



# Avinashilingam Institute for Home Science and Higher Education for Women

(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

## Department of Resource Management

### M.Sc. Interior Design and Resource Management

#### Programme Outcomes:

1. Enhance advanced knowledge on Interior Design and Resource Management with a critical understanding of the emerging developments and issues related to the field through teaching and research
2. Develop general, technical and professional skills required to perform and accomplish teaching, research and extension
3. Apply the acquired advanced knowledge, skills and the research outcomes to solve real life problems
4. Demonstrate the ability to read texts, plan, evaluate and report the result of research work wisely and effectively with better understanding and communication
5. Embrace and practice the constitutional humanistic, ethical and moral values in the learning process.
6. Able to demonstrate the employability and entrepreneurship skills by acquiring the specific credit requirements of the course.

#### Programme Specific Outcomes:

1. Develop skills for becoming Interior designers, decorators, entrepreneurs and efficient resource managers
2. Apply moral, ethical and social values in their life situations
3. Create trendy designs towards professional growth and development.

#### Scheme of Instruction & Examination

(for students admitted from 2025-2026 & onwards)

| Part           | Subject Code | Name of Paper/ Component   | Hours of instruction /week |   | Scheme Examination |     |    |       |        |
|----------------|--------------|--|----------------------------|---|--------------------|-----|----|-------|--------|
|                |              |  | T                          | P | Duration of exam   | CIA | CE | Total | Credit |
| First Semester |              |  |                            |   |                    |     |    |       |        |
| I              | 25MIRC01     | Designing Life Space and Interior Decor                            | 3                          | - | 3                  | 40  | 60 | 100   | 3      |
|                | 25MIRC02     | Sustainable Planning – Living Space and Resource Management        | 4                          | - | 3                  | 40  | 60 | 100   | 4      |
|                | 25MIRC03     | Advanced Landscape Designing                                       | 3                          | - | 3                  | 40  | 60 | 100   | 3      |
|                | 25MIRC04     | Furniture and Furnishings  | 4                          | - | 3                  | 40  | 60 | 100   | 4      |
|                | 25MIRC05     | Household Equipment  | 3                          | - | 3                  | 40  | 60 | 100   | 3      |
|                | 25MIRC06     | Household Equipment (Practical)                                    | -                          | 4 | 3                  | 40  | 60 | 100   | 2      |
|                | 25MIRC07     | Interior Space and Greenscape Design (Practical)                   | -                          | 6 | 3                  | 40  | 60 | 100   | 3      |
| II             |              | CSS/Adult Education/Community Engagement and Social Responsibility | 2                          | - | -                  | -   | -  | -     |        |
|                |              | Library  | 1                          |   |                    |     |    |       |        |

### Second Semester

|    |                                    |  |   |   |   |     |    |     |   |
|----|------------------------------------|--|---|---|---|-----|----|-----|---|
| I  | 25MIRC08                           | Research Methods and Statistical Applications                              | 4 | - | 3 | 100 | -  | 100 | 4 |
|    | 25MIRC09                           | Renewable Energy   | 4 | - | 3 | 40  | 60 | 100 | 4 |
|    | 25MIRC10                           | Housekeeping and Front Office Operations                                   | 4 | - | 3 | 40  | 60 | 100 | 4 |
|    | 25MIRC11                           | Advanced Resource Management   | 4 | - | 3 | 40  | 60 | 100 | 4 |
|    | 25MIRC12                           | Advanced Visual Representation I (Practical)                               | - | 6 | 3 | 40  | 60 | 100 | 3 |
| II |                                    | Interdisciplinary Course   | 4 |   | 3 | 100 | -  | 100 | 4 |
|    |                                    | Professional Certification Course  |   |   |   |     |    |     | 2 |
|    | 25MXCSS1/<br>25MXAED1/<br>25MXCSR1 | CSS/<br>Adult Education/<br>Community Engagement and Social Responsibility | 2 | - | 2 | 100 | -  | 100 | 2 |
|    |                                    | Library  | 2 |   |   |     |    |     |   |

### Internship during Summer Vacation (1 month)

### Third Semester

|    |          |   |         |   |   |     |    |     |   |
|----|----------|---|---------|---|---|-----|----|-----|---|
| I  | 25MIRC13 | Trends in Architecture and Building Design                    | 4       | - | 3 | 40  | 60 | 100 | 4 |
|    | 25MIRC14 | Resource use in Entrepreneurship and Event Management         | 4       | - | 3 | 40  | 60 | 100 | 4 |
|    | 25MIRC15 | Ergonomics in Work Place Design                               | 4       | - | 3 | 40  | 60 | 100 | 4 |
|    | 25MIRC16 | Consumerism and Green Consumerism                             | 3       | - | 3 | 40  | 60 | 100 | 3 |
|    | 25MIRC17 | Creative Applied Arts (Practical)                             | -       | 4 | 3 | 40  | 60 | 100 | 2 |
|    | 25MIRC18 | Advanced Visual Representation II (Practical)                 | -       | 4 | 3 | 40  | 60 | 100 | 2 |
|    | 25MIRC19 | Mini Project  | 1       | - | - | 100 | -  | 100 | 2 |
|    | 25MIRC20 | Housing and Energy-Policies and Programmes(Self-Study Course) | 2       | - | 3 | 100 | -  | 100 | 2 |
|    | 25MIRC21 | Internship  | 1 month |   |   | 100 | -  | 100 | 2 |
| II |          | Multidisciplinary Course                                      | 2       | - | 3 | 100 | -  | 100 | 2 |
|    |          | Library   | 2       |   |   |     |    |     |   |

### Fourth Semester

|                      |          |                                |  |    |  |     |     |     |           |
|----------------------|----------|--------------------------------|--|----|--|-----|-----|-----|-----------|
| I                    | 25MIRC22 | Research Thesis/Project/Patent |  | 30 |  | 100 | 100 | 200 | 20        |
| <b>Total Credits</b> |          |                                |  |    |  |     |     |     | <b>96</b> |

**Other courses to be undergone by the student:**

**\*MOOC courses - 2 to 4 Credits – Credit transfer may be claimed**

**Minimum 96 + 2 Credits to earn the degree**

**\*\*Students who exit at the end of 1<sup>st</sup> year shall be awarded a Post graduate Diploma**

**Courses offered by the department:**

Interdisciplinary Course 25MIRI01 - Interior Design Perspectives

Multidisciplinary Course 25MIRM01 - Green Consumerism

Professional Certification Course 25MIRPC1/25MIRPC2/25MIRPC3 - Interior Architecture and Design

(Revit Architecture/ V Ray/ DV Pro)

## Designing Life Space and Interior Decor

**Semester I**  
**25MIRC01**

**Hours of instruction/ Week: 3**  
**No. of credits: 3**

**Objectives:** Enable students to:

1. Expand knowledge: Inter precedence of application oriented concepts of life space
2. Enhance individual skills: Design and draft houses to suit family needs
3. Develop aesthetic sense: Apply principles of Interior Design to evolve aesthetic interiors

### **Unit 1. Designing Interior Space**

Concept, importance and classification of Life space

Concept and significance of environmental psychology in space designing Factors determining life space in interiors, trendsetting from spacious to compact interiors; preference for multistoried buildings ,multi-purpose space, refurbishment and adaptive reuse **(Interior designer– Qualities & role)** 05

### **Unit 2. Aesthetics in Interiors**

Definition –Aesthetic, principles of visual appeal within a space, concept of design and interior design, Elements and principles of design, color theories, development of colour schemes, use and application, psychology of colour, Light and lighting fixtures 10

Accessories: types, functions and role in interior design.

**(Use of elements, principles and colour in interior designing; recent trends in Interior design)**

### **Unit 3. Planning Space for Residential Interiors**

Objectives, process of house planning

Selection of site, schematic diagram; Principles of house planning- aspect, prospect, privacy, grouping, roominess, furniture requirement, sanitation, flexibility, circulation, practical consideration; Reduced scale - Understanding dimensioning through use of metric and architectural scale. 10

Types of plans - reading house plans, application of space saving techniques; Evaluating existing plan and remodeling plans

**(Visiting different sites and modular apartments to know space saving ideas)**

### **Unit 4. Components and building services**

Components of a building, Levels of construction, Methods of construction- load bearing and non-load bearing (framed construction) walls

Building materials and finishes for various components; Building services– Plumbing and lighting, wiring symbols, factors to be considered while planning services. 10

**(Visiting to building materials shops to know the new innovative materials)**

### **Unit 5. Sustainable space construction**

Meaning – sustainability, Principles of sustainable construction- energy efficiency, waste reduction, and resource conservation; Designing Sustainable Spaces; Sustainable building materials; Energy efficiency in building construction – techniques and materials. 10

**( role of automation in sustainable construction)**

**Total Hours 45**

**Textbooks:**

1. **Goel, land Kegel, D.E**(2002),The Elements of design; Rediscovering Colours, Textures, Forms and Shapes, London: Thames and Hudson
2. **Piorrowski,C.M.**,(2008), Professional practice for Interior designers, New Jersey, USA :John Wiley and Sons,
3. **Pile,J.**,(2003),InteriorDesign,3<sup>rd</sup>Ed,NewJersey,USA:Pearson
4. **Ching, F. D. K.** (2014). Building construction illustrated, Wiley, New Jersey

**Reference Books:**

1. **Piotrowski,C**,(2004),Becoming an Interior Designer, New Jersey, USA: John Wiley & Sons
2. **Shah, M. G., Kale, C. M and Patki, S. Y** (2002), Building drawing: with an integrated approach to built environment, New Delhi: Tata McGraw Hill education; ISBN:0074638769,978 0074638767
3. **Gifford, R.** (2014), Environmental Psychology: Principles and Practice (5th Ed.). Colville, WA: Optimal Books
4. **Graham,P.** (2003), Building Ecology: First Principles for a Sustainable Built Environment, Blackwell, Oxford, U.K
5. **Latham,D.** (2000), Creative Re-Use of Buildings, Don head Publishing Ltd, Dorset, UK

**Course Outcomes:** On completion of the Course students will be able to:

1. Interpret, examine and reason out the role of various factors comprising concept of life space and their role in planning buildings
2. Practice knowledge gained on selection of site and building principles in real life situations
3. Read, understand/comprehend building plans and evaluate them
4. Understanding structure of Space and Sustainable Design with reference to design efficiency and functionality.
5. Appreciate principles of design and the contributing factors and refine personal aesthetic senses

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | M   | M   | H   | M   | M   | M    | M    | M    |
| CO 2   | H   | H   | M   | M   | M   | H   | M    | M    | M    |
| CO 3   | H   | H   | M   | M   | M   | M   | L    | M    | M    |
| CO 4   | M   | H   | H   | H   | H   | M   | M    | M    | L    |
| CO 5   | H   | H   | M   | M   | M   | H   | M    | L    | M    |

## **Sustainable Planning – Living Space and Resource Management**

**Semester I**  
**25MIRC02**

**Hours of Instruction/week : 4**  
**No. of Credits : 4**

**Objectives:** Enable students to:

1. Develop sensitivity to resource crunch and causative factors
2. Gain exposure to the call for conservation of natural resources at the global level
3. Learn the rudiments enabling conservation of resources in built environments

### **Unit 1. An Overview of Sustainability**

**15**

Concept of sustainability, sustainable development: its need and significance, four pillars of sustainability, issues and challenges related to sustainability, sustainability – time line assessment, models of sustainable development

International Resource Panel (IRP), United Nations Environment Programme (UNEP), Sustainable Development Goals (SDG'S)-Nature of Sustainable Development Goals – 2030 ,Global Agenda for Sustainable Development

### **Unit 2. Life cycle approach to sustainability**

**10**

Introduction to life cycle assessment, four fundamental steps of LCA, Sustainable living practices-sustainable living in house, garden, work places, use of renewable energy, alternative technology, types of appropriate technology, (The 9R's concept)

### **Unit 3. Measurement and Indicators of Sustainable Development**

**10**

Measurement Tool for Sustainable Development: Gross National Happiness (GNH) – Human Development Index (HDI) – Ecological Footprint (EF) – and The Happy Planet Index (HPI); Indicators of Sustainable Development: Indicators for Education – Indicators for Health – Indicators for Economy – Indicators for Gender Equality – Indicators for Zero Hunger.

### **Unit 4. Water and Energy conservation**

**10**

Water conservation measures in interiors, use of grey water, storm water use through rain water harvesting, sullage use through effluent treatment plants (Test water for portability from a few houses)

Energy efficiency in built environments and use of appliances, HVAC, electronics, lighting, building automation; introduction to energy star labeling and star rated products (Make an inventory of energy labeled, star rated appliances in five homes- Market Survey to find out recent trends in home appliances)

### **Unit 5. Eco friendly materials**

Concept of sustainable shelter, Life cycle assessment using eco-friendly materials, sustainable building materials, low VOC paints, low e-coatings, glass for insulation, Cradle – to – Cradle designs (Market survey)

**15**

**Total Hours : 60**

**Text Books:**

1. **Moxon, S.**, (2012), Sustainability in Interior Design, Laurence King Publishing Ltd., London
2. **Sharon, A.**, (2008) Depletion and Abundance: Life on the New Home Front. Canada: New Society Publishers.
3. **Douglas, F.**, (2008). Sustainable Urbanism. Hoboken, Jon Wiley & Sons., New Jersey
4. **McDilda, Gow, D.**, (2007) The Everything Green Living Book: Easy Ways to Conserve Energy, Protect Your Family's Health, and Help save the Environment. Avon, MA: Adams Media.

**Reference Books :**

1. **Wm, C.**, (2004) A Handmade Life : In Search of Simplicity New York: Chelsea Green, 2004.
2. **Richard, H.**, (2004) Power down: Options and Actions for a Post-Carbon World Canada: New Society Publishers.
3. **Christopher, N.**, (1979) Urban Wilderness: a guidebook to resourceful city living. Culver, CA: Peace Press.
4. **John, S.**, (2003) The Self-Sufficient Life and How to Live It. London: D K Publishing
5. **Todd, J. and Todd, N.J.**, (1994) From Eco Cities to Living Machines: Principles of Ecological Design. Berkeley, CA: North Atlantic Books.

**Course Outcomes:** On completion of the Course students will be able to:

1. Emerge as more resourceful, socially responsive citizens and practice prudence in the use of resources
2. Act as champions of change by practicing the concept of R's in daily living
3. Sensitize people on the concepts of life cycle approach to sustainability
4. Translate into action by purchasing only star rated appliances in the homes
5. Insist on reducing individual carbon foot prints by becoming socially responsible consumers

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1    | H   | -   | H   | M   | M   | H   | M    | H    | -    |
| CO 2    | H   | -   | H   | -   | H   | H   | M    | H    | H    |
| CO 3    | -   | L   | -   | H   | -   | H   | L    | H    | -    |
| CO 4    | M   | M   | H   | H   | H   | -   | -    | -    | M    |
| CO 5    | -   | -   | M   | -   | L   | M   | M    | M    | -    |

## Advanced Landscape Designing

Semester I  
25MIRC03

Hours of Instruction/week: 3  
No. of credits: 3

**Objectives:** Enable students to:

1. Identify ethos of landscape gardening and indoor plants
2. Appreciate types, styles and elements of gardens
3. Learn the materials, gardening skills and practices

### Unit-1 Landscape gardening

Meaning and importance, History and development of landscape, Plants: classification, Garden components – hedges of edges, borders, arches, pergolas, screens, carpet bedding, flower beds, and lawn.

Adornments: ponds, fountains, bird's bath, floral clock, lighting and furniture. (Visit to landscape garden and report writing).

### Unit-2 Types and styles of garden

Garden styles - important features, suitable plant species - Aquarium/under water garden, marsh/bog garden, bottle garden, cottage garden, dish garden, herb garden, home garden, hotel garden, indoor garden, industrial garden, institutional garden, kitchen garden, miniature garden, moon garden, office garden, paved garden, rock garden, roof/ terrace garden, screen garden, sunken garden, terrarium/wardian garden, theme park, topiary garden, tubs and urns garden, vertical garden, water garden, window garden, woodland garden, xeriscaping, rose garden, hydroponic garden, dish garden and landscapes for healing. (Developing garden plans of different types and styles).

### Unit-3 Elements of landscape design

Construction: surfaces, boundaries, edging, patios, ponds, rock garden, arches, pergolas, pathways and outdoor living.

Hard areas-drives, paths, steps and slopes. Materials: natural stones, brick and blocks, tiles.

Laying and paving: crazy paving, gravel, mortar, concrete cobbles, bark decking, and drainage.

Soft areas: lawn, garden plants, carpet bedding, furniture.

(Draw the elements of garden)

### Unit-4 Introduction to materials and landscape construction techniques

Introduction to various materials used in landscapes constructions. Mud, clay, stone, bricks, timber, glass, metals, gravel, pebbles, lime, sand, cement, concrete, RCC, vitrified tiles, terracotta.

Landscape construction details - paving and pavements, walks, drives, roads, parking, paths, plant beds, edging, plant boxes, steps, ramps, stepping stones and water bodies.

(Market surveys and study trips to landscape project sites to identify the various landscape construction materials and details)

### Unit-5 Garden practices

Soil characteristics, preparation and sterilization of soil, garden tools and equipment. Care of plants: Weeding, top dressing, pricking, and transplanting, shading, pinching, reshooting, disbudding, defoliation, pruning, clipping, staking, mulching, watering, pest control and manuring - organic manure and substrates.

Growth promoters and growth regulators and growth retarders. Indoor plants: selection of plants, care and maintenance, containers.

**Total Hours** 45

### Text Books:

1. **Ashraf, S.M**, (2010), A Handbook of Landscape Gardening and Environment: Jodhpur
2. **West, R.B**, (1999), Practical Gardening in India, New Delhi: Discovery Publishing House.
3. **Singh, A.K and Sisodia, A**, (2017), Text book of Floriculture and landscaping, A Paper back Division of New India Publishing Agency.
4. **Zimmermann, A**, (2011), Constructing Landscape: Materials, Techniques, Structural Components, Birkhauser Architecture Publisher.

### References:

1. **Cantrell, B and Michaels W**, (2010), Digital Drawing for Landscape Architecture: Contemporary Techniques and Tools for Digital Representation in Site Design, New York: John Wiley Publications
2. **Randhawa, G.S and Mukhopadhyay, A**, (2000), Floriculture in India, Chennai: Allied Publishers Limited.
3. **Salpekar A and Sharma K**, (2010), Green House Effect and Climate Change Management, New Delhi: Jnananda Prakasam (P&D).
4. **The Hamlyn Gardening Book - The Essential Guide to Gardening**, (1998), London: Octopus Publishing Group Limited.

**Course outcomes:** After completion of the Course students will be able to:

1. Identify and raise various garden components and differentiate garden adornments
2. Differentiate gardens of various styles and types
3. Construct landscape garden using various techniques
4. Plan irrigation and drainage system while developing landscape.
5. Establish nurseries and become entrepreneurs

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | H   | H   | H   | -   | H   | M    | -    | M    |
| CO 2   | H   | H   | L   | L   | -   | H   | H    | -    | M    |
| CO 3   | H   | M   | H   | -   | -   | H   | H    | -    | M    |
| CO 4   | H   | H   | H   | L   | -   | H   | M    | -    | H    |
| CO 5   | M   | M   | L   | L   | -   | H   | M    | -    | M    |



## Furniture and Furnishings

Semester I  
25MIRC04

Hours of Instruction / week: 4  
No. of Credits: 4

**Objectives:** - To enable students to:

1. Familiarize with the basic considerations in furniture design, aesthetics and appropriate furniture
2. Understand the role of fabric in interior decoration
3. Develop ability to design fabulous window treatments

### Unit 1 Furniture Styles

Importance of furniture, styles of furniture - traditional, contemporary, modern – salient features, types of furniture – Modular furniture, mobile furniture, office furniture, molded furniture, case goods and upholstered furniture. 10

(Study the market availability of various furniture)

### Unit 2 Furniture Construction Techniques

Materials — hard and soft wood, cane, metal, plastic and glass

Construction details of wooden furniture- joints; Trends in finishes and applications; Construction of upholstered furniture – frame, seating and cushion, Dimensions of furniture used in residential interiors. 15

(Care and maintenance of furniture)

### Unit 3 Furniture Selection and Arrangement

Factors considered in selecting furniture, traffic pattern and furniture layouts — room plans, arranging furniture using cut outs for different rooms. 15

(Planning furniture for selected activities – living, sleeping, study, dining)

### Unit 4 Soft Furnishings

Importance, factors considered in the selection of furnishings, floor coverings – rugs and carpets, types, care and maintenance, types of window treatments.

(Types of furnishings – slip covers, cushion covers, bed linen, table linen, bath linen, kitchen linen – its care and maintenance) 10

### Unit 5 Estimating the Cost of Furnishing Residential Interiors

Exploring the modern trends in furnishing the interior, estimating the materials required for furnishing an interior and calculating the cost. 10

(Market survey to find out the cost of furnishing materials).

**Total hours 60**

### Text books:

1. Kasu A, (2005), Interior design, Ashish Book Centre Mumbai.
2. Veena G, Shukul M and Jaiswal N, (2011), Introduction to Interior Design and Decoration, Dominant publishers and Distributors, New Delhi.
3. Seetharaman P, and Pannu P, (2009) Interior design and Decoration, New Delhi and distributors Pvt Ltd, New Delhi.

4. **Gandotra V, Shukul M and Jaiswal N**, (2011). Introduction to Interior Design and Decoration, New Delhi: Dominant publishers, India.
5. **Premavathy S**, (2005) Interior Design and Decoration, New Delhi: CBS Publishers and Distributors, India.
6. **Stuart L**, (2013) Furniture Design: An Introduction to Development, Materials and Manufacturing, Laurence King Publishing, London.

**Reference books:**

1. **Faulkner R and Faulkner S**, (1987), Inside Today's home, New York: Rinebart Winston, India.
2. **Postell J**, (2012), Furniture Design, John Wiley & Sons, INC, Canada.
3. **Mendelson C**, (2005), Home Comforts - The Art and Science of keeping house, New York: Scriber Company, London.
4. **Stepat D.Van**, (1991), Introduction to Home Furnishings. New York: The Macmillan Company, London.

**Course Outcomes:** After completion of the Course students will be able to:

1. Understand the difference between furniture and furnishings
2. Differentiate period styles in furniture
3. Appreciate the role of hard and soft furnishings in an interior
4. Relate innovations in furniture construction techniques, methods and materials
5. Contemplate on furniture/ furnishings' selection based on use, comfort, cost and ergonomics

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | H   | -   | L   | -   | L   | M    | -    | H    |
| CO 2   | H   | M   | -   | -   | -   | -   | M    | -    | M    |
| CO 3   | H   | M   | L   | -   | -   | L   | H    | -    | H    |
| CO 4   | H   | H   | M   | L   | -   | H   | H    | -    | H    |
| CO 5   | H   | H   | H   | -   | L   | H   | H    | L    | H    |

## Household Equipment

Semester I  
25MIRC05

Hours of Instruction/week : 3  
No. of Credits: 3

### Objectives:

1. Gain knowledge and develop skills in handling household equipment
2. Understand the working mechanism of various appliances
3. Trace trends in equipment available in the market

### Unit 1 Electricity in the Home

05

Basic concepts of electricity - resistance, circuit, ampere, volt, conductor, induction, insulation, points to be considered in home wiring to suit installations and use of appliances. Basics of home wiring and electrical symbols (Minor repairs in electrical and non-electrical gadgets).

### Unit 2 Equipment for Family Living

10

Definition of Equipment, Classification - Major/ minor, Electrical/Nonelectrical, motorized / electronics, low voltage appliances, heating appliances and white and brown goods.

Base materials used in household equipment - types, classification, merits and demerits.

Finishing materials - types, process of application, merits and demerits.

Insulation materials - types, merits demerits and use. Planning different types of kitchen, placement of equipment in different areas, General maintenance of household equipment, efficient ways to use household equipment and use of energy saving methods (Trends in equipment available in the market)

### Unit 3 Electrical and Non-electrical Equipment

10

Principles, operation, merits, demerits and use of the following equipment:

Preparation - mixer and grinder, food processor, egg beater, coffee maker, blender.

Cooking - induction stove, gas stove, cooking range and microwave oven.

Cleaning - vacuum cleaner, Robotic Vacuum cleaner, electric chimney and dishwasher.

Heating - Geyser, iron box, kettle, etc.,

Storage - Refrigerator. Comforts - Air conditioner and air cooler.

Minor Equipments, Role of embedded systems and AI in household equipment design and functional compatibility.

(Factors affecting selection and use of equipment in the home).

### Unit 4 Development of Design

10

Ergonomic principles used in designing household equipment to achieve satisfactory performance. Points to be considered for safe and convenient working surfaces.

### Unit 5 Performance Standards, Research and Evaluation of Equipment

10

Organizations for developing standards — ISI, (BIS) and BEE, Standards needed, Criteria and tools of evaluation.

(Thrust areas of Research in the household equipment )

**Total Hours 45**

## Text Books

1. **Sharma N**, 2006 Home Management, Murari Lalland sons, New Delhi.
2. **Ehtrenkranz, F. and Inman, I.** 1973. Equipment in the Home. New York, Harper and Row.
3. **Peet, L.J., Pickett, M.S. and Arnold, M.G.** 1979, Household Equipment, New York, John Wiley and sons.

## References

1. **Agarwal, D.K.** 2006. Kitchen Equipment & Design . Aman Publications, New Delhi.
2. **Wanda, J.** (2001, Modern Kitchen Work Book- A Design Guide for Planning a Modern Kitchen, Rockport Publishers Inc., USA.
3. **Robert, L. and Smith** (2002), Electrical Wiring Industrial: Based on the 2002 National Electrical Code, Delmar /Thomson Learning Publisher.
4. **Prasad V** 2011, Modernization of home appliance an analytic study, Sonali publications New Delhi.

**Course Outcomes:** After completion of the Course students will be able to:

1. Relate concepts of electricity to operation of equipments
2. Compare various materials used in fabrication of appliances
3. Adapt with the working principle of major and minor electrical appliances
4. Understand the role of ergonomics in designing household appliances
5. Appreciate support of organizations in developing and maintaining quality standards

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | M   | M   | M   | L   | M   | L    | L    | M    |
| CO 2   | H   | H   | M   | L   | M   | M   | L    | M    | L    |
| CO 3   | H   | M   | M   | H   | M   | L   | M    | M    | L    |
| CO 4   | H   | M   | H   | M   | M   | M   | L    | L    | L    |
| CO 5   | M   | M   | L   | L   | M   | M   | M    | M    | M    |

**Household Equipment  
(Practical)**

**Semester I  
25MIRC06**

**Hours of Instruction/week: 4  
No. of Credits: 2**

**Objectives:** Enable students to:

1. Understand the principles underlying the operation, use and care of household equipment
2. Learn electrical plan for a residential building
3. Become an inventor in the use of electrical/electronic appliances

**Unit 1 Market survey on the availability of household equipment 15**

Availability of modern household equipment in the market, its brand, cost, guarantee, after sales services, in-built, energy efficiency, durability and smart features.

AI enabled appliances and special features involved in it – Refrigerator, Washing machine, Air conditioner, Television, Robotic Vacuum cleaner, google assistant, voice control smart devices, sensors based and other devices.

**Unit 2 Estimating the energy consumption of appliances 10**

Estimating energy consumption of various household appliances – Electric cooker, Microwave oven, Mixer, Grinder, Refrigerator, Coffee maker, Sandwich toaster, Dishwasher, Washing machine, Vacuum cleaner and Robotic Vacuum cleaner.

**Unit 3 Operation and maintenance of various household equipment 15**

Understanding different working principles, selection, care and maintenance of household equipment.

Operation, comparison and maintenance of equipment based on different classifications in the household equipment - electrical/ non electrical, major/ minor, heavy/ light, manual/ semi/ fully automated.

**Unit 4 Planning equipment for households 10**

Developing a plan for Placing equipment in the residential building according to its size, usage and maintenance – Kitchen, Dining, Living room and Bed room.

**Unit 5 Assessing the design of household equipment 10**

Evaluating the efficiency of any 5 selected equipment introduced in the market.

**Total Hours 60**

**Text Books:**

1. Ehtrenkranz, F and Inman, I, (1973), Equipment in the Home, New York, Harper and Row.
2. Peet, L.J, Pickett, M.S. and Arnold, M.G, (1979), Household Equipment, New York, John Wiley and sons.
3. VanZante, H.J, (1970). Household Equipment Principles, New York. Prentice Hall Inc.
4. Bertoldi, P, Ricci, A and Wajer, B.H, (1997), Energy Efficiency in Household Appliances, Springer, New York.
5. Tschulena, G, and Lahrmann, A, (2003), Sensors in Household Appliances, Wiley -VCH, Weinheim.

### References:

1. **Agarwal,D.K**, (2006), Kitchen Equipment & Design. Aman Publications, New Delhi.
2. **Wanda,J**, (2001), Modern Kitchen Work Book- A Design Guide for Planning a Modern Kitchen, Rock port Publishers Inc., USA.
3. **Robert,L. and Smith**, (2002), Electrical Wiring Industrial: Based on the 2002 National Electrical Code, Delmar / Thomson Learning Publisher.
4. **Prasad, V**, (2011), Modernization of home appliance an analytic study, Sonali publications New Delhi.
5. **Sharma, N**, (2006), Home Management, Murari Lall and sons, New Delhi.

### Web References:

1. [https://www.ceta.co.in/uploads/cetatimes/15812497991008580960COMMONHOUSEHOLDAPPLIANCE\\_ENERGY\\_USE.pdf](https://www.ceta.co.in/uploads/cetatimes/15812497991008580960COMMONHOUSEHOLDAPPLIANCE_ENERGY_USE.pdf)

**Course Outcomes:** After completion of the Course students will be able to:

1. Recognize the brands, availability and services available for various equipment
2. Become aware of the basic knowledge on electrical needs of different home appliances.
3. Determine the equipment required to meet family needs and evaluate them for quality and working standards
4. Plan electrical layout for household appliances and trends in modern appliance industry
5. Adopt a mindset of innovation and become product developers

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | H   | M   | L   | M   | M   | H    | H    | M    |
| CO 2   | L   | H   | L   | M   | L   | M   | H    | M    | M    |
| CO 3   | H   | H   | M   | M   | L   | L   | M    | M    | M    |
| CO 4   | H   | H   | H   | H   | H   | H   | H    | H    | H    |
| CO 5   | H   | H   | H   | H   | H   | H   | H    | L    | L    |

## Interior Space and Greenscape Design (Practical)

**Semester I**  
**25MIRC07**

**Hours of Instruction/week: 6**  
**No. of Credits: 3**

**Objectives:** Enable students to:

1. Focus on methodological and technical approach to planning spaces and their application in building interiors.
2. Gain information and understanding of styles for interior design and professional working drawings.
3. Learn to create Landscape plan for residential space.

### **Unit 1: Design process and space planning**

Designing spaces for different rooms – living, dining, kitchen and bed room; steps involved in Design process- Data collection, Analyses, Synthesis, Evaluation, Execution, Feedback. Mood board creation.

**10**

**(Visiting interior design firms to understand design process techniques)**

**Unit 2: Technical drawings :** Projections – orthographic projections, pictorial drawings – Axonometric, oblique, central projection or Perspective drawing - perspective views of interiors including colour scheme and rendering- pencil, colour pencil, charcoal.

**20**

**Unit 3: Working drawings:** Constructing layout plan & elevation of residential interior spaces; Drawings for interior service plans like Electrical planning and layout, reflected ceiling plans, plumbing plan, wall treatment for temperature control and acoustic, other furniture and furnishing details; plan, elevation and section of the selected project using architectural scale.

**20**

**( Converting working drawings with suitable software)**

**Unit 4: Designing Landscape plan :** Developing garden plans of different types and styles, symbols of representation of landscape elements, Designing the elements- construction, materials, laying and paving, hard areas, soft areas; components – hedges, edges, borders, trophy, topiary, arches, pergolas, gazebo, screens, flower bed, carpet bed; garden adornments- ponds, fountains, bird's bath, floral clock, lighting and furniture. Creating space with plants

**20**

**( Visiting different landscape places and report submission)**

### **Unit 5: Cost Estimation and specification**

Definition- estimation, budget, cost; types of estimation, specification, introduction to cost estimation, measurement techniques, specification writing, quantity takeoff, unit rates, detailed estimate preparation, Preparing budgetary estimates and costing of interior materials, lights, fixtures etc. of the selected project.

**20**

**Total Hours      90**

### Text Books:

1. Shah, M. G., Kale, C. M., (2020) Manual on Interior space designing ,Elite publishing house Building drawing, 5th edition, Tata McGraw Hill publishing, New Delhi.
2. Francis D.K.Ching (2014) Building Construction Illustrated —Sixth Edition, Wiley Publishing ISBN: 9781119583189, 1119583187
3. Goel, land Kegel, D.E (2002), The Elements of design; Rediscovering Colours, Textures, Forms and Shapes, London: Thames and Hudson
4. Pile,John F, (1985) , Perspectives for interior designers, Whitney Library of Design, crown publishing group, New York

### References:

1. Ching, F. D. K . (2014), Building construction illustrated, Wiley, New Jersey
2. Goel, S., Seetharaman, P. & Kakkar, A. (2015).Time Saver Standards for Interior Design and space planning, second edition. McGraw Hill education
3. Maureen Mitton (2018), Interior Design Visual Presentation: A Guide to Graphics, Models and Presentation Methods, 5th Edition, Wiley Publishing, New Jersey, ISBN: 978-1-119-31255-0.

**Course Outcomes:** On completion of the Course students will be able to:

1. Professionally plan and design interiors for space using technical drawings.
2. Visualize and draw various theme based mood boards for interior and exterior design projects
3. Select appropriate scale and drafting different types of working drawings-Floor plan, Reflected Ceiling plan, wiring plan, plumbing plan.
4. Create working and presentation drawings for residential projects manually as well as on computer aided software
5. Plan layout for landscape design and gain skills in cost estimation for different projects.

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | M   | H   | H   | M   | M   | M    | H    | H    |
| CO 2   | H   | M   | M   | M   | H   | H   | M    | M    | H    |
| CO 3   | M   | -   | H   | H   | H   | M   | H    | M    | H    |
| CO 4   | M   | -   | -   | L   | H   | H   | M    | M    | H    |
| CO 5   | M   | H   | -   | M   | H   | H   | M    | M    | H    |



## Research Methods and Statistical Applications

**Semester II**  
**25MIRC08**

**Hours of Instruction/week: 4**  
**No. of Credits: 4**

### **Objectives:**

1. Understand the fundamental principles, components and techniques of methodology concerning research.
2. To use effective tools and techniques to collect research data, organize them appropriately for facilitating further analysis.
3. Apply statistical procedure to analyze numerical data and interpreting data meaning fully.

### **Unit 1 Research Basics**

Definition, Meaning, Objectives and Characteristics of Research 10  
Significance and types of Research, Research process  
Research problem: Identification, selection, necessity and defining  
Types of Research-Basic, applied, action, evaluation and experimental  
Surveys-Descriptive, diagnostic and exploratory  
Basic principles and components of research design  
Sampling design- Probability and non-probability sampling methods  
Scaling techniques

### **Unit 2 Data and Tools of Data Collection**

05

Primary and secondary data and data sources  
Interview schedules and questionnaires-Guidelines for construction  
Interviews and type of Interviews  
Pre-testing and pilot study, Editing and coding of data, concept of validity and reliability

### **Unit 3 Organization and Representation of Data**

10

Report writing ,Classification- qualitative, Quantitative- frequency distribution, discrete and continuous  
Tabulation of data-parts of at able, preparation of blank tables  
Diagrammatic-One dimensional diagrams, two dimensional diagrams, pictogram and car to graphs  
Graphical-Frequency graphs -line, polygon, curve, histogram  
Cumulative frequency graphs-ogives  
Components or layout of a thesis (SS)

### **Unit 4 Descriptive Measures**

15

Mean, median, mode and their applications  
Measures of dispersion-Standard deviation, Coefficient of variation, Percentiles and Percentile ranks  
Correlation coefficient and its interpretation, Rank correlation  
Regression equations and predictions. Association of attributes.

### **Unit 5 Probability and Tests of Significance**

15

**Probability Rules** – Basic concepts, rules, conditional probability.  
**Probability Distributions** – Nominal & binomial distributions, properties.  
**Tests of Significance** – t-test, F-test, chi-square test.  
**ANOVA** – Concept of One-way & two-way ANOVA.

## Related Experience

05

1. Identifying the research problems under each type
2. Formulation of questionnaires and schedules
3. Consolidating data and forming tables
4. Drawing graphs and diagrams appropriately
5. Working out numerical sums and interpret
6. Numerical applications and drawing inferences, demonstration of SPSS

Total Hours

60

## Text Books

1. **Devadas.R.P.** A Handbook on methodology of Research, Sri Ramakrishna Vidyalaya, Coimbatore, 2000
2. **Gupta.S.P.** Statistical Methods, Sultan Chand & Sons, New Delhi, 2002
3. **Kothari.C.R.** Research Methodology, Method and Techniques, Wiley Eastern Limited, New Delhi, 2004
4. **Creswell, J. W., & Creswell, J. D. (2018).** Research design: Qualitative, quantitative, and mixed methods approaches (5th ed.). SAGE Publications.
5. **Field, A. (2018).** Discovering statistics using IBM SPSS statistics (5th ed.). SAGE Publications.
6. **Kothari, C. R., & Garg, G. (2019).** Research methodology: Methods and techniques (4th ed.). New Age International Publishers.
7. **Kumar, R. (2019).** Research methodology: A step-by-step guide for beginners (5th ed.). SAGE Publications.
8. **Gravetter, F. J., & Wallnau, L. B. (2020).** Statistics for the behavioral sciences (11th ed.). Cengage Learning.

## References:

1. **Kulbir Singh Sidhu**, Methodology of Research in Education Sterling Publishers Pvt. Ltd., New Delhi, 2006
2. **Srivastava.A.B.L and Sharma. K.K.**, Elementary Statistics in Psychology and Education, Sterling Publishers Pvt. Ltd, 2000
3. **Gosh.B.N.** Scientific Methods and Social Research Sterling Publishers Pvt. Ltd. New Delhi.

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

1. Design the tools for collection; identify the samples, interpretation of data with the use of tables and pictorial representations.
2. Assess the numerical data for providing statistical evidences to support their search results.
3. Become a qualified researcher
4. Apply statistical tools to ensure reliability and validity of data
5. Present research data in a scientific manner

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO 1 | PSO 2 | PSO 3 |
|--------|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| CO 1   | H   | M   | M   | M   | H   | L   | M     | M     | L     |
| CO 2   | M   | M   | M   | M   | H   | M   | M     | H     | M     |
| CO 3   | M   | L   | L   | M   | M   | M   | L     | H     | L     |
| CO 4   | M   | L   | M   | M   | H   | M   | L     | M     | M     |
| CO 5   | L   | L   | L   | M   | M   | L   | L     | L     | H     |

**Objectives:** To help the students to:

- Become aware of the different sources of energy
- Understand the methods of utilizing energy
- Acquire skills in handling the devices for harnessing energy

**Unit 1. Energy scenario**

Concept and definition of Energy, Classification of energy sources: based on forms, methods of conversion, sources- primary and secondary, commercial and non-commercial, renewable and non-renewable energy, Energy needs of India, Energy consumption pattern, Energy efficiency, Energy security, Energy and its environmental impact  
(Energy Scenario in India)

**10****Unit 2. Solar Energy**

Principles of solar energy collection, devices used for measurement of solar radiation and sunshine, Solar thermal collectors : Flat plate, liquid flat plate collectors and concentrated collectors ,

Solar applications: Fundamentals of photo voltaic conversion, solar cells, PV systems-standalone or off grid system and PV applications

Solar applications- solar cooker, solar water heater, solar drier, solar pump, solar distillator, solar air conditioner and room heater, solar green house (Visit to renewable energy park)

**15****Unit 3. Wind, OTEC, Tidal and Geothermal energy**

Principles of wind energy conversion, components of wind power system, types of wind turbine, advantages and disadvantages of wind energy, safety and environmental aspects, modes of wind power generation- stand alone mode, back up mode, grid connected mode, application of wind energy.

Energy from OTEC tides and waves – working principles of tidal plants, power from geothermal energy –concept, benefits and challenges, types of geothermal resources, working principle, geothermal energy and environment (Explore prospects for Wind, Tidal and Geothermal energy use)

**15****Unit4. Bio-Energy**

An introduction to biomass ,advantages and disadvantages, bio fuels - solid, liquid and gaseous state, biomass resources , conversion of biomass energy- thermal, chemical and bio chemical

Biogas – source, composition, various types – design principles of biogas plants, operational factors, applications, energy from wastes, utilization of industrial and municipal wastes, energy from agricultural wastes (Identifying the challenges and opportunities for biomass use)

**10**

**Unit5. Agencies and Organizations promoting Renewable Energy**

International Renewable Energy Agency (IRENA), Indian Renewable Energy Development Agency Limited (IREDA), International Sustainable Energy Organization: (ISEO), National Institute of Solar Energy (NISE), National Institute of Wind Energy (NIWE), Solar Energy Corporation of India (SECI).  
(Planning residences by incorporating simple renewable energy devices and estimating its cost)

**10****Total Hours****60****Text Books:-**

1. Thiagarajan, V. (2013). Renewable energy sources, Lakshmi Publications, Chennai
2. Khan, B.H. (2006). Non-Conventional Energy Resources, Tata McGraw-Hill Publishing Company Limited, New Delhi
3. Koteswara Rao, M.V.R. (2004), Energy Resources Conventional and Non Conventional (Second edition), BS Publications, Hyderabad
4. Rai G. D. (2006). Non-Conventional Energy Sources, Fourth Edition, APH Publishers, Delhi
5. Agarwal, S.K. (2005), Non-conventional Energy Systems: APH Publishing Corporation, New Delhi

**References:-**

1. Khan, B.H. (2006). Non-conventional Energy Resources, Tata McGraw-Hill Publishing Company Ltd., Bombay
2. Vandana, S. (2003), Alternate energy, APH Publishing corporation, New Delhi

**Course Outcomes:** On completion of the Course students will be able to:

1. Appraise the significance and use of energy in different forms
2. Use various renewable energy devices and conserve fossil fuels
3. Live as good responsible citizens contributing to global energy conservation endeavors
4. Enjoy the benefits of using renewable energy sources
5. Formulate projects and approach funding agencies in future

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | M   | H   | -   | H   | H   | -    | H    | -    |
| CO 2   | H   | M   | M   | H   | -   | H   | -    | H    | -    |
| CO 3   | M   | -   | H   | -   | M   | H   | -    | H    | -    |
| CO 4   | H   | -   | L   | -   | L   | H   | -    | H    | -    |
| CO 5   | -   | H   | -   | -   | H   | -   | -    | -    | H    |

## Housekeeping and Front Office Operations

Semester II  
25MIRC10

Hours of Instruction/Week: 4  
No. of Credits: 4

### Objectives: Enable students to

1. Gain Knowledge on the functioning of housekeeping department
2. Equip with skills required for front office operations in various functional units
3. Acquire basic skills on the housekeeping and front office operation concepts

#### Unit I Housekeeping

10

Housekeeping Department- Organization, Job Description, Job specification, Relationship of housekeeping department with other departments, Valet services, Guest rooms- types, layout, plans, and rates.

(Visit to housekeeping departments in hotels, hospitals, institutions, offices to understand the concepts, Report writing)

#### Unit II Linen room Inventory

10

Linen room and Uniform - Layout, Calculation of linen requirements, Types of linen, Types of uniform and Dress code . Laundering- Launderettes, Laundry methods, Dry Cleaning, and storage.

(Study of valet services and room services)

#### Unit III General Maintenance of Housekeeping Department

15

Cleaning methods- Types- mechanical, chemical. Cleaning equipment- Types, maintenance of cleaning equipment. Cleaning agents and their uses for different materials- floors, walls and bathrooms. Cleaning procedures- guest rooms and public areas.

(Make an exhaustive list of standard room supplies including bathrooms in hotels and hospitals)

#### Unit IV Environmental Management and Housekeeping Department

10

Housekeeping department- safety, security, pest control and waste disposal .

(Inventory on services provided and service providers in five hotels, five hospitals and five corporate offices).

#### Unit V Front Office Layout and Operations .

15

Front office layout - Hotels, Hospitals, Corporate offices, Institutions

Front office department - Organization, Qualities, Role of front office staff, Hierarchy pattern, Modes of communication in the front desk, Coordination with other departments, Digital services, Operator room, Communication services and Etiquettes. Trends in accommodation (Comparative study of layout in various hotels, hospitals, corporate offices, institutions, drafting user friendly front office layout for all the Institutions) .

**Total Hours 60**

### Course outcomes: After completion of the Course, students will be able to:

1. Appraise the collective and collaborative role of various departments involved in Housekeeping
2. Understand the functioning of exclusive human resource departments
3. Draft an inventory of basic requirements in different departments
4. Draw office layout and components in public buildings meant for different purposes
5. Commission essential service maintenance personnel when needed

**Text Books:**

1. Subban, T.R (2008), Front Office Management, Cyber Tech Publications, New Delhi
2. Andrews,S (2008), Hotel Housekeeping Management and Operations, Tata McGraw Hill Publications, New Delhi

**Reference Books:**

1. George,J.B(2008), Housekeeping Operations, Design and Management, Mumbai: Jaico Publications.
2. Tippal, B.S (2016),Hotel Management and Accounting New Delhi, Wisdom Press.
3. Casado. A.Matt (2000), Housekeeping Management, Canada, John Wiley and sons.
4. Branson,J. C and Lennox, M(1971), Hotel, Hostel and Hospital Housekeeping, Bennett Books Ltd.
5. Jatashankar R., (2016), Hotel front office operations and Management, Oxford University.

| CO /PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|--------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1   | H   | H   | M   | M   | H   | H   | -    | M    | M    |
| CO 2   | M   | H   | M   | L   | H   | H   | L    | M    | M    |
| CO 3   | M   | M   | H   | M   | L   | H   | H    | M    | L    |
| CO 4   | H   | L   | H   | M   | H   | L   | H    | M    | M    |
| CO 5   | L   | H   | M   | L   | L   | M   | M    | L    | L    |

## Advanced Resource Management

Semester II  
25MIRC11

Hours of Instruction/week : 4  
No. of Credits: 4

**Objectives:** Enable students to:

1. Understand the interplay of the concepts of management, managerial abilities, philosophy, values and goals in life
2. Comprehend issues of stress, violence, family crisis and problems of elderly
3. Develop skills to supervise Under graduate students during the residence stay training programme

### Unit1 Family and Management as a System

Family system–Concepts, functions, micro and macro environment.

15

Management as a system – systems approach – meaning and components; process of management–planning, implementation, evaluation, constraints in family management – Family life cycle – Stages of family life cycle. Family Relationships –Relationship between parents, grandparents, children, siblings. Factors influencing sibling relationships. (An enquiry into managerial practices of selected families under different stages of family lifecycle)

### Unit 2 Resources, Values and Demands

Resources - meaning, classification, characteristics, role of resources in management.

15

Values - nature, characteristics, types of values, factors contributing towards value changes. Parker, Rotech and Gandhian values. Goals as demand - goal attributes, types, motivation and setting goals, obstacles to goal achievement. Events as demands-external events, internal events. (Factors affecting the use of resources, enhancing and conserving resources, locating resources available to rural and urban families, and assessment of value changes among the youth )

### Unit 3 Decision Making and Communication

Decision making- Definition, types, decision making process, decision tree.

10

Conflicts-methods to resolve conflicts, a study of problem situations and decision making practices of home makers. Communication-meaning, significance, key Elements in communication, means of effective communication, barriers/noise in communication (Utility of media for communication effectiveness).

### Unit 4 Family Crisis

Types of stress, violence, separation, divorce, Problems of elderly, single parent families. Impact of crisis on family management (General measures to overcome crisis situation, Preparing News album on family crisis).

10

### Unit 5 Residence Course

Practical Experience for Application of Home Management Principles.

10

History of Home Management House, Function sand duties in the residence, Supervisor's role. One week stay in the residence-Organizing Undergraduate students for house experience and submission of report (Minimum equipment needed for organizing residence stay)

**Total Hours 60**

### Text Books

1. Nickel, P. and Dorsey, J.M. 1970, Management in Family Living, Sterling Publishers. New Delhi.
2. Gross, I.H., Crandall, E.W., Knoll, M.M. 1973. Management for Modern Families. Prentice Hall, New Jersey.
3. Deacon, R.E. and Firebaugh, F.M. 1988, Family Resource Management, Principles and Application, Allyn and Bacon, Boston, USA.
4. Goldsmith, E. 1996, Resource Management for individuals and Families, West Publishing Company, New York.
5. Moore, T. J., & Asay, S. M. 2021. *Family resource management* (4th ed.). SAGE Publications.
6. Priest, J. B. 2021. *The science of family systems theory*. Routledge.
7. Goldsmith, E. B. 2022. *Foundations of family resource management* (6th ed.). Routledge.

### References:-

1. Seetharaman, P., Bata, S., Mehra, P., (2005), An Introduction to Family Resource Management, CBS Publishers & Distributors, New Delhi.
2. Singal S and Gandotra V., (2014) Family Resource Management Historical and Contemporary Development, Dominant publishers and distributors Pvt Ltd., New Delhi 2006 .
3. Shukuland Gandotra, (2006), Home Management and Family Finance, Dominant publishers and Distribution New Delhi.

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

1. Apply managerial abilities, philosophy and values in daily living and exhibit effective management skills
2. Plan and manage family resources efficiently
3. Practice the conservation of resources
4. Cope up successfully with stress and unexpected family crisis
5. Preach and practice efficient management skills at home and work place

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO 1 | PSO 2 | PSO 3 |
|---------|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| CO 1    | H   | M   | L   | L   | L   | M   | M     | M     | H     |
| CO 2    | L   | H   | M   | L   | M   | M   | H     | H     | H     |
| CO 3    | H   | L   | H   | M   | M   | M   | M     | L     | M     |
| CO 4    | M   | M   | M   | M   | M   | L   | H     | M     | M     |
| CO 5    | H   | H   | H   | M   | M   | M   | M     | H     | H     |



## Advanced Visual Representation I (Practical)

**Semester II**  
**25MIRC12**

**Hours of Instruction/week: 6**  
**No. of Credits: 3**

**Objective:**

1. Introduce and equip students to fundamental techniques of manual drafting and architectural representation
2. Enhance skills in developing graphical language of architecture
3. Familiarize to the concepts, practices, standards, and drafting methods needed for architectural designing

**Unit I Introduction to Manual drafting**

**15**

Orientation to the basic equipment and tools necessary for architectural drafting and proper usage of drafting tools. Sketching, Lettering and Text – Architectural styles of lettering  
**Dimensioning Systems**-Style, Coordinate, Tabular, Ordinate Dimensioning,  
**Scale**- actual, reduction and enlarged.

**Unit II Multi view Drawings**

**20**

Drafting Procedures, Projection of Point, Line and solids. Orthographic Projection – The Projection Technique, Projecting Element, Isometric Drawing-Scale, projections,

**Perspective Drawings**- Terminology, Perspective Drawings: One-Point Perspective, Two-Point Perspective, Drawing Perspective Views of Objects, Use of Vanishing point and Visual Ray method, Perspective drawing of interiors and exteriors. sectional perspectives

**Study of different housing designs** - Plan symbols, Types of house plans, Different types of Kitchen Arrangement

**Unit III Basics of CAD Applications**

**15**

Introduction, Coordinate systems, Screen structure, Units, Limits, Zoom, drafting settings. Drawing Commands – Line, Arc, circle, Rectangle, Polygon, and Ellipse and Spline. Editing Commands- Erase, Undo, Move, Copy, Mirror, Rotate, Scale, Fillet, Chamfer, Trim, Extend ,Array.

**Unit IV Application of Properties**

**20**

**Properties** - Colour, line type, line type scale, Line weight, Layer, Text - M Text, D text, Text edit

B Hatch, H edit, Pline, Pedit, and ADC.

Inquiry Commands – ID, List, Dist, area time

Dimensions – Linear, Aligned, radial, diameter, Arc length, Jogged, Continuous, Baseline, Dimension style.

**Unit V Developing CAD Drawings**

**20**

Demonstrate drawing elevations with CADD - layout of all openings of an elevation including doors, windows, exterior elevations, drawing different housing plans in software.

**Total Hours 90**

**Text Books:**

1. Ching, F. D. K. (2011). *A Visual Dictionary of Architecture*. 2nd Ed. John Wiley & Sons.
2. Zell, Mo. (2008). *The Architectural Drawing Course*. 1st Ed. Thames and Hudson

3. Bhatt.N.D.(2003). *Engineering Drawing*. Anand: Charotar Publishing House.
4. Ching.F.D. K.(2009). *Architectural Graphics*. 5th Ed. Hoboken: John Wiley & Sons.
5. Ching, F. D. K. (2011). *A Visual Dictionary of Architecture*. 2nd Ed. Hoboken: John Wiley & Sons.

#### References:

1. Robert, W.G.(2006). *Perspective: From Basic to Creative*. 1st Ed. London: Thames and Hudson AutoCAD 2007 – Design News
2. Malhotra and Malhotra, 2001, *Drawing techniques*, Blue Bird Books, New Delhi
3. Verma, B.F., 2003, *Civil Engineering Drawing and House planning*, Khanna Publishers, New Delhi.

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

1. Create models of basic shapes and 3D designs manually
2. Analyze, select and apply tools appropriate for creating a product using AutoCAD.
3. Create and edit 3D models using AutoCAD
4. Apply finishes for created models
5. Visualize and explain the created model

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO 1 | PSO 2 | PSO 3 |
|---------|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| CO 1    | H   | M   | H   | M   | H   | L   | M     | H     | H     |
| CO 2    | H   | L   | L   | L   | H   | L   | M     | H     | H     |
| CO 3    | H   | H   | M   | L   | H   | M   | L     | M     | M     |
| CO 4    | H   | M   | M   | H   | H   | L   | M     | H     | L     |
| CO 5    | H   | L   | L   | H   | H   | L   | M     | M     | M     |

**Semester III**  
**25MIRC13**

**Hours of Instruction/week: 4**  
**No. of Credits: 4**

**Course Objectives:** On completion of the Course students will be able to:

1. Recall history and understand the scope and development of architecture
2. Identify transformations in architectural thoughts
3. Comprehend nuances of modern architecture

**Unit I Nuances of permanent architecture**

General influences on architecture, Elementary forms of construction, architectural elements – free forms, toroids, domes, coves, vaults, space frames. Classification of permanent architecture: based on structure - in antis and pro style; based on use – domestic, religious and secular with examples 15

Supporting elements: classical orders, pillars, piers, cofferdams, cantilever, pendentives and squinches. Supported elements: architrave, entablature, roofing types, ceilings, domes, vaults, truss. Innovativeness or functional forms of structural systems: flying buttress, scaffolding and centering, lintels, pyramids, aqueducts, vaults and domes. (Design philosophies and influential architects in India and Abroad)

**Unit II Overview of historic architecture**

Precedents in 10

architecture, their historic contributions and salient features – an overview of masterpieces in Egypt, Greek, Roman, Gothic, Indian, Buddhist and Islamic. (Contemporary modern architecture, symbolism and symbolic structures, Art Nouveau, Bahai influences, Lotus temple)

**Unit III Automation in interiors**

15

**Kinetic character of spaces:** Integration of motion into the built environment: Escalators, lifts or elevators, pulley operated devices, kinetic walk ways, rotating doorways, sensor controlled doorways, movable partitions, sliding doors, conveyer belts – large scale industries and airports, hydraulic parking, turnstiles, dumbwaiters etc. hydraulic urinals **Human sensitive devices:** Doorways – automatic, swipe card, biometric, iris, body temperature. **Concept of Building Automation and Intelligent services** – fire / burglar alarm, automatic lighting/AC system

**Interactive installations and performative environments** - liquid flow, 4d pixels, Comment wall, pulse room, blinken lights, D tower, digital bus stops etc, Site sensitive relations – Zaragosa digital mile, ( Futuristic Approach automation in interior architecture)

**Unit IV Modern architecture – Innovative trends**

10

**Interactive architecture:** concept, meaning, and examples

**Responsive architecture:** concept, meaning, and examples: Blur building. **Kinetic architecture:** concept, meaning, and examples: Millennium stadium, Burke

Brissoleil, Revolving house, sliding house, Arup's bridge, Pamban bridge, Tower bridge . **Dynamic architecture. Organic architecture:** contributions of Frank Lloyd Wright. (Geodesic domes, Homographies)

**Unit V Modernism and Transformation in Designing space**

Influence of corporate culture and multi nationalism – malls, new ways of entertainment. Designing reconfigurable living spaces, public institutions within corporate premises, art museums as public relations outpost, innovative emergency shelters, temporary structures and buildings – exhibition installations, ephemeral or

|  |           |
|--|-----------|
| portable installations – pandal, caravans, mobile units  | 10        |
| Future trends in architecture – influence of technology, materials (ecofriendly and technical textiles), methods, personal environments, creating tangible and virtual products, 3D printing. (Prefabricated houses, Building automation – trends / acceptance, Eclecticism, Vastushastra and Feng Shui) |           |
| <b>Total Hours</b>   | <b>60</b> |

### **Related Experiences**

1. Visit to Mahabalipuram for rock cut architecture
2. Temple church and mosque visit to observe the materials and methods of construction
3. House visits to see the innovative trends in interiors and exteriors

**Course Outcomes:** After completion of the course students will be able to:

1. Follow the gradual transition from static to kinetic and dynamic structures
2. Locate the influence of man's desire for comfort and convenience over and above functionality
3. Understand trends created in capitalizing the advancements in science and technology in use of materials and methods used for construction
4. Visualize futuristic concepts in the field of architecture and building construction
5. Envisage challenges for modern day architects and civil engineers

### **Text Books**

1. Hiraskar, G.K., (2019), The Great Ages of World Architecture, Dhanpat Rai Publications Pvt., Ltd., ISBN: 978-81-89928-88-9
2. Sujit Mishra, (2015), Architectural Style and Design, Cyber Tech Publications, New Delhi., ISBN: 978-93-5053 – 428 – 1
3. Gosh. A., (2010), The History of Architecture, Arise Publishers and Distributors, New Delhi. ISBN: 978 – 81- 89937 – 46-1

### **References**

1. Asher, F.M. (2003), Art in India – Prehistory to the Present, Encyclopaedia Britannica, Inc.
2. Crouch, Christopher. (2000). Modernism in Art Design and Architecture, New York: St. Martin's Press
3. Curl, James Stevens (2006). A Dictionary of Architecture and Landscape Architecture (Paperback) (Second Ed), Oxford University Press, ISBN 0-19-860678-8
4. Mehrabian, A. and Russell, J.A., An Approach to Environmental Psychology, Cambridge, MA, MIT Press
5. Michell, G. (2000), Architecture and Art of Southern India. In: The New Cambridge History of India, Replika Press Pvt. Ltd., Delhi.
6. Parikh, A., Robertson, D., Lane, T., Hilliard, E. and Paine, M. (2000), The Ultimate Home Design Source book, Conran Octopus Ltd., London.
7. Sharma, G. and Khanna, G, Advance Interior Designing incorporating Vastu and Feng-shui, India Publishers, Delhi.

| <b>CO / PO</b> | <b>PO 1</b> | <b>PO 2</b> | <b>PO 3</b> | <b>PO 4</b> | <b>PO 5</b> | <b>PO 6</b> | <b>PSO 1</b> | <b>PSO 2</b> | <b>PSO 3</b> |
|----------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|--------------|
| <b>CO 1</b>    | M           | L           | M           | L           | H           | L           | L            | H            | M            |
| <b>CO 2</b>    | M           | H           | L           | M           | H           | M           | L            | M            | M            |
| <b>CO 3</b>    | H           | M           | L           | H           | H           | L           | M            | H            | H            |
| <b>CO 4</b>    | M           | L           | M           | M           | L           | M           | M            | H            | M            |
| <b>CO 5</b>    | M           | L           | M           | M           | M           | M           | M            | M            | M            |

**Objectives:** To enable the students to:

1. Understand the nature of entrepreneurial activities
2. Learn the art of enterprising
3. Comprehend the role of events and convention managers in promoting entrepreneurship.

**Unit-I Entrepreneurship and its Development**

Entrepreneurship-meaning, elements, determinants of entrepreneurship, barriers, dimensions of entrepreneurship, Factors influencing entrepreneurship growth- psychological, social, economic and environmental, EDP Programmes in India. Entrepreneur- definition, characteristics, classification, functions, qualities, role of entrepreneur in economic development **10**

**Unit-II Business Ideation:** Sources of ideas- Types of ideas-Technology based, lifestyle based, existing skill based etc. Govt. Linkages **15**

**Project Planning and Formulation:** Project identification: classification, characteristics, constraints and objectives.

Project Planning elements: feasibility analysis, techno-economic, project design and network analysis, input analysis, financial analysis and cost benefit. Interplay of resources.

**Unit-III Women Entrepreneurs and Marshalling Resources**

Successful Women Entrepreneurs in India, Limitations for women entrepreneurs. Suggestions to overcome. **15**

**Marshalling Resources:** Registration of companies, Document maintenance, Mobilizing resources (raw materials, finance etc.) Specific Business Institutions - MSME, DIC, CODISSIA, NABARD, LEAD Banks, NSIC, SIDBI, SEWA, WOBEDA etc.

**Unit-IV Event management as an enterprise**

Planning and arrangement of various functions-award ceremonies, Product launch, theme parties, wedding and institutional events, Identifying resources for conduct of events and their proper use, estimating resource requirements. **10**

Event at commercial centres -trade fairs, exhibitions expositions and festivals

**Unit-V Mice**

Infrastructure and support services. Significance of tourism entrepreneurship and steps for success of event and post evaluation. Convention centres, Convention management, Convention planners and specialty contractors. **10**

**Total Hours: 60**

**Course outcomes:** After completion of the Course, students will be able to:

1. Appraise concepts related to entrepreneurship
2. Appreciate the significance of project planning/ formulation in implementing an enterprise
3. Take up 'entrepreneurship' as a lucrative profession
4. Focus on event management as an enterprise
5. Relate role of tourism and convention planning in effective event management

**Text Books:**

1. Desai.V. (2018)., Entrepreneurial Development-First Edition, Himalaya Publishing House, Mumbai
2. Desai.V, (2025), Dynamics of Entrepreneurial Development and Management- Sixth edition, Himalaya Publishing House, Mumbai
3. Kathiresan & Radha, (2009), Marketing, Prasanna Publishers, Chennai
4. Gupta.C.B. and Srinivasan. N.P, (2014). Entrepreneurial Development, Sultan Chand & Sons, New Delhi.

**References:**

1. Mellor R. (2009), Entrepreneurship for Everyone, Sage Publishers New Delhi
2. Gordon and Natarajan, (2017), Entrepreneurship Development, Himalaya Publishing House, Mumbai
3. Sherlekar, S.A. and Harikumar, (2014), Marketing Management, Himalaya Publishing House. Mumbai
4. Desai and Nayak, (2018), Entrepreneurship, Himalaya Publishing Pvt.Ltd, Mumbai

| CO / PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PSO 1 | PSO 2 | PSO 3 |
|---------|------|------|------|------|------|------|-------|-------|-------|
| CO 1    | H    | M    | M    | -    | -    | H    | H     | M     | M     |
| CO 2    | H    | M    | L    | H    | L    | H    | M     | H     | M     |
| CO 3    | H    | M    | M    | M    | L    | H    | M     | H     | H     |
| CO 4    | L    | L    | -    | L    | -    | H    | M     | H     | M     |
| CO 5    | L    | -    | L    | -    | -    | H    | M     | H     | H     |

## Ergonomics in Work Place Design

**Semester III**

**25MIRC15**

**Hours of Instruction/week: 4**

**No. of Credits: 4**

**Objectives:** - Enable students to:

1. Understand ergonomic concepts applicable in work place.
2. Analyze role of work, worker and work place in management of human resources
3. Learn work simplification principles and techniques

### **Unit I Work Physiology: The worker**

**10**

Anatomy & Physiology: Muscle, bone, and cardio-respiratory system.

Respiration: Lung function, tidal volume, lung capacity, gas exchange, and tests.

Cardiac Function: ECG, EMG, cardiac muscle properties.

(Blood pressure: Definition, normal values –systolic, diastolic, mean arterial and pulse pressure and factors regulating it).

### **Unit II Ergonomics and Anthropometry in work place design**

**15**

Work Types: Light, moderate, heavy work; posture and job relation.

Posture & MSDs: Standing, sitting, movement postures; RULA, REBA assessment.

Anthropometry: Measurements, data types, workspace design applications.

Workload & Fatigue: Energy balance, muscular strength, heart rate, motion economy.

(Safety & Stress: Workplace errors, fatigue, and residential space safety measures)

### **Unit III Environmental factors influencing human performance**

**15**

Climate Effects: Temperature, humidity, heat/cold stress, acclimatization.

Lighting & Colour: Visual acuity, contrast, glare, illumination, and performance impact.

Noise & Vibration: Physiological impact, noise reduction methods.

(Furniture & Efficiency: Impact on work performance, measurement techniques).

### **Unit IV Work Space Design**

**10**

Ergonomic Design: Workstation, hand tools, kitchen, and office ergonomics.

Universal Design: Accessibility for mobility aids, physical space considerations.

(Kitchen Design: Work triangle, storage, and efficiency factors).

Health Risks: Musculoskeletal issues, visual fatigue, and stress.

### **Unit V Ergonomics for Physically Challenged**

**10**

Challenges in Design: Issues in using regular designs and performing tasks.

Humanizing Design: Comfort, adaptability, and inclusive furniture considerations.

(Furniture for Accessibility: Chair characteristics, support structures, and activity-specific designs)

**Total Hours 60**

### **Textbooks:**

1. "Residential Interior Design: A Guide to Planning Spaces" by Maureen Mitton and Courtney Nystuen (2020)
2. "Human Dimension & Interior Space: A Source Book of Design Reference Standards" by Julius Panero and Martin Zelnik (2021)



**Reference Books:**

1. "Design for Ergonomics" by Francesca Tosi (2020)
2. "The Interior Design Reference & Specification Book: Everything Interior Designers Need to Know Every Day" by Chris Grimley and Mimi Love (2025)
3. "Introduction to Ergonomics" by R.S. Bridger (2023)
4. "The Design of Everyday Things" by Donald A. Norman (2018)
5. "Kelly Hoppen: The Art of Interior Design" by Kelly Hoppen (2016)

**Course outcomes:** On completion of the Course, students will be able to:

1. Identify oneself as a worker and analyze personal work patterns
2. Understand the trilogy of work, worker and work environment and their mutual impact
3. Relate influence of environmental factors on occupational safety and security
4. Draw/ design ergonomic kitchen models
5. Appreciate 'humanizing design' concepts in buildings and furniture

| CO / PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PSO 1 | PSO 2 | PSO 3 |
|---------|------|------|------|------|------|------|-------|-------|-------|
| CO 1    | H    | M    | L    | M    | L    | M    | H     | M     | L     |
| CO 2    | H    | H    | M    | H    | M    | M    | H     | H     | M     |
| CO 3    | M    | M    | H    | M    | L    | M    | H     | M     | H     |
| CO 4    | L    | M    | M    | L    | H    | M    | M     | H     | H     |
| CO 5    | L    | L    | H    | M    | M    | H    | H     | M     | H     |

## Consumerism and Green Consumerism

**Semester III**  
**25MIRC16**

**Hours of Instruction/week : 3**  
**No. of Credits: 3**

**Objectives:-** Enable students to:

1. Familiarize with the changing trends in consumerism
2. Enrich their knowledge on market systems and be informed consumers
3. Accept and adopt an attitude in all change to emerge as green consumers

### **Unit 1 Concept of Consumerism and Consumer Behaviour**

Meaning and definition of consumer and consumerism, Consumer behaviour, Factors influencing Consumer behavior, Classification of consumer goods, Rights and responsibilities of consumers (Role of wise consumer in purchasing goods and services).

07

### **Unit 2 Consumer Economics**

Market – meaning and definition, concept and nature, types and function  
Digital Marketing – meaning, importance, types and career opportunities.  
Demand and Supply - meaning and types, factors affecting demand and supply  
Price- concepts and types of pricing  
(Measures to control inflation, Consumer Co-operatives –objectives and functions)

07

### **Unit 3 Consumer Education and Protection**

**Consumer Education:** Meaning and definition; need and scope, methods and problems

**Consumer Protection:** Meaning, Scope of consumer protection act, consumer ethics, and legislation. Consumer aids: classification- Labels, Trademarks, Brand Names, Patents, Warranty, Guarantee, Quality Control and After Sales Service, Government and Voluntary Agencies

07

(Product evaluation; Redressal Forum at different levels and functions)

### **Unit 4 Quality control and environmental issues**

**Quality Control:** Meaning and definition Role of Institutions, Standards Institutions – BIS, Agmark, ISO

12

**Green Consumerism-** Meaning, need and importance, green consumerism in daily consumption, ethos of adopting sustainable / eco-friendly life style.

(Survey of homemakers on practice of green consumerism )

### **Unit 5 Transforming consumers to green consumers**

Sustainable purchase behavior: meaning and benefits, reduction in production/ use of packaging/ plastic bags

Certifications - green label / eco-label, green seal , star rating, Eco Logo, EPA design for the environment, 3R Concept-reduce, reuse and recycle, 5R, 7R and 9R concepts

12

Green marketing- Meaning and definition, importance, strategies, advantages and disadvantages. (Inventory on products with green / eco label, Star rated products etc., )

**Total Hours 45**

**Textbooks:**

1. **Wagner, S.** (2003), *Understanding Green Consumer Behaviour: A Qualitative Cognitive Approach* (Routledge Studies in Consumer Research)
2. **Deshpande, J. Gangawane, L. V and Khilare, V. C.** (2007), *Sustainable Environmental Management*, Daya Books.
3. **Vinod, A.** (2006), *Marketing management*, Feroke Chungam: Calicut University, Central Co-operative Stores Ltd, No.4347.
4. **Khanna, S. Retal** (2007), *Consumer Affairs*, Hyderabad: Universities press
5. **Schiffman, Gand Kanuk, L. L.** (2017), *Consumer Behaviour* Prentice-Hall of India Ltd, New Delhi,
6. **Smita V Yas** (2012), *Consumer Production*, Sree Niwas Publications, Jaipur (India)

**References:**

1. **Verma, B. P.** (2003), *Civil Engineering Drawing*, Drawing and House Planning; Khanna Publishers, New Delhi
2. **Gupta, C. B. and Nair, R. N.** (2004), *Marketing Management*, Sultan Chand and Sons, New Delhi
3. **Nair Rajan, Nair Sanjith, R.** (2003), *Marketing*, New Delhi: Sultan Chand and Sons
4. **Pattanchetti, C. C. and Reddy** (2002), *Principles of Marketing*, Rainbow Publishers, Coimbatore
5. **Nair, S** (2002), *Consumer Behaviour*, New Delhi: Sultan Chand and Sons
6. **Kathiresan, S. and Radha, V** (2004), *Marketing*, Chennai: Prasanna Publishers

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

1. Practice knowledge gained on consumer rights and protection for personal good
2. Involve in research areas related to green practices
3. Encourage the neighborhood to adopt 3R's concept of Reduce, Reuse and Recycle
4. Promote purchase of energy efficient and star rated products which consume less energy
5. Contribute to global cause as green consumer activists

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO<br>1 | PSO<br>2 | PSO<br>3 |
|---------|-----|-----|-----|-----|-----|-----|----------|----------|----------|
| CO 1    | H   | H   | M   | M   | H   | H   | M        | H        | L        |
| CO 2    | H   | M   | M   | H   | M   | H   | M        | M        | M        |
| CO 3    | H   | M   | H   | M   | M   | H   | M        | M        | L        |
| CO 4    | M   | M   | M   | L   | H   | M   | L        | M        | L        |
| CO 5    | M   | H   | L   | M   | L   | H   | M        | M        | L        |

**Creative Applied Arts**  
**(Practical)**

**Semester III**  
**25MIRC17**

**Hours of Instruction/week: 4**  
**No. of Credits: 2**

**Objectives:** Enable students to:

1. Appreciate aesthetics in arts and crafts
2. Grasp nuances of creative arts
3. Inculcate skills on hands on experience in applied arts

**Unit 1 Drafting and Model making**

Drafting template and model making: for residential building, and furniture using modern techniques for various rooms **15**

**Unit 2 Expressing Individuality through Art**

Drawing using different methods and techniques: developing designs for greeting cards, posters, wall hangers, jewellery, warli work in fabric, Making - paper bags, lamp shades. **10**

**Unit 3 Novelty and Creativity of Applied Arts**

Painting, collage, stencil work, pot painting, decoupage, macramé and quilling. **10**

**Unit 4 Table arrangements, floor and wall decorations**

Table setting, vegetable carving, flower arrangement, kolam, flower carpet and alpana. **10**

**Unit 5 Presentation of an idea/ experience in a creative way**

Portfolio preparation, mock up space and area arrangement **15**

**Total Hours 60**

**Text Books**

1. Oei, L and Kegel, D. E, (2002), The Elements Of Design: Rediscovering Colors, Textures, Forms, and Shapes, London: Thames and Hudson
2. Pile, J, (2003), Interior Design, 3<sup>rd</sup> Ed, New Jersey, USA: Pearson
3. Piotrowski, C, (2004), Becoming an Interior Designer, New Jersey, USA: John Wiley & Sons

**References**

1. Geoffroy A and Migdal M, (2011) World Famous Caricatures Collection & Drawing Techniques, Mad Artist Publishing
2. Zeegan L and Crush, (2006) The Fundamentals of Illustration, Fairchild Books AVA
3. Krause J, (2004) Design Basics Index; HOW Books
4. Antonelli P, (2005), Humble Masterpieces: Everyday Marvels of Design; Harper Design
5. Margaret Shepherd, (2001), Learn Calligraphy – The Complete Book of Lettering and Design, Broadway Books, New York

**Web reference**

<https://www.goodreads.com/shelf/show/applied-arts>

**Course Outcomes:** After completion of the Course students will be able to:

1. Adopt aesthetics as a human value and a way of life
2. Understand the resourcefulness of wasted materials
3. Learn from doing and gain expertise in simple measures of decoration
4. Enjoy and benefit from interactive one - to - one learning
5. Find indigenous methods of designing interiors using locally available materials

| CO / PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|---------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO 1    | L   | L   | -   | H   | H   | H   | H    | -    | H    |
| CO 2    | H   | H   | -   | L   | H   | H   | M    | M    | M    |
| CO 3    | L   | H   | H   | L   | H   | H   | H    | H    | M    |
| CO 4    | H   | H   | H   | M   | H   | H   | H    | H    | M    |
| CO 5    | H   | M   | H   | L   | L   | M   | H    | H    | M    |

**Advanced Visual Representation II  
(Practical)**

**Semester III  
25MIRC18**

**Hours of Instruction/week: 4**

**No. of Credits: 2**

**Objectives:** Enable students to:

1. To equip students with skills in design visualization through sketches, 3D modeling, and digital tools.
2. To enhance students' expertise in advanced visualization techniques like rendering, animation, and AR/VR.
3. To prepare students for professional practice by developing effective design presentations, portfolios, and project pitches.

**Unit I Introduction to Design Visualization and Presentation :**

**12**

*Overview of Design Visualization:* Importance of visualization in interior design. *Design Presentation:* Communication of ideas using visuals, sketches, and digital tools. *Software Introduction:* Brief overview of essential design software (AutoCAD, SketchUp, Rhino, Revit, Adobe Photoshop, etc.). *Sketching and Concept Development:* Hand sketches vs. digital drawings, creating mood boards and visual narratives.

**Unit II 3D Modeling and Rendering Techniques:**

**14**

*Modeling Basics:* Creating basic shapes, textures, and materials. *Rendering Techniques:* Introduction to rendering techniques. *Lighting and Shadows:* Principles of natural and artificial lighting in design visualization. *Textures and Materials:* Applying realistic textures, using material libraries, and fine-tuning materials for real-life effects.

**Unit III Advanced Visualization Tools and Techniques:**

**10**

*Animation and Virtual Tours:* Creating walkthroughs and fly throughs of interior spaces. *Interactive Visualizations:* Introduction to creating VR/AR experiences for interior designs. *Augmented Reality (AR):* Tools and techniques for creating immersive environments. *Post-production in Photoshop:* Enhancing 3D renders, color correction, lighting effects, and visual refinement.

**Unit IV Presentation Techniques and Communication:**

**12**

*Design Presentation Formats:* Boards, slides, and digital presentations. *Creating Presentations in PowerPoint/Adobe In Design:* Incorporating renders, drawings, and concepts into effective slides. *Client Presentation Techniques:* Approaching clients with design proposals, presenting technical details.

*Project Pitching:* Techniques for pitching interior design concepts to clients or teams.

**Unit V Professional Practices and Portfolio Development :**

**12**

*Portfolio Development:* Assembling a digital or physical portfolio showcasing design visualization skills. *Professional Practices:* Ethical considerations, presentation etiquette, and working with clients. *Design Documentation:* Creating technical drawings, specifications, and presentation-ready documents for professional use. *Final Project:* Developing a complete interior design presentation with 3D models, renders, animations, and a professional portfolio.

**Total hours 60**

**Textbook:**

**1. Alex Schreyer (2015), *Architectural Design with SketchUp: 3D Modeling, Extensions, BIM, Rendering, Making, and Scripting*, Wiley; 2nd Edition**

**Reference Books:**

1. **Francis D.K. Ching (2014)**, *Interior Design Illustrated*, John Wiley & Sons, 2nd Edition.
2. **M. S. R. Murthy & K. V. S. R. S. Sarma (2019)**, *Digital Modeling for Interior Design: A Visual Guide to AutoCAD, SketchUp, and Rhino*, Routledge, 1st Edition.
3. **Katie Hutchison (2018)**, *Interior Design Visual Presentation: A Guide to Graphics, Models, and Presentation Techniques*, Wiley, 2nd Edition.
4. **Robert H. Bishop (2008)**, *The Computer Graphics Manual*, Springer, 1st Edition.
5. **Stephanie L. Woodson (2014)**, *The Interior Design Reference & Specification Book*, Rockport Publishers.

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

1. Understand the significance of design visualization in interior design and use basic sketching and digital tools to communicate design ideas.
2. Apply 3D modeling and rendering techniques to create realistic interior visualizations, including lighting, textures, and materials.
3. Develop advanced visualization skills, including creating animations, VR/AR experiences, and post-production enhancements for 3D renders.
4. Create effective design presentations, including client presentations, using software tools like PowerPoint and In Design, and develop project pitching skills.
5. Assemble a professional portfolio showcasing design visualization skills, demonstrating ethical practices, and producing final design documentation.

| CO/PO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PSO1 | PSO2 | PSO3 |
|-------|-----|-----|-----|-----|-----|-----|------|------|------|
| CO1   | M   | M   | M   | H   | H   | M   | M    | M    | H    |
| CO2   | H   | H   | H   | M   | M   | H   | M    | H    | M    |
| CO3   | H   | M   | H   | M   | H   | H   | H    | H    | M    |
| CO4   | H   | M   | L   | M   | L   | L   | H    | M    | L    |
| CO5   | H   | L   | L   | M   | H   | M   | M    | H    | L    |

## Housing and Energy-Policies and Programmes (Self-Study Course)

**Semester III**  
**25MIRC20**

**Hours of Instruction/week: 2**

**No. of Credits: 2**

**Objectives: -**

1. Browse through different literature sources-the concepts related to the subject
2. Understand housing conditions and energy requirements in India from a different perspective
3. Comprehend Government Policies / programmes on housing and energy sectors

**Unit I Housing in India**

Housing – status, problems, shortage, causes for shortage. Bye laws and zoning for building. 05

**Unit II Housing Policies, Housing Schemes and Programmes**

Housing policies – Pradhan Mantri Awas Yojana (PMAY), National Housing Policy (NHP 2024), National Urban Housing & Habitat Policy (NUHHP 2020), National Urban Rental Housing Policy (NURHP 2015)

Housing Schemes: JNNURM, AHP, Rajiv Awas Yojana (RAY), Housing for All 2022, Pradhan Mantri Awas Yojana, Pradhan Mantri Grameen Awas Yojana 05

Housing Programmes: details on all 19 programmes. (Housing finance agencies: HUDCO, NHB, HDFC, SHB, LIC, GIC, Commercial / private banks)

**Unit III Research Institutions – Housing**

Housing: CBRI, NBO, SERC, BIS, Advanced Materials and Processes of Research Institute. (Housing cooperatives, Commission for Additional Sources of Energy - CASE) 05

**Unit IV Research Institutions –Energy**

Energy Policy Framework- Key Energy Policies: IEP, NAPCC – their features, role, goals, eight missions to achieve NAPCC principles 07

Schemes & programmes: Energy Conservation Act (2022), BEE (2002), JNNISM, NMEEE, NMST. Energy – Types, shortage, crisis, impacts.

Energy: MNRE, IREDA, IREP, NBMMP, SEC, TEDA, SESI. (Energy efficiency in India). (Policy Concepts: self-sufficiency, non-interference, inclusive development)

**Unit V Climate change and Green building – concept and issues on sustainability**

Climate change and issues: global warming, ozone depletion, greenhouse gas (GHG) effects, Green technology to conserve energy, Cargotecture, Zero carbon building.

Carbon footprints: steps to reduce 8

Pioneering efforts: Role of: IGBC- Indian Green Building Council ; Energy Conservation Building Code 2007; GRIHA -Green Rating for Integrated Habitat Assessment. (Eco – friendly building materials for construction, finishing, insulation; Examples of LEED certified buildings in India)

**Total hours: 30**



**Course outcomes:** After completion of the Course, students will be able to:

1. Decipher current housing and energy sector scenario in India as well as in the global set up
2. Approach crisis in housing and energy sector with a matured vision
3. Self-motivate to be proactive partners in tackling energy crisis
4. Join hands with global players in enrolling people to change their attitude and to fight for a noble cause
5. Preach and practice sustainability concepts as a life style

### References

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| CO / PO | PO 1 | PO 2 | PO 3 | PO 4 | PO 5 | PO 6 | PSO 1 | PSO 2 | PSO 3 |
|---------|------|------|------|------|------|------|-------|-------|-------|
| CO 1    | H    | L    | M    | M    | M    | L    | -     | L     | -     |
| CO 2    | H    | H    | M    | H-   | M    | H    | L     | -     | L     |
| CO 3    | M    | M    | L    | L    | H    | M    | M     | M     | M     |
| CO 4    | H    | M    | -    | -    | M    | H    | M     | M     | L     |
| CO 5    | H    | H    | M    | L    | M    | H    | M     | -     | -     |

