client Relationships</b> <ol style="list-style-type: none"> <li>Understanding the clients' needs, their demographics details and decision-making process.</li> <li>Managing customer expectations, bringing value to clients through design and creating a good impression with them.</li> <li>Study the scope of the project, budget of the client and their design preferences.</li> </ol>	20
III	<b>The Project Management Process</b> <ol style="list-style-type: none"> <li>Definition of project management process and the role of designers.</li> <li>Phases of Interior Design project, stakeholders and building information modeling (BIM)</li> <li>Preparing schedule and budget for design project</li> </ol>	15
IV	<b>Trade sources &amp; Rate Analysis</b> <ol style="list-style-type: none"> <li>Field visits to shops, manufacturers and traders to identify the materials available, its cost, estimation regarding interior works like carpentry, paneling and thereby preparing the budget for the project</li> <li>Rate Analysis – Definition, method of preparation, quantity &amp; labour estimate for woodwork, steelwork, Aluminum work, glass &amp; its rate for different, thickness &amp; sections, finishing (enamel paint, duco paints, melamine, DU coats, Hand polishing, veneering and laminating) for walls &amp; ceilings. Electrical &amp; plumbing products, wiring, ducting etc., and laying of tiles &amp; wall paneling in the estimated format of the project.</li> <li>Preparing a detailed report.</li> </ol>	20
V	<b>Portfolio Review</b> <ol style="list-style-type: none"> <li>Definition, concept, Types - showcase or presentation of Portfolio: A collection of best work.</li> <li>Process or Learning Portfolio: A work in progress.</li> <li>Assessment of Portfolio: used for accountability.</li> <li>A Hybrid Approach.</li> </ol>	10
<b>Total</b>		<b>75</b>

## REFERENCES

1. Christine M. Piotrowski (2020), Professional Practice for Interior Designers, 6th Edition, Wiley Publishers
2. Harold Linton (2017), William Engel, Portfolio Design for Interiors, Bloomsbury Publishing
3. Katherine E. Kennon (2018), The Codes Guidebook for Interiors, Wiley Publishers
4. Roderick Adams (2012), Interior Design, A Global Profession, Routledge Publishers
5. Winchip Susan, Professional Practice for Interior Design in the Global Marketplace, Bloomsbury Publishing (UK)

## E- LEARNING RESOURCES

- <https://download.e-bookshelf.de/download/0000/8043/23/L-G-0000804323-0002445319.pdf>
- [https://www.academia.edu/36218043/Interior\\_Design\\_Handbook\\_of\\_Professional\\_Practice](https://www.academia.edu/36218043/Interior_Design_Handbook_of_Professional_Practice)
- <https://eopcw.com/find/downloadFiles/365>
- <https://blog.upskillist.com/how-to-create-a-graphic-design-portfolio/>
- <https://www.docfly.com/blog/2021/how-to-create-a-pdf-graphic-design-portfolio-step-by-step-guide>

## MAPPING OF COs WITH PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
CO1	W	W	M	S	S	M
CO2	M	M	M	S	S	M
CO3	W	W	M	S	S	M
CO4	M	M	M	S	S	M
CO5	M	W	M	S	S	M

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S.A.C. SEPT'2022