

ANNAMALAI UNIVERSITY

BACHELOR OF SCIENCE

B.Sc., INTERIOR DESIGN AND DECOR

(With effect from 2021 - 2022)

The Course of Study and the Scheme of Examinations

S. No.	Part	Study Components		Ins. Hrs / week	Credit	Title of the Paper	Maximum Marks		
		Course Title					CIA	Uni. Exam	Total
SEMESTER I									
1.	I	Language	Paper-1	6	4	Tamil/Other Languages	25	75	100
2.	II	English (CE)	Paper-1	6	4	Communicative English I	25	75	100
3.	III	Core Theory	Paper-1	6	4	Design Basics	25	75	100
	III	Core Practical	Practical-1	4	0	Design Basics Practical	0	0	0
4.	III	Allied -1	Paper-1	4	3	Applied Arts on Textiles-I	25	75	100
	III	Allied- 1	Practical-1	2	0	Applied Arts on Textiles practical	0	0	0
5.	III	PE	Paper 1	6	3	Professional English I	25	75	100
6.	IV	Environmental Studies		2	2	Environmental studies	25	75	100
		Sem. Total		36	20		150	450	600
SEMESTER II									
7.	I	Language	Paper-2	6	4	Tamil/Other Languages	25	75	100
8.	II	English (CE)	Paper-2	6	4	Communicative English II	25	75	100
9.	III	Core Theory	Paper-2	5	4	Colour and Lighting	25	75	100
10.	III	Core Practical	Practical-1	3	2	Design Basics Practical	25	75	100
11.	III	Allied-1	Paper-2	4	3	Applied Arts on Textiles-II	25	75	100
12.	III	Allied Practical - 1	Practical-1	2	2	Applied Arts on Textiles Practical	25	75	100
13.	III	PE	Paper 1	6	3	Professional English II	25	75	100
14.	IV	Value Education		2	2	Value Education	25	75	100
15.	IV	Soft Skill		2	1	Soft Skill	25	75	100
		Sem. Total		36	25		225	675	900
SEMESTER III									
16.	I	Language	Paper-3	6	4	Tamil/Other Languages	25	75	100
17.	II	English	Paper-3	6	4	English	25	75	100
18.	III	Core Theory	Paper-3	4	4	Computer Aided Design - I	25	75	100
	III	Core Practical	Practical-2	3	0	Computer Aided Design practical	0	0	0
19.	III	Allied-2	Paper-3	4	3	Interior Design Studio and Building system Technology-I	25	75	100
	III	Allied	Practical-2	3	0	Interior Design Studio Practical	0	0	0

		Practical - 2								
20.	IV	Skill Based Subject	Paper-1	2	2	Draftsmanship-I	25	75	100	
21.	IV	Non-Major Elective	Paper-1	2	2	Basics of Interior Design-I	25	75	100	
		Sem. Total		30	19		150	450	600	
		SEMESTER IV								
							CIA	Uni. Exam	Total	
22.	I	Language	Paper-4	6	4	Tamil/Other Languages	25	75	100	
23.	II	English	Paper-4	6	4	English	25	75	100	
24.	III	Core Theory	Paper-4	4	4	Planning the life space	25	75	100	
25.	III	Core Practical	Practical-2	3	3	Computer Aided Design practical	25	75	100	
26.	III	Allied-2	Paper-4	4	3	Interior Design studio and Building system Technology-II	25	75	100	
27.	III	Allied Practical - 2	Practical-2	3	2	Interior Design Studio Practical	25	75	100	
28.	IV	Skill Based Subject	Paper-2	2	2	Draftsmanship-II	25	75	100	
29.	IV	Non-Major Elective	Paper-2	2	2	Basics of Interior Design-II	25	75	100	
		Sem. Total		30	24		200	600	800	
		SEMESTER V								
30.	III	Core Theory	Paper-5	4	4	Furniture in Interiors	25	75	100	
	III	Core Practical	Practical-3	3	0	Furniture and Furnishings Practical	0	0	0	
31.	III	Core Theory	Paper-6	4	4	Computer Aided Design- II	25	75	100	
	III	Core Practical	Practical-4	3	0	Google SketchUp practical	0	0	0	
32.	III	Core Theory	Paper-7	4	4	Floriculture and Landscaping	25	75	100	
	III	Core Practical	Practical-5	3	0	Floriculture and Landscaping Practical	0	0	0	
33.	III	Core Theory	Paper-8	4	4	Fundamentals of Architecture	25	75	100	
34.	III	Internal Elective	Paper-1	3	3	(to choose 1 out of 3) A. Consumer and Merchandising B. Kitchen Design C. House Keeping and Front Office Management	25	75	100	
35.	IV	Skill Based Subject	Paper-3	2	2	Residential space designing	25	75	100	
		Sem. Total		30	21		150	450	600	
		SEMESTER VI								
36.	III	Core Theory	Paper-9	4	4	Soft Furnishings	25	75	100	
37.	III	Core Theory	Paper-10	4	4	Applied Arts	25	75	100	
38.	III	Core Practical	Practical-3	3	3	Furniture and Furnishing Practical	25	75	100	
39.	III	Core Practical	Practical-4	3	3	Google Sketchup practical	25	75	100	
40.	III	Core Practical	Practical-5	3	3	Floriculture and Landscaping Practical	25	75	100	
41.	III	Compulsory Project	Paper-11	5		Individual / Group Project	25	75	100	

					5				
42.	III	Internal Elective	Paper-2	3	3	(to choose 1 out of 3) A. Professional Practice B. Environment control in Interiors C. Fine - Arts Drawing and Painting	25	75	100
43.	III	Internal Elective	Paper-3	3	3	(to choose 1 out of 3) A. Ergonomics B. Green Building Technology C. Entrepreneurial Development	25	75	100
44.	IV	Skill based Subject	Paper-4	2	2	Commercial Space Designing	25	75	100
45.	V	Extension Activities		0	1		100	0	100
		Sem. Total		30	31		325	675	1000
		Grand Total			140				4500

Part	Subject	Papers	Credit	Total Credits	Marks	Total Marks
Part I	Languages	4	4	16	100	400
Part II	Communicative English & English	4	4	16	100	400
Part III	Allied (Odd Semester)	2	3	6	100	200
	Allied (Even Semester)	2	5	10	100	200
	Allied Practical	2	2		100	200
	Electives	3	3	9	100	300
	Core	10	(3-5)	40	100	1000
	Core practical	5	(2-3)	14	100	500
	Professional English	2	3	6	100	200
	Compulsory Project (Group/Individual Project)	1	5	5	100	100
Part IV	Environmental Science	1	2	2	100	100
	Soft skill	1	1	1	100	100
	Value Education	1	2	2	100	100
	Lang. & Others /NME	2	2	4	100	200
	Skill Based	4	2	8	100	400
Part V	Extension Activities	1	1	1	100	100
	Total	45		140		4500

ANNAMALAI UNIVERSITY
B.Sc. INTERIOR DESIGN AND DECOR
SYLLABUS
UNDER CBCS PATTERN
(With effect from 2021-2022)

SEMESTER I
CORE PAPER 1
DESIGN BASICS

Course Objectives:

To enable the students to

1. Identify the design types.
2. Understand the elements and principles of design
3. Learn the importance of art elements in the creation of new design.
4. Learn the application of principles of design in creating beautiful interiors.

UNIT-I

Interior Design – Meaning and concepts. Objectives of aesthetic planning - Beauty, expressiveness, functionalism and economy. Good taste – meaning, role and importance of good taste. Need for developing skill in aesthetics.

Place of interior design in the modern era – changing trends and salient features.

UNIT-II

Design–Definition, meaning, purpose of design. Types - Structural design and decorative design and their characteristics. Classification of decorative design – Naturalistic design, conventional design, geometric design, abstract design, historic design and biomorphic design.

UNIT-III

Elements of design - Line and direction, Form and Shape, Size, Colour, Light, Pattern, Texture and Space. Application of elements of design in interior and exterior.

UNIT-IV

Principles of design –Balance, Rhythm, Emphasis, Harmony, Proportion – meaning, and its application in the interior and exterior of houses and other commercial buildings.

UNIT-V

Motif- meaning. Development of design from motifs and application of motifs in interior decoration. Man, as a consumer of design. Qualities and role of a good interior designer. Career options for interior designers.

Text Books:

1. Seetharaman, P and Pannu, P. Interior Design and Decoration, CBS Publishers and Distributors, New Delhi
2. Faulkner, S. and Faulkner,R,(1987), Inside Today's Home, Rinehart Publishing company, Newyork

References:

1. Faulkner, S. and Faulkner,R,(1987), Inside Today's Home, Rinehart Publishing company, Newyork.
2. Caroline cliftenet. al., The Complete Home Decorator, Portland House New York.
3. Seetharaman, P and Pannu, P. Interior Design and Decoration, CBS Publishers and Distributors, New Delhi
4. Pratap R.M (1988), Interior Design Principles and Practice, Standard Publishers Distribution, Delhi.
5. Goldstein, Art in Everyday life, Oxford and IBH Publishing House.

E Materials:

1. <https://study.com/academy/lesson/what-are-the-seven-elements-of-art-definition-examples.html>
2. <https://thevirtualinstructor.com/artfundamentals.html>
3. <http://ecoursesonline.iasri.res.in/mod/page/view.php?id=120889>
4. <https://www.slideshare.net/KKIIMMII/aesthetics-13339798>
5. <https://www.curbed.com/2016/7/21/12228858/interior-design-decorating-principles>
6. <https://justdecorate.wordpress.com/2014/06/19/the-most-popular-interior-design-motifs-and-their-symbolic-meaning/>

Course Outcome:

After completion of the course, the student will be able to

1. Identify artistically appealing interiors as a designer.
2. Create objects with good design.
3. Apply the various elements of design in producing an interior.
4. Using the elements and principles knowledge to interiors.
5. Create tastefully decorated interiors with good motifs.

ALLIED - 1

PAPER-1

APPLIED ARTS ON TEXTILES

Course Objectives

To enable the students to

1. Understand the types of fibres, yarns and basic weaves
2. Understand art and apply its principles in the creation and selection of textiles.
3. Know about the effects of various textile finishes.
4. Develop design in textiles and apply the same on materials.

UNIT-I

Fundamentals of textiles – fiber – meaning, Types – filament fibre and staple fibre. Classification – natural – vegetable fibre, animal fibre , mineral fibre and manufactured fibre, Yarn – meaning, yarn twist- S twist, Z twist, yarn count, classification – single, ply, cord and novelty yarns. Properties of cottonfibre. Manufacturing process of cotton yarns .

UNIT-II

Fabric construction – Weaving – meaning, Major parts of a loom – warp beam, headles, harnesses, reed, shuttles, cloth roll. Basic weaving operation –weaving process - shedding, picking, beating up, taking up and letting off. Types of weave – Basic weave – plain – basket and ribbed, Twill - herringbone and satin - sateen. Fancy weave – Jacquard.

UNIT-III

Dyeing and printing – Dyes- definition, types- natural dyes and synthetic dyes, Mordants – meaning. Dyeing –meaning, stages of dyeing- fiber dyeing, yarn dyeing and fabric dyeing. Textile printing – meaning, Hand printing techniques–block printing, screen printing and stencil printing. Machine printing- roller printing, screen printing, heat transfer printing and blotch printing.

UNIT-IV

Fabric Finishes – definition, Meaning of aesthetic finish and functional finish. importance of textile finishes, Effects of different finishing process on fabrics – bleaching process, tendering process, mercerizing process , sanforizing process , napping process, calendaring process and sizing process. Special finishes – water repellent, fire proof, moth proof, anti-microbial, and stain proof.

UNIT-V

Application of art principles – harmony, balance, proportion, rhythm, and emphasis in the selection of soft furnishings in interiors. Use of elements of design – line, size, shape, form, colour, texture and pattern in the selection of fabric for interiors. Application of relate colour harmonies and contrasting colourharmonies in different fabrics.

Text Books:

Unit-1: Textiles – fibre to fabric, corbmann B P , International students edition, McGraw Hill book Co, Singapore 1985.

Unit-2 : Textiles – fibre to fabric, corbmann B P , International students edition, McGraw Hill book Co, Singapore 1985.

Unit-3: Fundamentals of Textiles and their Care- SusheelaDantiyagi , Orient Longmann Ltd (1980).

Unit-4 : Textiles – fibre to fabric, corbmann B P , International students edition, McGraw Hill book Co, Singapore 1985.

Unit-5: Textiles fabrics and their Selection – Wingate I B, Allied publishers Ltd, Chennai.

References:

1. Chambers B.G. “Colour and Design, Fashion in Men’s and Women’s Clothing and Furnishings”.Prentice Hall, Inc, New york ,1951.
2. Gisela Heix, Fabric Painting, B.T.BatsfordLtd.,London ,1972.
3. Mehta R.S., Masterpieces of Indian Textiles, D.B.Taraporewala Sons and Co.Pvt.Ltd. Bombay, 1970.
4. JasleenDhamija,The Indian folk , Arts and crafts, National Book Trust India , New Delhi, 1992.
5. Mary Mathews, Bhattarams reprographics, Pvt.Ltd., Chennai 1974.

Magazines:

1. Inside Outside
2. Society Interiors

Course Outcome:

After completion of the course, the student will be able to

1. Classify and differentiate different types of fibres and yarns.
2. Understand the process of fabric formation by weaving process.
3. Know types of dyes and prints applied to decorate fabrics.
4. Understand the basic and special fabric finishes.
5. Apply the elements and principles of design in the selection of soft furnishings.

SEMESTER II
CORE PAPER - 2
COLOUR AND LIGHTING

Course Objectives:

To enable the students to

1. Learn the concepts of colour and lighting.
2. Learn skills in using colour and light in functional context.
3. Impart knowledge in recent trends in colour and lighting.

UNIT-I

Concept of colour – sources of colour, significance of colour in the interiors and exteriors, dimensions of colour –hue, value, intensity, Effects of Hue, Value and Intensity.

UNIT-II

The colour spectrum, Physiology of vision, Colour systems - Prang, Munsell and Ostwald. Planning colour harmonies-related and contrasting. Non-mechanical – readymade and nature based. Factors considered in selecting colour harmonies.

UNIT-III

Application of colour harmonies in the interiors and exteriors, Effect of light on colour, Illusion of colour, psychology of colour, effect of colour upon each other.

UNIT-IV

Importance of lighting, Sources – Natural and Artificial lighting, Benefits of effective lighting, Principles of lighting, Types – based on material, reflection, architectural elements and uses. Specific factors in lighting – measurements of lighting, location and direction, size and shape and colour. Economy in lighting, Psychological aspects of light, Glare - its types, causes and prevention.

UNIT-V

Lighting accessories – Selection of lamps and lighting fixtures, lighting for Residential interiors-living room, bed room, children's room, kitchen, bathroom

Non-Residential interiors- hotels and motels, restaurants, showrooms, retail outlets, school and colleges, health care facilities

Recent Trends in use of color and lighting in residential and commercial spaces.

References:

1. Faulkner, R. and Faulkner, S. (1987), Inside Today's Home, Rine Hart Publishing Company, New York.
2. Judy, M., (1994), How to See, How to Paint it, HarperColling Publishers, London.
3. Jan Orchard (1993), Lighting for a Beautiful Home, Dunestyle Publishing Ltd., U.S.A.
4. Seetharam, P and Pannu, P. Interior Design and Decoration, CBS Publishers and distributors, New Delhi.
5. Stewart and Sally .W., (1997), The Complete Home Decorator, Annes publishers Ltd., New York.

E. Materials:

1. <https://www.shiftelearning.com/blog/how-do-colors-influence-learning>
2. <https://www.canva.com/learn/website-color-schemes/>
3. <https://www.tcpi.com/psychological-impact-light-color/>
4. <https://www.leefilters.com/lighting/colour-list.html>
5. <https://www.lampshoponline.com/advice/top-ten-tips-for-restaurant-lighting>
6. https://www.designingbuildings.co.uk/wiki/Lighting_in_commercial_buildings

Course Outcome:

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

1. Identify color and light as essential qualities in the physical world
2. Apply color in all art forms
3. Solve complex color and lighting problems using the principles learnt
4. Apply color and light in various functional contexts
5. Gain knowledge on recent trends in the usage of color and lighting in interiors

Core Practical - 1
DESIGN BASICS PRACTICAL

Course Objectives:

To enable the students to

1. Understand the elements and principles of design.
2. Learn the importance of art elements in the creation of new design.
3. Learn the application of principles of design in creating beautiful interiors.

CONTENTS:

1. Introduction to lines, types of lines and their application using different media.
2. Application of design principles in two dimensional and three dimensional compositions.
3. Sketching and drawing of design composition using grids.
4. Basic anthropometric - average measurements of human body in different postures, its proportion and graphic representation.
5. Apply design concepts in developing greeting card, saree border, floor decorations – flower carpet and rangoli.
6. Evaluate the given art objects.
7. Develop a motif suitable for foot mat, window grill, table mat and furnishing materials.
8. Apply the art principles in arrangement of: Living room, drawing room, pooja room, bedroom, adolescent boys or girl's room, children's room and birthday party.
9. Submission of Record.

REFERENCES:

1. Faulkner, S. and Faulkner,R,(1987), Inside Today's Home, Rinehart Publishing company, Newyork.
2. Caroline cliftenet. al., The Complete Home Decorator, Portland House New York.
3. Seetharaman, P and Pannu, P. Interior Design and Decoration, CBS Publishers and Distributors, New Delhi
4. Pratap R.M (1988), Interior Design Principles and Practice, Standard Publishers Distribution, Delhi.
5. Goldstein, Art in Everyday life, Oxford and IBH Publishing House.

Course Outcome:

After completion of the course, the student will be able to

1. Identify the types of lines used to create designs.
2. Know about anthropometric measurements of human figure.
3. Apply the design principles in two dimensional and three dimensional compositions
4. Apply the various elements of design in producing an interior.
5. Create tastefully decorated interiors with good motifs.

ALLIED - 1

PAPER - 2

APPLIED ARTS ON TEXTILES II

Course Objectives

To enable the students to

1. Understand the types of printing methods and embroidery.
2. Know about the surface enrichment of fabrics.
3. Learn the embroideries of different states of India.

UNIT – I

Types of stitches in embroidery. Temporary embroidery stitches – types – even basting, uneven basting, diagonal basting, tailor's basting. Permanent embroidery stitches – types – running stitch, back stitch, overcast stitch, over hand stitch, stem stitch, chain stitch, satin stitch, blanket stitch, button hole stitch, and lazy daisy stitch. Uses of embroidery stitches.

UNIT – II

Surface enrichment of fabrics – Embroidery- meaning, importance, difference between hand embroidery and machine embroidery, Applique work, cut work, Drawn thread work, sequins, Mirror work, Crocheting and Tatting.

UNIT – III

Various embroideries of different states of India. Unique features and motifs of folk embroidery – Phulkari - Punjab , Kasuti - Karnataka, Kantha – West Bengal, Heer - Gujarat, Kashmiri embroidery - Kashmir, Chambarumal – Himachal Pradesh, Chikankari – Utter Pradesh, Toda embroidery – Tamil Nadu, and Zardosi embroidery.

UNIT – IV

Knitting – meaning, properties of knitted fabric. Warp knit and Weft knit – meaning. Types of knitting – machine and hand knitting – flat knitting and circular knitting. Common stitches used in hand knitting - plain stitch, rib stitch, interlock stitch, and purl stitch.

UNIT –V

Study of figure irregularities - stout figure, thin figure, slender figure, narrow shoulders, broad shoulders, round shoulders, large bust, flat chest, large hip, large abdomen, round face, large face, small face, prominent forehead and what can be done through various elements of design and optical illusion to minimize the effect.

Text Books:

Unit-1: Textiles – fibre to fabric, corbmann B P , International students edition, McGraw Hill book Co, Singapore 1985.

Unit-2 : Textiles – fibre to fabric, corbmann B P , International students edition, McGraw Hill

book Co, Singapore 1985.

Unit-3: Fundamentals of Textiles and their Care- SusheelaDantyagi , Orient Longmann Ltd (1980).

Unit-4 : Textiles – fibre to fabric, corbmann B P , International students edition, McGraw Hill book Co, Singapore 1985.

Unit-5: Textiles fabrics and their Selection – Wingate I B, Allied publishers Ltd, Chennai.

E- Materials:

1. https://www.brainkart.com/article/Temporary-stitches_1790/
2. http://www.suembroidery.com/articles/hand_embroidery_machine_embroidery.htm
3. <https://thedesigncart.com/blogs/news/types-of-embroidery>
4. <https://blog.nobleknits.com/blog/2018/10/17/how-many-types-of-knitting-are-there>
5. <https://www.textileschool.com/251/knitted-fabrics-and-types/>
6. <https://www.perfectlybasics.com/style-file-figure-problems-and-solutions-0457010000002025.aspx>
7. <https://bellatory.com/clothing/womenfiguresshapes>

References:

- 1.Chambers B.G. “Colour and Design, Fashion in Men’s and Women’s Clothing and Furnishings”.Prentice Hall, Inc, New york ,1951.
- 2.GiselaHeix, Fabric Painting, B.T.BatsfordLtd.,London ,1972.
3. Mehta R.S., Masterpieces of Indian Textiles, D.B.Taraporewala Sons and Co.Pvt.Ltd. Bombay, 1970.
- 4.Jasleen Dhamija,The Indian folk , Arts and crafts, National Book Trust India , New Delhi, 1992.
- 5.Mary Mathews, Bhattarams reprographics, Pvt.Ltd., Chennai 1974.

Magazines:

1. Inside Outside
2. Society Interiors

Course Outcome:

After completion of the course, the student will be able to

1. Learn the different types of stitches in embroidery work and their uses.
2. Identify the difference between hand embroidery and machine embroidery.
3. Know the various types of embroideries practiced in different states of India.
4. Understand the properties of knitted fabrics.
5. Apply the elements of design in fabric selection to hide figure irregularities.

Allied Practical – 1

APPLIED ARTS ON TEXTILES PRACTICAL

Course Objectives

To enable the students to

1. Acquire skill in making different types of prints.
2. Learn various embroideries practiced in different states of India
3. Know the techniques of tatting and crocheting.

I. Printing:

- b. Stenciling
- c. Batik
- d. Screen Printing
- e. Tie and Dye
- f. Block Printing

II. Embroideries of India

III. Tatting

IV. Crocheting

V. Fabric painting using different strokes and techniques

VI. Submission of Record

References:

1. Chambers B.G. "Colour and design, Fashion in Men's Women's Clothing and furnishings" Prentice Hall. Inc. Newyork, 1951.
2. Erwin, Kinchen and Peter, "Clothing for Moderns" 6thedn, McmillanPublishingcompare, In. Newyork, 1976.
3. Gisela Hein, "Fabric printing", B.T. Batsford Ltd, London, 1972.
4. Shailaja D.N. "Traditional Embroideries of India" South Asia Books, 1996.
5. Hamyln, "JasleenDhamija, "The Indian Folk, Arts and Crafts", National Book Trust India, New Delhi, 1992.

Course Outcome:

After completed the practical, the students will be able to

1. Demonstrate their imagination and creativity in printing.
2. Make different varieties of embroideries, tatting and crocheting.
3. Make different strokes and use techniques in painting fabrics.

SEMESTER III
CORE PAPER - 3
COMPUTER AIDED DESIGN - I

Course Objectives

To enable the students to

1. Learn to draw different types of lines by using AutoCAD commands.
2. Learn to draw simple floor plan using AutoCAD commands.
3. Understand the use of 3D modeling.

UNIT - I

Introduction to Auto CAD - Auto CAD system requirements, AutoCAD GUI-Title bar, Menu bar, toolbar, UCS, Layout tab, Command Entry, Status bar, Task bar General commands - New, open, save, save as, close, exit - Point fixing methods-line using absolute co-ordinate system, relative rectangular co-ordinate system and relative polar co-ordinate system, circle, arc, ellipse, rectangle, polygon.

UNIT - II

Modification tools-Erase, copy, move, scale, rotate, trim, extend, array, offset, mirror, break, stretch - Inquiry tools - ID, DIST, AREA, LIST, Hatching, poly line, ploy line edit, spline - spline edit, multiline, multiline edit.

UNIT - III

Drafting settings, function keys, text, text style, text edit, multi text, colour, line type, line weight, zoom, pan, view, solid, donut, fillet, chamfer, layering concept - Dimensions - Linear, align, angular, radius, diameter, baseline, continue, leader - Dimension edit, Dimension styles-lines and arrows tab, fit tab, primary units, alternate units, Tolerances - Layout of drawing sheets and title block.

UNIT - IV

Introduction to 3D Modeling - point fixing method - absolute co-ordinate systems, relative cylindrical and relative spherical co-ordinate systems. Types of model - wire frame model, surface model and solid models - Standard primitive tools - Box, cone, wedge, torus, cylinder, sphere. Boolean operation - union, subtract, Intersect, Interference, Extrude, Revolve.

UNIT - V

Lighting - Types of light - point light, spot light, Distant light, Camera - free and target camera. Materials, rendering.Data exchange - import and export of models.

Text Books:

1. Teach Yourself Auto CAD, GIBBS, BPE Publication New Delhi.

E- Materials:

1. <https://thesourcecad.com/autocad-commands/>
2. <https://www.educba.com/autocad-function-keys/>
3. <https://www.cadtutor.net/tutorials/autocad/basic-3d.php>
4. <https://thesourcecad.com/autocad-basic-3d-practice-drawing-tutorial/>
5. www.computeraideddesignguide.com › basic-tools-in-3d-in-autocad
6. <https://www.educba.com/autocad-3d-commands/>
7. <https://all3dp.com/1/autocad-tutorial-for-beginners/>

References:

1. Teach Yourself Auto CAD, GIBBS, BPE Publication New Delhi.
2. Inside Auto CAD.
3. Omura, G. 2005, Mastering Auto CAD 2005 and Auto CAD LT 2005, BPB Publications, New Delhi.
4. Saxena, S. (2003), A first Course in Computers, Vikas Publishing house, New Delhi.

Course Outcome:

After completion of the course, the student will be able to

1. Learn the different types of using Auto CAD commands.
2. Identify the use of inquiry tools and modification tools.
3. Know the various types of text and dimensions.
4. Understand about 3D modeling.
5. Learn to exchange data and rendering techniques.

CORE PRACTICAL - 2

COMPUTER AIDED DESIGN PRACTICAL

Course Objectives

To enable the students to

1. Learn to draw different types of lines by using AutoCAD commands.
2. Learn to draw simple floor plan using AutoCAD commands.
3. Create text and to draw elevation for the floor plan.

CONTENTS:

1. Creating line using point fixing methods.
2. Drawing circle, arc, ellipse, rectangle, polygon using different methods.
3. Creating a plan and use of modification tools such as erase, copy, move, scale, rotate, trim, extend, array, offset, mirror, break and stretch.
4. Creating text using text style, text edit, line type, and weight.
5. Use of zoom, pan, view command in a drawing.
6. Drawing a floor plan with settings, layers and dimensions, and to scales'
7. Drawing elevation, cross sectional view for the floor plan.
8. Submission of Record.

Course Outcome:

After completion of the course, the student will be able to

1. Make different types of lines using Auto CAD commands.
2. Identify the use of inquiry tools and modification tools.
3. Write various types of text and dimensions in drawings.
4. Understand about 3D modeling.
5. Learn to exchange data and apply rendering techniques.

ALLIED - 2

PAPER - 3

INTERIOR DESIGN STUDIO AND BUILDING SYSTEM TECHNOLOGY-I

Course Objectives

To enable the students to

1. Gain an understanding on various materials, their types and application in building construction.
2. Acquire knowledge about the construction techniques used in buildings.
3. Learn the requirements for installing Rain Water Harvesting system

UNIT - I

Building materials used for construction - Types and uses of stone - granite, marble, lime stone, sand stone, slate and basalt; brick - types, properties and uses, timber - methods of seasoning, mortar, concrete - nominal proportion for various works and curing process, glass - Fibre glass, float glass, glass blocks, perforated glass, safety glass, obscured glass, heat excluding glass and wired glass; wood based materials - veneer, plywood, fibre boards, particle board; metals - steel and aluminium.

UNIT - II

An introduction to various construction techniques in buildings. Brick bonds - Key terms - bed, course, header, stretcher, bond, quoin, queen closer, king closer, bat; Types - Stretcher, Header, English and Flemish; Flooring - Hard - stone, wood, brick, concrete, terrazzo and mosaic, Soft - carpets and rug, Resilient - vinyl, linoleum, rubber and cork. Roof - Flat roof - Concrete and Madras terrace roof; Pitched roof - Key terms - rafter, purlins, hip, ridge, eaves, pitch and Gable; Types - Lean to, Couple roof, King post, Queen post and Mansard. Roof coverings for pitched roofs - thatch, wood shingles, tile, asbestos cement sheet, GI corrugated sheet and slate.

UNIT - III

Details of Doors - Hinged, Sliding, Swing, Paneled, Louvered, Glazed, Revolving, Flush, wire gauged and Collapsible; Windows - Casement, Double hung, Pivoted, Sliding, Glazed, Bay, Corner, Clerestory, Dormer, Gable and Skylights; Lintels and Arches - Key terms - Voussoirs, Intrados, Extrados, Span, Crown, Rise, Keystone and Abutment, Types - Flat, Segmental, Semicircular, Horse shoe, Pointed, Venetian, Florentine, Relieving, Stilted and Semi elliptical; Partitions - timber, R.C.C and Metal.

UNIT - IV

Structures for Vertical circulation in a building - Staircase - Key Terms - tread, riser, step, stringer, baluster, balustrade, newel post, handrail, landing, nosing and flight; Straight, Turning - quarter turn, half turn - dog legged and open newel, three quarter turn, Circular - spiral and helical, bifurcated stairs; Elevators - traction, hydraulic, pneumatic and capsule elevators, Escalators - parallel and criss cross; Ramps.

UNIT - V

Rain water harvesting - meaning, purpose, benefits of using rainwater harvesting system, components of rain water harvesting system - roof catchment, gutters, down pipes, first flushing pipe, filter unit, storage unit and percolation pits, Methods - surface run off method and roof top rain water harvesting method. Uses, merits, demerits and precautions in installing the system.

Text Books :

Unit-1: Rangwala, (Thirty Eighth Edition, 2011). Engineering Materials (Material Science), Charotar Publishing House Pvt Ltd, Anand.

Unit-2: Dr. B.C. Punmia, Ashok Kumar Jain and Arun Kumar Jain, (Tenth edition). Building Construction. Laxmi Publications (P) Ltd.

Unit-3: S.S. Bhavikatti, (2012). Building Construction, Vikas Publishing Home Pvt Ltd.

Unit-4: P.C. Varghese, (May 2013). Building Construction, PHI Learning Private Limited.

Unit-5: S.C. Rangwala, (Eighteenth Edition, 2003). Water Supply and Sanitary Engineering (Environmental Engineering), Charotar Publishing House, Anand.

References :

1. P. Purushothama Raj, Building Construction Materials and Techniques, Pearson Education India.
2. G C Sahu, Joygopal Jena, Building Materials and Construction, McGraw-Hill Education
3. Michael S. Mamlouk and John P. Zaniewski, Materials for Civil and Construction Engineers, Pearson; 4 edition (12 January 2016)
4. Rob Avis P. Eng and Michelle Avis P. Eng, Essential Rainwater Harvesting: A Guide to Home-Scale System Design (Sustainable Building Essentials Series), New Society Publishers (December 11, 2018)
5. Anthony Zagelow and Gilbert Garden Publishing, Rainwater Harvesting and Use: Understanding the Basics of Rainwater Harvesting (Water Conservation, Resource Management, Crisis, water storage, water security Book 1), Gilbert Garden Publishing (23 September 2014)
6. Alisa Goetz, Up, Down, Across: Elevators, Escalators, and Moving Sidewalks, Merrell Publishers (September 1, 2003)
7. Antonio Corcuera, Door and Window Design, teNeues Media GmbH & Co. KG; Multilingual edition (1 May 2006)
8. William P. Spence, Constructing Staircases, Balustrades & Landings: (Building Basics Series), Sterling (November 1, 2000)

Journal:

Journal of Construction and Building Materials, Hybrid Publication.

E- Materials:

1. <http://bieap.gov.in/pdf/buildingmaterialsconstruction.pdf>
2. www.mppcb.nic.in/rwh.htm
3. <http://ocw.mit.edu/courses/architecture/4-461-building-technology-i-materials-and-construction-fall-2004/lecture-notes/>
4. <http://seminarprojects.org/c/building-materials-and-construction-notes-pdf>
5. <http://www.aboutcivil.org/engineering-materials.html>
6. <https://www.cedengineering.com/userfiles/Building%20Elevators.pdf>

7. <https://www.hebelifte.de/images/PDF/Englisch/Ramp-calculation.pdf>
8. http://www.vssut.ac.in/lecture_notes/lecture1424085991.pdf
9. https://www.academia.edu/9182843/Lintel_and_Arches_Details_of_Construction_
10. <https://nptel.ac.in/content/storage2/courses/105105104/pdf/m9l20.pdf>
11. <https://www.aboutcivil.org/Floors.html>
12. <http://www.slcdocs.com/historicpreservation/GuideRes/Ch7.pdf>
13. <https://www.civilengineeringx.com/super-structures/doors-and-windows/>
14. <https://theconstructor.org/building/types-bonds-brick-masonry-flemish-english-wall/11616/>
15. <http://www.yourarticlelibrary.com/water/rain-water-harvesting-in-india-need-methods-and-other-details/20917>

Course Outcome:

After completion of the course, the student will be able to

1. Understand the properties and uses of various building materials.
2. Gain knowledge on the key terms and techniques used in brick bonding, flooring and roofing.
3. Identify various types of doors, windows, arches and partitions.
4. Design vertical transportation for a building.
5. Analyze the ways of storing rain water by installing rain water harvesting system.

ALLIED PRACTICAL – 2

INTERIOR DESIGN STUDIO PRACTICAL

Course Objectives

To enable the students to

1. Acquaint with symbols and to impart necessary drafting skills to express design ideas.
2. Develop the creative potential of the students through design exercise.
3. To help the students understand the design process through applications.

Contents

1. Drawing two dimensional compositions of simple geometric shapes (triangles, rectangles, circles).
2. Architectural lettering.
3. Rules for dimension.
4. Use of scales.
5. Title block
6. Orthographic drawings - Floor plan, elevation and cross-section of a building
7. Isometric drawings -- table, chair, sofa, bed, rooms - living, dining, bedroom and kitchen
8. Perspective drawings - Vanishing point method - one point perspective and two point perspective
9. Submission of record.

References:

1. Maureen Mitton, (2004). Interior Design Visual Presentation, A Guide to Graphics, Models and Presentation Techniques, Second Edition. John Wiley and Sons, USA.
2. Julie K. Rayfield, (1994). The Office Interior Design Guide - An Introduction for Faculty and Design Professionals. John Wiley and Sons, New York.
3. Mary V. Knackstedt, (2002). The Interior Design Business Handbook. USA.
4. Thomas Wells Schaller, (1997). The Art of Architectural Drawing, Van Nostrand Reinhold, USA.
5. Fabio Schillaci (2008). Construction and Design Manual - Architectural Renderings, DOM publishers, USA.

E- Materials:

1. <https://iris.unipa.it/retrieve/handle/10447/45210/195167/2009%20Architectural%20Rendering%20-%20Estratto.pdf>
2. <https://www.easyrender.com/architectural-rendering>
3. <https://www.artistsnetwork.com/art-mediums/drawing/learn-to-draw-perspective/>
4. <https://www.studentartguide.com/articles/one-point-perspective-drawing>
5. [https://iu.edu.jo/files/FacultyIT/PublicationsFirstPages/Dr.%20Riham%20Karam/Selected%20Topics%20\(%20Perspective%20Drawing%20\)Chapter.pdf](https://iu.edu.jo/files/FacultyIT/PublicationsFirstPages/Dr.%20Riham%20Karam/Selected%20Topics%20(%20Perspective%20Drawing%20)Chapter.pdf)
6. <https://www.grundig.com/ktchnmag/blog/the-complete-guide-to-kitchen-layouts/>

Course Outcome:

After completion of the course, student will be able to

1. Draw geometric shapes with dimensional compositions.
2. Explore design around and between furniture arrangements.

3. Apply orthographic and Isometric drawings in floor plan and elevation.
4. Relate Perspective drawings with one point and two point scale.
5. Apply rendering and presentation in various fields.

**SKILL BASED SUBJECT
PAPER - 1
DRAFTS MANSHIP - I**

Course Objectives:

To enable the students to

1. Understand the importance of draftsmanship
2. Develop skill in using different drafting tools.
3. Learn to use various lines, to develop a drawing.
4. Understand the importance of free hand sketching.

UNIT - I

Introduction to draftsmanship. Drawing office organization, layout of drawing studio. Need for training, Duties of a draftsman. Determining needs and wishes of the client. Relationship between two dimensional and three dimensional diagrams.

UNIT - II

Drafting tools and Techniques - Drawing table and Boards, Introduction, How to handle Handling paper and pencil, Types of scales, Tools for curves and irregular forms - Drawing aids.

Drafting mediums - Tracing paper, tracing cloth, water color paper, sketch paper, vellum, polyester film.

UNIT - III

Lines - types of lines, thickness of lines, hatching of section. Lettering - requirements of good lettering, size of letters and numerals space between letters, recommended height of letters, lettering technique.

UNIT - IV

Dimensioning - general principles, precaution in dimensioning, method of placing dimensions, unit of dimensioning, method of executing dimension, arrow heads.

UNIT - V

Geometrical constructions Technical sketching - introduction - importance of freehand sketching, principles of free hand sketching

Text book :

1. Birdie. G.S and Birdie.J.S (2003), Civil Draughtsmanship, Theory and Practice. DhanpatRai Publishing company (P) Ltd., New Delhi
2. Natrarajan.K.V (1994), A Text book of Engineering Drawing, self - publication, Chennai

References:

1. Pratap. R.M (1988), Interior Design, Principles and Practice, Standard Publishers, distribution, Delhi.
2. Birdie. G.S and Birdie.J.S (2003), Civil Draughtsmanship, Theory and Practice. DhanpatRai Publishing company (P) Ltd., New Delhi.

3. Venugopal.K. (2004) Engineering Graphics, 5th edition, New Age International Publishers, New Delhi.
4. Frank M. Rines, (2006) ,Landscape Drawing in Pencil (Dover Art Instruction) Kindle Edition
5. Oscar SchutteTeale(2009), How To Do Architectural Drawing - A Text Book And Practical Guide For Students In Architectural Draftsmanship Paperback - Import.
6. Malik & G.S. Meo- 2014 Draughtsman Civil Theory & Practical Paperback - 5th Edition Asian Publisher. New Delhi

E. Materials:

1. http://nimi.gov.in/nimi/forms/nimicart_listproduct.aspx?idCategory=205
2. <https://targetstudy.com/iti/trade/26-draughtsman-civil/>
3. https://study.com/draftsman_course.html
4. <https://en.wikipedia.org/wiki/Drafter>
5. <https://computechpublications.in/product/draughtsman-civil-th-pr-sem-1-to-4-rev-ed/>
6. <https://www.next.cc/journey/tools/architectural-lettering>
7. <https://mech.iitm.ac.in/part1.pdf>

Course Outcome:

After completion of the course, the student will be able to

1. Use drawing instruments and drafting techniques.
2. Adopt scale, dimensioning and lettering techniques in presentation drawings.
3. Draw orthographic and isometric drawings.
4. Exhibit drafting skills to express design ideas.
5. Draft perspective projections using different methods.

**NON-MAJOR ELECTIVE
PAPER - 1
BASICS OF INTERIOR DESIGN-I**

Course Objectives:

To enable the students to

1. Learn the basic concepts of interior design.
2. Develop the skill of applying the principles of design in decorating the interiors.

UNIT - I

Concept and History of Interior Design, Design - Meaning and Definition, Types - Structural and Decorative design, their characteristics, classification of decorative design.

UNIT - II

Elements of Design - Meaning, various elements - line, form and shape, size, color, texture, pattern, space, light.

UNIT - III

Principles of Design - Harmony, Balance, Rhythm, Emphasis, proportion. Application of design principles in interiors.

UNIT - IV

Colour in the home -concept, qualities - Hue, value, intensity. Classification of colors, Prang color system, Color harmonies - Related and contrasting color harmonies, psychology of color. Application of colour in interiors.

UNIT - V

Lighting in interiors - importance, classification based on sources, uses, illumination, factors to be considered in lighting for different areas of house.

References:

1. Varghese and Ogale, 1994, Home Management, Wiley Eastern, New Delhi.
2. Faulkner, S.-and Faulkner,R,(1987), Inside Today's Home, Rine hart Publishing Company, Newyork.
3. Caroline Cliftenet. al., The complete Home Decorator, Portland House New York.
4. Seetharaman, P and Pannu, P. Interior Design and Decoration, CBS Publishers and Distributors, New Delhi.
5. Pratap R.M (1988), Interior Design Principles and Practice, Standard Publishers Distribution, Delhi.
6. Goldstein, Art in Everyday life, Oxford and IBH Publishing House.

E-Materials:

1. https://artclever.com/books/The_Fundamentals_of_Interior_Design.pdf
2. <https://www.wbdg.org/design-disciplines/interior-design>

3. <https://jennifercederstam.com/7-principles-interior-design/>
4. <https://www.dexigner.com/directory/cat/Lighting-Design/Books>
5. <https://www.leefilters.com/lighting/colour-list.html>

Course Outcome:

After completion of the course, the student will be able to

1. Understand materials and tools by exploring forms, surfaces, textures, and patterns through elements and principles of design
2. Establish the design and craft skill relationship and appreciate
3. Expand comprehensible knowledge on essentials of Interior Design
4. Pertain the information related on color harmonies in interior
5. Acquaint art work for interior environment

SEMESTER IV
CORE PAPER - 4
PLANNING THE LIFE SPACE

Course Objectives:

To enable the students to

1. Develop skill in drawing house plan for different income groups.
2. Acquire knowledge in recent building Materials.
3. Learn about the division of space and principles of house plan

UNIT - I

Space for living - Concept of space, factors influencing living space, Location and Orientation, Planning objectives - utility, economy, beauty and character. Need for space, space occupancy. Merits and demerits of owned and rented house.

UNIT - II

Significance of housing - functions of house, selection of site, Types of house plans - site plan, floor plan, elevation, cross-section, perspective view. Satisfaction in - individual houses, multi -storied flats, row houses, one room apartments.

UNIT - III

Division of space - private space, public space, work space and traffic space - definition, utility, determinants of space planning. Utility space - laundry facilities.

UNIT - IV

Principles of House plan - Aspect, orientation, prospect, privacy, grouping, roominess, flexibility, circulation, furniture requirements, sanitation, practical considerations.

UNIT - V

Methods of construction - Types of construction - meaning, basic knowledge in types of construction - load bearing and non-load bearing or framed structure. Cast in Site and Prefabrication - advantages and limitations.

References:

1. Prabhakar, L.V. (1998), Vasthu - The User's Manual, The Avenue Press, Chennai.
2. Despande, R.S. (1974), Build Your Own Home, United Book Corporation, Poona.
3. Riggs, R. (1992), Materials and Components of Interior Design, Prentice Hall of India Pvt.Ltd, New Delhi.
4. Rao, C.H.G. (1995), Plants for Small Houses, Jai Ganesh offset Printers, chennai.
5. Faulkner, R, and Faulkner s. (1987), Inside Today's Home, Rinehart Publishing Company, Newyork.

E - Materials:

1. <https://www.engelvoelkers.com/en-pt/portugal/blog/the-advantages-and-disadvantages-of-houses-and-flats/>

2. <https://www.makaan.com/iq/rent-property/advantages-and-disadvantages-of-renting-a-house>
3. <http://www.yourarticlelibrary.com/home-management/planning-a-residential-house-9-principles/47825>
4. <https://theconstructor.org/construction/modern-methods-of-construction/17487/>
5. https://www.designingbuildings.co.uk/wiki/Modern_methods_of_construction
6. <https://theconstructor.org/practical-guide/building-plans-types/24963/>
7. https://en.wikipedia.org/wiki/House_plan

Course Outcome:

After completion of the course the student will be able to

1. Know the concept of life space
2. Understand the functions of a house.
3. Learn to divide the life space based on activities.
4. Analyse the principles of planning the house.
5. Know the technique of prefabrication and cast in site construction.

ALLIED - 2
PAPER - 4
INTERIOR DESIGN STUDIO AND BUILDING SYSTEM TECHNOLOGY-II

Course Objectives:

To enable the students to

1. Learn the importance of acoustical design for buildings.
2. Analyze the features of lighting methods and their resulting effects in interiors.
3. Understand the requirements of providing good ventilation in a building.
4. Summarize and study the rules and bye laws for constructing a building.

UNIT - I

Acoustics - Definition, objectives and requirements of good acoustics, Acoustical defects and remedies - echoes, reverberation, sound foci and dead spots; Noise and its effects: Sound absorption - sound absorbent materials, qualities of acoustic materials, guidelines for good acoustical design of auditorium, recording studio and broadcasting station. Cavity wall construction for sound insulation.

UNIT - II

Illumination - principles of illumination, effects of good and bad lighting, lighting load for various activities in a house, Glare and its effects, Types of lamps - incandescent, tungsten halogen, fluorescent and HID lamps; Lighting methods in interiors - direct, indirect, diffused, ambient, task and accent lighting; Architectural lighting methods - cove, valance, cornice, track and soffit lighting.

UNIT - III

Ventilation-definition, importance, types of ventilation-natural and mechanical, guidelines for natural ventilation - wind effect and stack effect. Mechanical ventilation - Air conditioning - Need, purpose, principles of air conditioning system and Components - refrigerant, compressor, condenser, expansion valve and evaporator working principle of air conditioning system. Types of air conditioning - Window, Split, Centralized and Packaged system. Application of HVAC in buildings.

UNIT - IV

Electrical services - three phase and single phase system, distribution of electricity within a building, importance of Earthing, Electrical safety devices, simple electrical layouts. Plumbing services - one pipe and two pipe methods of drainage system, guidelines for laying drainage system, traps, vent pipe, sanitary apparatus - wash basin, sink, bath tub, urinals, flushing cistern and water closets.

UNIT - V

Building By-laws - definition, importance, objectives and characteristics. National Building Code and its role in building construction. Key terms - classification of buildings, building

lines, plot area, plot coverage, carpet area, built-up area, open space requirements around buildings, FSI, standards for height, setback, frontage, circulation, ventilation, parking, lift capacity for a building.

Text Books

Unit-1: Robert D. Finch, Introduction to Acoustics, Pearson Education India; First edition (25 April 2016)

Unit-2: J R Coaton and A. M. Marsden, Lamps and Lighting, Architectural Press; 4 edition (1 November 1996)

Unit-3: P.N. Ananthanarayanan, Basic Refrigeration and Air Conditioning, McGraw Hill Education; Fourth edition (1 May 2013)

Unit-4: Rangawala .S.C., Water supply and sanitary Engineering, Publishing house, Roorkee.

Unit-5: Town and Country Planning Organisation, (2016). Model Building Bye Laws. Ministry of Urban Development

Reference books:

1. F. Alton Everest, Master Handbook of Acoustics, McGraw-Hill/Tab Electronics
2. Frank J. Fahy, Foundations of Engineering Acoustics, Academic Press, September 19th 2000.
3. Gary Gordon, Interior Lighting for Designers, Wiley; 4 edition (January 28, 2003).
4. Mark Karlen, Lighting Design Basics, Wiley
5. Andrew D. Althouse, Carl H. Turnquist, Alfred F. Bracciano, Modern Refrigeration and Air Conditioning, Goodheart-Willcox; Twentieth Edition, Textbook edition (January 29, 2016)
6. W. Larsen Angel, HVAC Design Sourcebook, McGraw-Hill Education; 1 edition (October 26, 2011)
7. Brian Scaddan, Electrical Installation Work
8. L. V. Ripka, Plumbing Design and Installation, Amer Technical Pub; 4 edition (30 June 2011)
9. S. Deolalikar, Plumbing: Design and Practice, McGraw Hill Education (12 July 2001)
10. Ajit Prakashan's Model Building Bye-Laws, 2016

E- Materials

1. https://mycourses.aalto.fi/pluginfile.php/137584/mod_resource/content/1/Lecture%204_Room%20acoustics_2015.pdf
2. <https://www.bdcnetwork.com/enhanced-acoustical-design>
3. https://www.troldekt.com/Product-properties/Good-acoustics/Advanced_acoustics/Good-acoustics
4. https://www.academia.edu/1746322/lighting_principles_in_interior_design_of_management_spaces
5. <https://www.zumtobel.com/PDB/teaser/EN/lichthandbuch.pdf>
6. https://www.energy.gov/sites/prod/files/2013/12/f5/sustainable_guide_ch5.pdf
7. http://www.unep.fr/ozonaction/information/mmcfiles/7799_e_University_Course_Lecture%20Notes.pdf
8. <https://www.ncbi.nlm.nih.gov/books/NBK143277/>
9. <http://ncert.nic.in/textbook/pdf/iepg101.pdf>
10. <https://theconstructor.org/building/types-of-plumbing-drainage-systems-buildings/13117/>
11. <https://www.mepwork.com/2018/12/electrical-design-for-buildings-notes.html>
12. <https://www.bidnet.com/bneattachments/?/400719539.pdf>
13. <http://mohua.gov.in/upload/uploadfiles/files/MBBL.pdf>

14. <https://www.scribd.com/document/422193669/BYE-LAWS-notes-pdf>

15. [http://www.erieconstructioncouncil.com/plan_room_documents/Plumbing%20Bid%20Set%20\(13\).pdf](http://www.erieconstructioncouncil.com/plan_room_documents/Plumbing%20Bid%20Set%20(13).pdf)

Course Outcome:

After completion of the course, the student will be able to

1. Learn the concept of acoustical design in interiors.
2. Analyze the features of different lighting methods used in buildings.
3. Understand the importance of ventilation system and their merits.
4. Design electrical and plumbing services for a building.
5. Summarize the building bye laws.

**SKILL BASED SUBJECT
PAPER - 2
DRAFTSMANSHIP-II**

Course Objectives:

To enable the students to

1. Learn the different views of an object.
2. Understand the importance of symbols in drawings.
3. Develop skill to make various projections

UNIT - I

Symbols - Meaning, importance; Types of symbols used in drawings - Architectural symbols, structural symbols, door symbols, window symbols.

UNIT - II

Plumbing -Water supply - In residential building, multi-storied buildings. Sanitation - traps, waste water disposal - inspection chamber, septic tank and ventilation systems, sanitary fixtures and fittings, plumbing systems. Plumbing practice - plumbing symbols and drainage plan. House wiring - electrical symbols in wiring plan, residence wiring diagram, planning of electrical installation of a building

UNIT - III

Orthographic projection - meaning, theory of orthographic projection, Quadrants in orthographic projection, multi view orthographic projection, method of drawing section.

UNIT - IV

Isometric view - need for study, pictorial drawings, isometric projection - definition, principles, characteristics, isometric view and isometric projection.

UNIT - V

Perspective view - theory of perspective projection, technical terms in relation with perspective, classification of perspective, methods - one point perspective and two point perspective. Rendering Techniques - Tools used in rendering- pencil, eraser, short-bristled stipple brush, mechanical lines. Different textures, materials used in buildings, floor finishes, shadows.

References:

1. Pratap. R.M. (1988), Interior Design, Principles and Practice, Standard Publishers distribution, Delhi.
2. Natrarajan. K.V. (1994), A Text book of Engineering drawing self - publication, Chennai.
3. Birdie. G.S and Birdie. J.S. (2003), Civil Draughtsmanship, Theory and Practice. DhanpatRai publishing company (P) Ltd., NewDelhi
4. Venugopal. K. (2004), Engineering Graphics, 5th edition, New Age International Publishers, NewDelhi.

Magazines:

Architectural Digest
Inside Outside
Society interiors
House Layouts

E. Materials:

1. http://nimi.gov.in/nimi/forms/nimicart_listproduct.aspx?idCategory=205
2. <https://targetstudy.com/iti/trade/26-draughtsman-civil/>
3. https://study.com/draftsman_course.html
4. <https://en.wikipedia.org/wiki/Drafter>
5. <https://compuetechpublications.in/product/draughtsman-civil-th-pr-sem-1-to-4-rev-ed/>

Course Outcome:

After completion of the course, the student will be able to

1. Use drawing instruments and drafting techniques
2. Adopt scale, dimensioning and lettering techniques in presentation drawings
3. Draw orthographic and isometric drawings
4. Exhibit drafting skills to express design ideas
5. Draft perspective projections using different methods

**NON-MAJOR ELECTIVE
PAPER - 2
BASICS OF INTERIOR DESIGN-II**

To enable the students to

1. Gain knowledge on selection, arrangement, care and maintenance of furniture
2. Learn the arrangement of furniture for various rooms
3. Develop skills in construction of curtains

UNIT - I

Furniture - Meaning, need, and purpose. Factors influencing - climate, family needs and preferences, availability, comfort, principles of design and financial limits.

UNIT - II

Furniture materials - Selection and Buy man ship, Arrangement of furniture for various rooms - living room, dining room, bedroom, kitchen.

UNIT - III

Soft furnishings - Meaning and importance, Types of furnishings - carpets, rugs, cushion cover, slip cover. Window treatments - curtains, draperies, blinds and shades.

UNIT - IV

Accessories - meaning, definition, need, types of accessories- functional, decorative, both functional and decorative, factors considered in selection, use of accessories in various areas of house.

UNIT - V

Flower arrangement - importance, basic styles and shapes, types - line, mass, line and mass, miniature, floating, foliage and dry arrangement.

Text Books:

1. Chaudhari, S.N, (2005), "Interior Design", Jaipur: Aavishkar Publishers, India.
2. Kasu, A.A, (2005), "Interior Design", Delhi: Ashish Book Centre
3. Shaw, R.B., (2003), "Interiors by Design", London, New York: Ruland Peters and Small
4. Pile, J., (2003), "Interior Design" , 3rd Ed, New Jersey, USA: Pearson
5. Piotrowski, C, (2004), "Becoming an Interior Designer", New Jersey, USA: John Wiley & Sons,

References:

1. Mullick.P, 2000, Text Book of Home Science, Kalyani publishers, New Delhi.
2. Faulkner.R and Faulkner.S, 1987, Inside Today's Home, Rinehart Winston, New York.
3. Bridges.D,1990, A Flower Arranger's World, Random Century Group, London

Course Outcome:

After completion of the Course, students will be able to

1. Select furniture for different areas of residence
2. Analyse the trends in furniture usage
3. Apply recent trends in furnishings in interiors
4. Optimize use of visual arts, accessories and antiques for designing interiors and other aspects.
5. Expand comprehensible knowledge on essentials of Interior Design

SEMESTER V
CORE PAPER - 5
FURNITURE IN INTERIORS

Course Objectives:

To enable the students to

1. Gain knowledge on selection, arrangement, care and maintenance of furniture
2. Differentiate types and styles in furniture - use and process in furniture construction, joints.
3. Know about different furniture materials and finishes.

UNIT - I

Introduction to furniture. Meaning and importance, Styles of furniture - traditional, contemporary and modern design. Classification - Furniture for comfort, rest and relaxation, work and storage, built-in and portable, Factors influencing furniture decisions - family needs, preferences, availability, principles of design and financial limit. Factors to be considered in furniture selection and tips to buy furniture.

UNIT - II

Materials used in furniture construction - Familiar furniture materials - Wood - teak, rose wood, walnut, cedar, mahogany, pine, birch, sal, ply wood, veneers bamboo, cane, metals, plastics, leathers, fabrics, glass

UNIT - III

Steps involved in construction of wooden furniture - Shaping, carving, turning, fluting, reeding and joining of furniture - types of joints - Upholstered furniture - meaning, upholstering - types, method and materials used.

UNIT - IV

Selection and Arrangement of furniture—Factors to be considered in the selection of furniture, buy man ship, arrangement of furniture for various rooms - Living room, dining room, bedroom, kitchen, study room, office.

UNIT - V

Care and maintenance of furniture. Care of different types of furniture - wood, metals, plastic, and cane. Furniture polishes - types, natural and synthetic varnishes, other types of furniture finishes.

References:

1. Gandotra V, Shukul M and JaiswalN,(2011). Introduction to Interior Design and Decoration, New Delhi: Dominant publishers, India.
2. Premavathy .S,(2005) Interior Design and Decoration, New Delhi: CBS Publishers and Distributors, India.
3. Stuart. L,(2013) Furniture Design: An Introduction to Development, Materials and Manufacturing, Laurence King Publishing, London.

4. Stepat, D.D, (1971), Introduction to Home furnishings, The Mac MillanCo,NewYork.
5. Wilhide, E and Cope stick, I. (2000) contemporary decorating, conron octopus Ltd., London.
6. Levine M (1998), Living rooms, Rockport publishers, USA.
7. Faulkner. R and Faulkner. S, (1987), Inside today's home, Rinehart Winston, New York.
8. Mullick.P, (2000), Textbook of Home science, Kalyani publishers, NewDelhi.

E- Materials :

1. <https://www.pinterest.com/freehandarch/living-room-references/>
2. <https://tympanus.net/codrops/2010/04/27/60-interior-design-and-furniture-websites-for-your-inspiration-2/>
3. <https://www.luxdeco.com/blogs/styleguide/popular-interior-design-styles>
4. <https://www.decoraid.com/blog/interior-design-history>
5. <https://www.dezeen.com/interiors/offices-interiors/>
6. https://www.researchgate.net/figure/Materials-and-finishes-proposed-for-selected-furniture-design_tbl1_228933679
7. <https://www.sciencedirect.com/science/article/pii/S0261306905002736>
8. <https://www.slideshare.net/Diwakarkushwaha5/types-of-materials-using-to-make-furnitures-interior-design-vi-sem-2017>
9. https://www.idec.org/files/M_Anderson&J_Pengilly_2.pdf
10. <https://mondecasa.com.sg/5-popular-materials-used-for-outdoor-furniture-manufacturing/>

Course Outcome:

After completion of the Course, students will be able to

1. Identify and select furniture for different areas of residence
2. Analyse the furniture for the process involved, joints, joineries used and finishes applied in furniture construction
3. Differentiate or interpret the styles in furniture
4. Analyse the trends in furniture usage
5. Care and maintain furniture used in a given area.

**CORE PRACTICAL
PRACTICAL – 3
FURNITURE AND FURNISHINGS PRACTICAL**

Course Objectives :

To enable the students to

1. Understand the principles related to furniture design.
2. Gain an understanding on the basic principles of designing a furniture for a house and also the arrangement.
3. Get familiarized with the different styles of furniture used and also the materials used.
4. Acquire practical knowledge in designing space saving furnitures for different family needs.

Contents:

1. Develop different types of furniture design with regard to activity
2. Evaluate the furniture in terms of materials, construction details, design, uses, care and maintenance, age group, hours of use, durability and budget.
3. Developing furniture templates for different furniture.
4. Planning furniture layouts for different rooms and activities using templates - Living room, bed room and dining room.
5. Collection of furniture for different activities, different materials, market survey of furniture, making cutouts of furniture
6. Types of stitches, seams, Constructing samples of different pleats-knife, box, cartridge, loop, eyelets
7. Construct curtains using different types of pleats, collecting fabric samples for different basic and fancy weaves
8. Surface enrichment for cushion cover, pillow cover, napkin and table cloth with - mirror work, applique, fabric painting and embroidery
9. Preparation of Record

Text Books:

1. Anita .T, (2011), “Textiles for Apparel and Home Furnishing”, New Delhi:SonaliPublications,India.
2. Kharuna.S, (2012), “Fabrics for Fashion and Textile Design”, New Delhi:SonaliPublications,India.
3. Chaudhari.S.N, (2006), “Interior Design”, Jaipur: AavishkarPublisher,India.

Reference Books:

1. Stepat.D.Van, (1991), “Introduction to Home Furnishing”, New York: The MacMillan Company.
2. Premavathy .S, Sonia.B and Preeti. M, (2005), “An Introduction to FamilyResource Management”, New Delhi: CBS Publishers & Distributors,India.

E-Materials :

1. <http://www.itraveluk.co.uk/photos/showphoto/photo/2747.php> 
2. <http://chestofbooks.com/home-improvement/furniture/Period/Jacobean-Period-1603-1688-Part-2.html>
3. <http://www.maysvalues.co.uk/casestudy/09.html>
4. <http://chestofbooks.com/home-improvement/furniture/Period/Chapter-IV-Queen-Anne-And-Early-Georgian-1702-1750.html>
5. [metalhttp://www.museumfurniture.com/georgeI/](http://www.museumfurniture.com/georgeI/)
6. <http://www.museumfurniture.com/georgeII/>
7. <http://www.museumfurniture.com/georgeIII/>
8. http://www.mobisharb.com/Mobisharb_Museum_Art_
9. <http://www.life.com/image/50541241>
10. <http://chestofbooks.com/home-improvement/furniture/How-To-Collect-Old-Furniture/Chapter-VII-The-Nineteenth-Century.html>
11. http://homersoddisinthe.blogspot.com/2009_08_01_archive.html
12. <http://www.victorianweb.org/art/design/clutter1.html>

Course Outcome:

After completion of the Course, the students will be able to

1. Understand the composition, construction, and finishes applied on fabrics for furnishings.
2. Know how to draw furniture layouts.
3. Analyse recent trends in furnishings
4. Gather information on various household linen, their selection and care.
5. Construction different types of curtain pleats.

CORE PAPER - 6 **COMPUTER AIDED DESIGN II**

Course Objectives :

To enable the students to

1. Understand the basics of 3D modeling..
2. Get familiarized with the tools used to create 3D objects.
3. Acquire practical knowledge in 2D to 3D conversion.
4. Gain an understanding on Google Sketch Up

UNIT - I

Introduction to 3D modeling - point fixing method - Absolute co-ordinate systems, relative cylindrical and relative spherical co-ordinate systems. Types of models - wire frame model, surface model and solid model.

UNIT - II

Standard primitive tools - Box, cone, wedge, torus, cylinder, sphere - Boolean operations - union, subtract, intersect, interference

UNIT - III

2D to 3D conversion - Extrude, revolve. Lighting - point light, spot light, direct light. Camera - free and target camera.

UNIT - IV

Rendering and special effects - Materials, Rendering still images, rendering animations, changing background colour and adding background images. Data exchange - import and export of models.

UNIT - V

Google Sketch Up - Introduction, Different versions of Sketch Up, Sketch Up 3D warehouse, applications of Sketch Up.

E- Materials:

1. <https://thesourcecad.com/autocad-commands/>
2. <https://en.wikipedia.org/wiki/SketchUp>
3. <https://www.howtogeek.com/364232/what-is-sketchup/>
4. <https://www.educba.com/autocad-function-keys/>
5. <https://www.cadtutor.net/tutorials/autocad/basic-3d.php>
6. <https://thesourcecad.com/autocad-basic-3d-practice-drawing-tutorial/>
7. www.computeraideddesignguide.com > basic-tools-in-3d-in-autocad

References:

1. Teach Yourself Auto CAD, GIBBS, BPE Publication New Delhi.
2. Inside Auto CAD.
3. Omura, G. 2005, Mastering Auto CAD 2005 and Auto CAD LT 2005, BPB Publications, New Delhi.
4. Saxena, S. (2003), A first Course in Computers, Vikas Publishing house, New Delhi.

Course Outcome:

After completion of the course, the student will be able to

1. Learn about 3D modeling.
2. Identify the standard primitive tools.
3. Know the conversion of 2D models to 3D models.
4. Understand about rendering in 3D modeling.
5. Learn the basics of Google Sketch Up.

**CORE PRACTICAL
PRACTICAL – 4
GOOGLE Sketch Up PRACTICAL**

Course objectives:

To enable the students to

1. Understand the basics of Google SketchUp.
2. Make use of model assemblies in 3D models.
3. Apply rendering techniques in 3 Models.

Content

1. Introducing SketchUp software
 - a) Zoom, pan and rotate
 - b) Understanding the XYZ axis.
 - c) Using tools in the basic tool bar - pencil, circles, arch, basic geometric shapes.
2. Move, copy, rotate and scaling, simple array technique.
3. Modelling technique -push pull, follow me, Offset and intersecting geometry.
4. Making Groups and components.
5. Introducing paint bucket, material editor, texture and bitmaps.
6. Creating scenes and new styles saving it.
7. Submission of record.

Course Outcome:

After completion of the course, the student will be able to

1. Identify the commands in SketchUp software
2. Understand the SketchUp modeling technique
3. Make groups and components.
4. Create scenes and styles.
5. Introduce paint bucket and bitmaps.

CORE PAPER - 7

FLORICULTURE AND LANDSCAPING

OBJECTIVES:

To enable the students to

1. Understand the importance of plants in landscape gardening.
2. Gain knowledge on propagation methods
3. Obtain practical knowledge in home gardens and indoor plants.

UNIT - I

Floriculture - Meaning, concept and importance. Ornamental plants - classification - annuals, biennials and perennials. Flowering and foliage shrubs, trees, climbers and creepers, cacti and succulents, ferns, palms, hardy bulbs and tender bulbs.

UNIT - II

Flower arrangement - importance, materials needed, steps, components of flower arrangement, basic principles, basic shapes, styles Ikebana - history, materials required, general rules and basic styles of Ikebana Dry arrangement - preservation of plant materials - foliage and flowers, prolonging the vase life of flowers, garland and other floral ornament.

UNIT - III

Ornamental plant protection methods - cultural, chemical and mechanical. Pest and disease control. Care and maintenance of ornamental plants.

UNIT - IV

Landscaping - Meaning and importance, Types of garden, garden components, garden design - formal and informal, principles of landscape gardening - Lawn - importance, preparation, methods of cultivation, use, maintenance, types of lawn. Indoor plants - potting and repotting techniques.

UNIT - V

Modern trends in gardening - Terrace Garden, Rock Garden, Terrarium, and Bonsai culture. Developing ornamental plants in Home garden for flats - roof garden, hanging garden.

References:

1. Ross, R. (1999), Colorful Gardening - Climbers, Ryland Peters and Small, London.
2. Ross, R. (1999), Colorful Gardening - Bulbs, Ryland Peters and Small, London.
3. Scott - James, A. (1995), Perfect Plant Perfect Garden, Corner Octopus Limited, London.
4. Too good, A. (1995), Designing with House Plants, Grange Books Publication, London.
5. Carter, G. (1977), Gardening with Containers, Ryland Peter and Small, London.

E-Materials:

1. <https://vikaspedia.in/agriculture/farm-based-enterprises/floriculture>
2. https://megagriculture.gov.in/PUBLIC/floriculture_objectives.aspx
3. <https://en.wikipedia.org/wiki/Floriculture>
4. <https://www.landscapingnetwork.com/landscape-design/what-is.html>
5. <https://www.thespruce.com/what-is-landscaping-2130991>

Course Outcome:

After completion of the course, the student will be able to

1. Do floral arrangements based on principles and elements of design.
2. Classify flowering and ornamental plants.
3. Make different types of floral arrangements.
4. Design and plan landscape garden.
5. Acquire knowledge on modern trends in gardening.

**CORE PRACTICAL
PRACTICAL – 5
FLORICULTURE AND LANDSCAPING PRACTICALS**

Practical:

1. Arranging flowers using design Principles - balance, proportion and scale, focal point, emphasis, rhythm and harmony.
2. Arranging different types of free style flower arrangement - line, mass, line and mass, miniature, floating, hanging, circular, triangular, crescent, Hogarth curve
3. Ikebana - Principles involved in arranging flowers and arranging Japanese method of flower arrangements
4. Other varieties of arrangements - dry arrangements, fruit arrangement, vegetable arrangements.
5. Arranging flowers for various occasions - wedding, reception, bouquets, hair decorations, garlands and button holes
6. Drawing landscape plans suitable for different areas
7. Record

E-Materials:

1. <https://vikaspedia.in/agriculture/farm-based-enterprises/floriculture>
2. https://megagriculture.gov.in/PUBLIC/floriculture_objectives.aspx
3. <https://en.wikipedia.org/wiki/Floriculture>
4. <https://www.landscapingnetwork.com/landscape-design/what-is.html>
5. <https://www.thespruce.com/what-is-landscaping-2130991>

Course Outcome:

After completion of the course, the student will be able to

6. Do floral arrangements based on principles and elements of design.
7. Classify flowering and ornamental plants.
8. Make different types of floral arrangements.
9. Design and plan landscape garden.
10. Acquire knowledge on modern trends in gardening.

CORE PAPER - 8

FUNDAMENTALS OF ARCHITECTURE

Course Objectives:

Enable the students to

1. Learn the form of construction in architecture.
2. Gain knowledge on western architecture and Indian architecture.
3. Learn the features of modern architectures and the influence of vaasthusastra in building construction.

UNIT - I

Introduction to architecture - Definition and meaning, importance, principles of architecture. Development of Historic architecture.

UNIT - II

Elementary forms of construction - arch, post, lintel, cantilever roofing techniques - truss, vaults and domes. Egyptian and Mesopotamian architecture - Formation and development, characteristic features, typical examples.

UNIT - III

Architectural masterpieces of other countries Greek - Acropolis and Parthenon; their contribution to the development of post and lintel system-doric, ionic and Corinthian orders. Roman - Forum, Pantheon and Colosseum ; their contribution to the development of arches and domes. Gothic - Chartres cathedral; their contribution to the development of vaults.

UNIT - IV

Indian Architecture - Buddhist - characteristic features - Stambha, Stupa - Sanchistupa, Viharas and chaityas. North - Sun temple, Lingaraja temple, Ajantha and Ellora Caves, Tajmahal, Lotus Temple-its architectural features. South - Brihadeshwar temple, Meenakshi Amman Temple, Rock cut Temples - Mahabalipuram - its architectural features. Islamic architecture - characteristic features.

UNIT - V

Modern architecture - modern materials and new techniques, Great Architects of modern age - Le Corbusier, Mies Vander Rohe, Frank Lloyd Wright-and their outstanding buildings. Influence of vaasthusastra in modern construction, Organic architecture.

References:

1. Satyamurthy (1991), Handbook of Indian Architecture, Ashish publishing house, New Delhi.
2. Rai, M. and Jaisingh, M.P (1986), Advances in building materials and construction, Roorkee Central Building Research Institute.
3. Prabhakar, L.U (1998), Vastu- The User's Manual, The Avenue Press, Chennai.
4. Indian Temples (1995), Oxford University Press, London.
5. Foster, M (1989), The Principles of Architecture: styles, structure and design, New Burlington, London.

E-Materials:

1. https://en.wikipedia.org/wiki/History_of_architecture
2. https://en.wikipedia.org/wiki/Frank_Lloyd_Wright
3. <https://study.com/academy/lesson/organic-architecture-definition-architects.html>
4. https://www.ducksters.com/history/ancient_greece/architecture.php
5. https://en.wikipedia.org/wiki/Cave_Temples_of_Mahabalipuram
6. gharpedia.com › [blog](#) › [modern-architecture](#)

Course Outcome:

After completion of the course the student will be able to

1. Identify the history and development of architecture.
2. Understand the elementary forms of construction.
3. Explore the architectural masterpieces of other countries.
4. Learn the characteristics of Indian architecture.
5. Know the recent trends in architecture.

**INTERNAL ELECTIVE
PAPER -1
(to choose one out of 3)
A. CONSUMER AND MERCHANDISING**

Course Objectives:

To help the students to

1. Learn about the need and use of commercial art.
2. Encourage the student to apply theoretical knowledge in arranging the interior and window of a store.
3. Know the current trends in commercial art.

UNIT - I

Consumer Behaviour - Definition, Influence on consumer behavior, Consumer impact on marketing strategy, Methods of data collection, Consumer motivation, perception and attitude, consumer knowledge and memory, classification of consumer, Consumer rights and responsibilities, classification of consumer goods, Buyers, customers and consumers and consumer behavior.

UNIT - II

Merchandising - Meaning, significance and elements involved in merchandising - grading, branding, labeling, packaging and standardization. Merchandising and distribution - Importance, selection of channels, channels of distribution of goods, techniques of merchandising - selling methods. Concept of commercial art and merchandising - Meaning, classification, development of commercial art. Recent trends - art, architecture and display. Significance of display - interior and exterior.

UNIT - III

Visual Merchandising and Promotion- Principles, procedures and sources of information essential for marketing and promoting retail merchandise sales. Experience in planning, executing and evaluating promotion plans - Visual Merchandising Display - Importance, Visual merchandising as a communication tool, Relation between VMD and Store Layout, Store front design, Elements of Exterior and Interior Store Design.

UNIT - IV

Advertisement - Definition, importance, classification, features of good advertisement, preparation and techniques. Advertisement media - selection, Classification and types, poster - importance, characteristics, steps and techniques in poster making. Marketing - Definition, Market Segmentation, Bases for segmenting consumer markets, Industrial markets. Online marketing. Salesmanship - concept, definition, types and qualities of salesman - techniques of salesmanship.

UNIT - V

Visual Display - Classification of Displays, Music and Lighting, Sophistication in VD enhanced customer buying decision, Interiors with respect to brand. Create a good image of

the store and provide a unique, comfortable and happy shopping experience for its consumers.

Window Display — Meaning and Scope, Promotional Display Vs. Institutional Display, Guidelines for effective window display.

References:

1. Hayden Noel, (2009). Consumer Behaviour, AVA Publishing, Singapore.
2. SujaRavindran Nair, (2014). Consumer Behaviour, Himalaya Publishing House, New Delhi.
3. Tony Morgan, (2008). Visual Merchandising - Window and in Store Displays for Retail, Laurance Publishing, London.
4. Pattanchetti, C.C., Reddy. P.N., (1995), Marketing, Rainbow Publisher, Coimbatore.
5. Nair, R. (1994), Marketing, Sultan Chand and Sons Educational Publishers, New Delhi.
6. Nisra, M.N. (1994), Sales Promotion and Advertising Management, Himalaya Publishing House, Bombay.
7. Virender S Poonia. (2010). Advertising Management. Gyan Publishing House, Delhi.
8. BholanathDutta, (2011). Salesmanship, Himalaya Publishing House, Chennai.

E- Materials:

1. <https://www.omniconvert.com/blog/consumer-behavior-in-marketing-patterns-types-segmentation.html>
2. <http://www.yourarticlelibrary.com/marketing/market-segmentation/consumer-behaviour-meaningdefinition-and-nature-of-consumer-behaviour/32301>
3. https://www.researchgate.net/publication/307862958_Consumer_Behaviour_Text_and_Cases_1st_Edition
4. <https://www.amazon.in/Visual-Merchandising-2nd-Tony-Morgan/dp/1856697630>
5. <http://www.economicdiscussion.net/advertising/types-of-advertising-media/31785>
6. <http://www2.cs.ucy.ac.cy/~nicolast/courses/cs435/various/p-design.htm>
7. <https://www.aposter.com/poster-design/>
8. <https://www.feedough.com/market-segmentation-definition-basis-types-examples/>
9. http://www.pondiuni.edu.in/storage/dde/downloads/markiii_cb.pdf
10. <https://www.unibox.co.uk/news-inspiration/types-importance-of-window-displays>
11. http://content.inflibnet.ac.in/data-server/eacharya-documents/56b0853a8ae36ca7bfe81449_INFIEP_79/73/ET/79-73-ET-V1-S1__unit_7.pdf
12. https://books.google.co.in/books?id=6yh6abc1mxEC&pg=PP7&dq=books+for+advertisement&source=gbs_selected_pages&cad=3#v=onepage&q=books%20for%20advertisement&f=false
13. <http://www.himpub.com/documents/Chapter875.pdf>

Course Outcome:

After completion of the course, the student will be able to

1. Identify the dynamics of human behaviour and the basic factors that influence the consumers decision process
2. Understand the concept of visual merchandising (VM)
3. Study the role of VM in a retail store
4. Apply basic design principles and colour theories to the construction of promotional displays and advertising.
5. Evaluate the influence of visual display on behaviour of shoppers.

**INTERNAL ELECTIVE
PAPER -1
B. KITCHEN DESIGN**

Course Objectives:

To enable the students to

1. Gain knowledge on different types of kitchen.
2. Study the various measurements required in kitchen designing.
3. Know the materials and Finishes required for kitchen.
4. Realize the requirements of different Storage areas in the kitchen.

UNIT - I

Kitchen planning - Functions performed in a kitchen, types of kitchen, principles of planning kitchen - orientation and location, ventilation, storage needs, work triangle, colour, light and safety.

UNIT - II

Kitchen geometry - work heights and space dimension of different work areas and storage areas, Clearance space for various work areas, anthropometric measurements of an individual worker and its application to kitchen layout designing.

UNIT - III

Materials and finishes - Various materials and finishes used in kitchen - floor, walls, ceiling, sink, platforms, storage - their advantages and disadvantages.

UNIT - IV

Essential services needed in a kitchen. Water supply - hot and cold, tapping, water purifiers. Electricity services - electric current, exhaust fans, electrical equipment and their locations. Drainage services - Waste water drainage system, Solid waste disposal.

UNIT - V

Kitchen storage - principles of kitchen storage, Maximum and minimum reaches, storage areas in kitchen and its dimensions, hand operated tools and their location. Care and maintenance of storage.

References:

1. Alexander, N.J (1972), Designing Interior Environment, Havanouich Inc.,
2. Faulkner, R., and Faulkner. S, (1987), Inside Today's Home, Rinehart Publishing Company, New york.
3. Riggs, R. (1992) Materials and Components of Interior Design, Prentice - Hall of India Pvt Ltd., New Delhi.
4. Allen dizik (1988), A Concise Encyclopedia of Interior Design, 2nd edition, van nos - trend reinbold, Newyork.
5. Varghese.M.A. etal., (1994), Ergonomics in Kitchen Design, Bombay.

E- materials:

1. <https://www.addspacewerkz.com/5-importance-of-a-functional-kitchen/>
2. <https://www.webstaurantstore.com/article/6/commercial-kitchen-design.html>
3. <https://opentextbc.ca/basickitchenandfoodservicemanagement/chapter/factors-affecting-working-performance/>
4. <https://www.houseplanshelper.com/kitchen-design-layout.html>
5. <https://gharpedia.com/blog/which-are-the-best-materials-finishes-to-use-in-modular-kitchen/>
6. <https://www.acthomeservices.com/7-essential-things-need-kitchen/>
7. <https://www.slideshare.net/MANOJ0202/electrical-services-in-kitchen-and-dining>
8. <https://www.forkly.com/kitchen-hacks/20-space-saving-accessories-for-the-kitchen/>
9. <https://www.vendhq.com/blog/store-layout-design/>

Course Outcome:

After completion of the course the student will be able to

1. Understand the advantages and disadvantages of different layouts of kitchen.
2. Recognize individual requirements in kitchen.
3. Select the appropriate finishing materials for different areas of the kitchen.
4. Arrange essential services required for optimum utilization of kitchen.
5. Plan proper storage areas in the kitchen.

**INTERNAL ELECTIVE
PAPER -1
C. HOUSE KEEPING AND FRONT OFFICE MANAGEMENT**

Course objectives:

To enable the students to

1. Know the organizational structure of a Housekeeping department.
2. Improve skills in organization of work and prepare for housekeeping jobs.
3. Understand the functions of housekeeping department.

UNIT - I

Introduction to Housekeeping Department - Objectives, Organizational Structure of Housekeeping department (small, medium, large), Duties of Housekeeping personnel, Housekeeping as a Profession.

UNIT - II

Housekeeping in different Institutions - commercial sector and welfare sectors departments that housekeeping Co-ordinates with-reception, catering, interior decoration and other related departments.

UNIT - III

Functions of Housekeeping department - Desk control, records and registers, key types and control of keys, service pantry-location and essential features, lost and found, fire, emergency and first aid.

UNIT - IV

General maintenance - Cleanliness of all the rooms, furniture, furnishings and accessories. Bed and bedding size, care and cleaning of beds, bed linen, blankets, bedspreads and mattress, and pillow cover.

UNIT - V

Introduction to front office, layout of front office and different front office equipment, importance of front office in hospitality industry, duties and responsibility, ideal qualities of a front office staff and job description of a front office assistance.

References:

1. Branson,J.C.&Lennox, M (1992), Hotel, Hostel and Hospital Housekeeping, Arnold Heinaman, U.S.A.
2. Lillcrap,D.R and Cousins,J.A (1994), Food and Beverage Service, London
3. Faulkner,R. and Faulkner,S. (1997), Inside Today's Home, Rinehart Publishing company,New York.
4. Binnie, R and Boxal, D.J, (1972), Housecraft Principles and Practice, Pitman Publishing, London.
5. Andrews.S, (1985), Hotel Housekeeping - Training Manual, Tata McGraw Hill Publishing company Ltd, New Delhi.

E- materials:

1. <https://en.wikipedia.org/wiki/Housekeeping>
2. https://www.tutorialspoint.com/hotel_housekeeping/hotel_housekeeping_principles.htm
3. <https://www.resortdata.com/housekeeping-management/>
4. https://www.tutorialspoint.com/front_office_management/front_office_management_introduction.htm
5. <https://www.slideshare.net/yoganandagk/front-office-management-70577624>

Course Outcome:

After completion of the course, the student will be able to

1. Appraise the role of housekeeping in various buildings.
2. Identify the housekeeping areas in a building.
3. Develop personal abilities in housekeeping to work in commercial establishments.
4. Practice personal grooming and etiquette.
5. Adopt good waste management practices as an efficient housekeeping method.

**SKILL BASED SUBJECT
PAPER - 3
RESIDENTIAL SPACE DESIGNING**

Course Objectives:

To enable students to

1. Understand the concept of space.
2. Learn to draw house plan.
3. Acquire knowledge on institutions supporting housing activities in the Country.
4. Develop skill to draft house plans for various income groups.

UNIT - I

FACTORS INFLUENCING INTERIOR RESIDENTIAL SPACES

Space for Living - concept of life space - Biological needs, ecological concerns, cultural influences, Psychological effects - privacy, personal space, territoriality, crowding, Planning a space - people, location and orientation, resources available, Planning objectives - utility, economy, beauty and character

UNIT - II

PLANNING SPACE - CONCEPT, COMPONENTS AND METHODS

Concept of Housing - functions of house, Factors considered in selection of site, principles of planning, Components of building - foundation, flooring, walls, ceiling and roof, Methods of construction - load bearing and framed structure, Levels of construction, Allocation of space for various activities - Social space, work space and private space. Types of plans - source of plan, site plan, floor plan, cross sections, elevation, perspective view and landscape plans - Housing problems in India - causes and remedial measures. Desirability of owning and renting.

UNIT - III

DRAFTING HOUSE PLANS

Symbols; standards used in drawing house plans, Drawing house plans for various income group
- low, middle and high, Reading and judging house plans

UNIT - IV

INSTITUTIONS SUPPORTING HOUSING

Financial institutions - HDFC, HUDCO, Nationalised Bank and LIC, Research Institutions - NBO, CBRI, SERC, Standards Institutions - Need for standardisation, types of standards, BIS and its role

UNIT-V

HOUSING SITUATION IN INDIA

Types of housing, housing scenario, housing problems-causes and remedial measures, Housing schemes in India

Text books :

1. Arora.S.P and Bindra S.P, (2005), Building Construction, Delhi: Dhanpat Rai Publications, India.
2. Veena Gandotra and Sarjoo Patel, (2006), 'House for Family Living', New Delhi: Dominant Publishers, India.
3. Bhavikatti, S.S and Chitawadgi, M.V, (2017), 'Building and Drawing', Hubli.
4. Maureen Mitton, (2004), 'Interior Design Visual Presentation-A Guide to Graphics, Models and Presentation Techniques', New Jersey: John Wiley and Sons, USA.

References :

1. Jankowsky, Wanda, (2001), 'Modern Kitchen Work Book', New Delhi: Rockport Publishers, India.
2. Raychaudhuri Dutt, Debjani, (2002), 'How Best to Plan and Build Your Home: A Total Guide for the Owner', Jaipur: Pustak Mahal, India.
3. Tolpin, Jim, (2001), 'New Family Home Creating the Perfect Home for Today and Tomorrow', New Delhi: Taunton Press, India
4. Usha Shrikant, (2002), 'Designs for a Lifetime', Chennai: Honesty Publishers, India.

E-Materials :

1. <https://www.wiley.com/en-us/Residential+Interior+Design%3A+A+Guide+To+Planning+Spaces%2C+3rd+Edition-p-9781119013976>
2. <https://www.firstinarchitecture.co.uk/space-planning-basics/>
3. https://books.google.co.in/books/about/Residential_Interior_Design.html?id=bBgWCgAAQBAJ&redir_esc=y
4. https://books.google.co.in/books/about/Space_Planning_for_Commercial_and_Reside.html?id=htE1FN2oNc8C&redir_esc=y

Course Outcome:

After completion of the course the student will be able to

1. Demonstrate knowledge of space designing and its principles
2. Use basic principles of spatial layout to create well designed residential floor plans
3. Analyze and apply client's needs to create effectively well designed floor plans
4. Understand the factors that influence the buying, building or the renting of houses
5. Identify key issues in housing finance, affordability and technology systems

**SEMESTER VI
CORE PAPER - 9
SOFT FURNISHINGS**

Course Objectives:

To enable the students to

1. Understand the role of fabrics used in interiors
2. Develop skills in estimating the cost of furnishing a house.
3. Develop skills in construction of curtains.

UNIT - I

Soft furnishings - Meaning, Importance - relationship of furnishings with space, selection and use of furnishings - functional and decorative.

UNIT - II

Furnishings in interiors - Types of living room linen - slip covers, cushion covers, Bed linen - bed spread, bed sheet, pillow covers, comforter, duvet cover, quilt cover, bed throws, bed skirts. Table linen - table cloth, place mat, table napkins and apron, kitchen napkins and towels. Selection, use and care of household linen.

UNIT - III

Types of windows - Dormer, Ranch, Picture, Window wall, Double hung, Sliding, Casement, Awning, Bay, Bow, French window, Arch window. Window Treatments: Hard - Blinds, Shades, Shutters, Lambrequin, short screens - Soft - Curtains and Draperies -One way draw, Tieback, Crisscross, Casement, Glass curtain. Tier, Cafe, valance, swag, cornice and Double hung draw.

UNIT - IV

Care and maintenance of soft furnishings - stain removal, mending and darning, laundering, storage of furnishings - Carpets and rugs - types, selection, and laying.

UNIT - V

Requirements and cost of Furnishings, Listing the basic requirements of furnishings for different rooms, estimating the materials for construction of curtains and draperies, formulating a budget for furnishing a home

Text Books:

1. Anita .T, (2011), "Textiles for Apparel and Home Furnishing", New Delhi:SonaliPublications, India.
2. Kharuna.S, (2012), "Fabrics for Fashion and Textile Design", New Delhi:SonaliPublications, India.
3. Chaudhari.S.N, (2006), "Interior Design", Jaipur: AavishkarPublisher, India.

References:

1. Stepat.D.Van, (1991), "Introduction to Home Furnishing", New York: The MacMillan

Company.

2. Premavathy .S, Sonia.B and Preeti. M, (2005), “An Introduction to Family Resource Management”, New Delhi: CBS Publishers & Distributors,India.
3. Rose Sinclair,(2015), “Textiles and Fashion-Materials, Design and Technology”, UK: Wood head Publishing Limited-Elsevier.
4. Hillard.E, (2000), “Brilliant Colourat Home”, London- Kyle Eathie Ltd, NewYork.
5. Philips B, (2000), Hamlyn book of decorating, octopus publishing Ltd,London.
6. Clifton.c. etal (1991), The complete Home decorator conran octopus Ltd, London.
7. Luke. H., (1996), soft furnishings, New Holland publishers Ltd,Singapore.
8. Stepat, D.D, (1971), Introduction to Home furnishings, The Mac MillanCo,NewYork.
9. Wilhide, E and Copestick, I. (2000) contemporary decorating, conron octopus Ltd., London.
10. Levine M (1998), Living rooms, Rockport publishers, USA.

E- Materials:

1. <https://pdfs.semanticscholar.org/9a28/e4db15eda5985c465162820f975ba1d4bbd8.pdf>
2. <http://peartreeinteriors.co.uk/references/>
3. <https://www.britannica.com/technology/soft-furnishings>
4. <https://en.wikipedia.org/wiki/Upholstery>
5. <http://ajast.net/data/uploads/2143.pdf>

Course Outcome:

After completion of the course the student will be able to

1. Understand the composition, construction, and finishes applied on fabrics for furnishings.
2. Analyse recent trends in furnishings
3. Gather information on various household linen, their selection and care.
4. Adopt various window treatments in interiors.
5. Calculate the cost of furnishing a house.

CORE PAPER - 9 APPLIED ARTS

Course Objectives:

To enable the students to

1. Understand the techniques of art.
2. Understand art and apply its principles in the creation and selection of art objects.
3. Know about the different styles of food service.

UNIT - I

Applied arts - Meaning and significance of art in the home. Functions of art - motivated and non-motivated function. Factors affecting art forms - Geography, community, materials, individuality, technology, Psychology and financial resource. Art appreciation - meaning, Developing skills for appreciation of art, Evaluation of art objects - Basic guidelines in evaluating art objects.

UNIT - II

Enrichment of different materials. Wood - methods of shaping and decorating - printing, varnish, shellac, lacquer. Wood work - cutting, turning, carving, Inlay - Enrichment of metals - embossing or repousse, chasing, engraving, inlaying, stamping, gilding, enamelling, and electroplating - Ceramics - Definition, Types - earthenware, stoneware, chinaware, porcelain and terracotta. Ornamentation on ceramics - painting, glazing, carving, graffito and mishima - Glass Enrichment - etching, engraving, cutting, enameling, painting. Use of glass in home.

UNIT - III

Mosaic - meaning, creating art pieces with mosaics - direct and indirect method. Papiermache - meaning, origin and process, Basket weaving - meaning, types of basketry methods: coiling, plaiting, twining, and wicker - Craft - Macrame - meaning, materials and types of knots. Decoupage - materials used, and process of decoupage craft, Fabric painting - techniques, Glass painting, Oil painting - ingredients, techniques - glazing, impasto, scumbling, and alla prima. Collage - meaning, types - paper, fabric, assemblage, digital.

UNIT - IV

Accessories - Meaning, importance, Types - functional accessories and decorative accessories, Factors to be considered while selecting accessories - Proportion, harmony, colour, line and form, texture, expressiveness, theme of room, cost. Placement of accessories - guiding principle - style of room, principles of design, background space, stability of objects. Hanging pictures and picture mounting - square, rectangle - vertical and horizontal.

UNIT - V

Table setting - types - formal table setting, informal table setting and buffet table setting. Principles of table setting, Table decoration and table appointments - meaning, types and uses. Styles in food service - Indian - Thali service. Types of Western food service- English, French, Russian, American, Gueridon. Buffet service - meaning, advantages and disadvantages of Buffet food service.

Text Books:

Unit-1: Faulkner, R. (1986) Art Today, Zory Field and Hill, New York.
Unit-2 : Faulkner,S. and Faulkner,R.(1987), Inside Today's Home, Rinehart Publishing Company, New York.
Unit-3 : Reader's Digest (1991), Crafts and Hobbier
Unit-4: Gangodra,V. and ManeeshaShukul(2010), Introduction to Interior Design and decoration, Dominant Publishers and Distributors, New Delhi.
Unit-5: Sudhir Andrews (2013),Food and Beverage Service: A Training Manual, Tata McGraw-Hill Education, New Delhi.

E- Materials:

1. <https://en.wikipedia.org/wiki/Art>
2. <https://en.wikipedia.org/wiki/Collage>
3. <https://www.artyfactory.com/art-appreciation.html>
4. <https://nomliving.com/blogs/thingswedo/pottery-and-ceramics-a-brief-explanation>
5. <https://www.webstaurantstore.com/blog/2852/restaurant-table-settings.html>
6. <https://www.creativebloq.com/art/painting-techniques-artists-31619638>
7. www.yarnspirations.com > How-To > Basics

References:

1. Evans, A (1973), Man the Designer, The Macmillan Company, New York.
2. Faulkner, R. (1986) Art Today, Zory Field and Hill, New York.
3. Holmes, O (1982) - A Grammer of Arts, the Macmillan Company.
4. French, B (1969) - Principles of Collage, Mills and Bean, London.
5. Reader's Digest (1991), Crafts and Hobbier.
6. Singaravelavan,R. (2016),Food and Beverage Service, 2nd edition, Oxford University Press.

Magazines :

1. Inside Outside
2. Society Interiors

Course Outcome:

After completion of the course, the student will be able to

1. Appreciate art and evaluate art objects.
2. Understand the process of enriching wood, metal, ceramics and glass.
3. Create craft items like macramé ,collage, decoupage and basket weaving
4. Understand the importance, selection and placement of accessories.
5. Know the different styles of food service.

PROJECT
Compulsory Project

The students have to take up a Group/ Individual project in the field of Interior Design and Decoration and report should be submitted at the end of VI semester.(Group will not be exceeding five students).

**INTERNAL ELECTIVE
PAPER - 2
(to choose one out of 3)**

A. PROFESSIONAL PRACTICE

Course Objectives:

To enable the students to

1. Plan residential interiors and commercial interiors.
2. Gain knowledge in estimating and costing.
3. Understand the preparation of quotation and tenders.

UNIT - I

Residential Interior design - meaning, types of residential buildings - single family homes, condominiums, multi-family homes, **apartments and flats, penthouses, studio flats, villas, farmhouses, huts, eco-friendly homes.** planning for residential interiors - living room, dining room, kitchen, bedroom, children's room, bathroom.

UNIT - II

Commercial interiors - meaning, Role of commercial interior designers, Types of Office Layouts- cubicle, low partition, team-based, open-plan, hybrid, co-working, home office - prospects and constraints. Factors to be considered in commercial interior designing - versatility of space, aesthetics, technology implementation, personalized spaces and safety. Space planning for office interiors - cabinets, conference rooms

UNIT - III

Estimation - Definition of estimates, need for estimation, Types of estimates - approximate, detailed, revised, supplementary, repair, annual maintenance and sub-estimate. Types of approximate estimate. Preparation of detailed estimate. Measurement of materials - units and mode of measurement, rules for measurements. Quantity surveying - methods of taking out quantities- long wall-short wall, centre line, partially centre line and short wall. Analysis of rates, schedule of items, schedule of rates, schedule of quantities.

UNIT - IV

Specifications - definition, importance of specification, uses of specification, types of specification - General, detailed, special, restricted or recommended and manufactures. Principles of drafting specifications, requirements of specifications, points to be included in the specifications. Sources for information regarding the specification.

UNIT - V

Tenders and quotations - Tenders - meaning, objectives of tendering, contents of a tender notice, types of tender, tender document, preparation of tenders, methods of inviting tender-

public, e-tendering, limited tender, single tender, nomination. Quotations- meaning, Contracts - meaning, types - measurement contracts, lump sum, cost plus fee, turnkey, labour, day work, unit price, target cost, time and material.

Text Book:

Unit-1: Faulkner, R. (1986) Art Today, Zory Field and Hill, New York.

Unit-2 : SamKubba, Space Planning for Commercial and Residential, McGraw-Hill Professional (2003)

Unit-3 : Arulmanickam A.P. and T.K. Palaniappan (1993), Estimating and Costing, Pratheeba Publishers, Coimbatore.

Unit-4: Arulmanickam A.P. and T.K. Palaniappan (1993), Estimating and Costing, Pratheeba Publishers, Coimbatore.

Unit-5: Arulmanickam A.P. and T.K. Palaniappan (1993), Estimating and Costing, Pratheeba Publishers, Coimbatore.

E- Material:

1. <https://en.wikipedia.org/wiki/Art>
2. <https://www.artyfactory.com/art-appreciation.html>
3. <http://expertrealtycompany.blogspot.com/2015/04/what-are-five-principal-types-of.html>
4. <http://www.civilprojectsonline.com/civil-projects/purpose-of-specifications-and-types-of-specifications/>
5. <https://www.basiccivilengineering.com/2018/07/types-estimate-types-estimates-prepared-various-stages-project.html>
6. <https://www.redfin.com/resources/difference-between-building-types>
7. <https://www.opuskinetic.com/2019/04/4-types-of-tender-and-tendering-processes/>

References:

1. Deshpande, R.S. (1995) ; Modern Ideal Homes for India, Deshpande Publication, Poona.
2. Tessie, A., (1986), The House, its Plan and Use, J.B. Lippincett, New York.
3. Day P.G. (1982), A guide to Professional Architectural and Industrial Scale Model Building, Eagle wood clifts, N.J. Prentice Hall.
4. Indian Standards Institutions (1983), National Building Code of India ISI rol, 1 New Delhi, MarakBhavan.
5. Arulmanickam A.P. and T.K. Palaniappan (1993), Estimating and Costing, Pratheeba Publishers, Coimbatore.
6. Dutta, B.N., “Estimating and Costing in Civil Engineering”, UBS Publishers & Distributors Pvt. Ltd., 2003 2. K
7. Kohli, D.D and Kohli, R.C., “A Text Book of Estimating and Costing (Civil)”, S.Chand& Company Ltd., 2004
8. Faulkner,S. and Faulkner,R.(1987), Inside Today’s Home, Rinehart Publishing Company, New York

Magazines:

1. Inside Outside
2. Society Interiors

Course Outcome:

After completion of the course, the student will be able to

1. Differentiate different types of residential buildings.
2. Understand the factors involved in commercial space designing.
3. Understand the types of estimates and quantity surveying methods.
4. Learn the importance and uses of specification in construction.
5. Know the difference between tenders, quotation and contract.

**INTERNAL ELECTIVE
PAPER - 2
B. ENVIRONMENT CONTROL IN INTERIORS**

Course Objectives:

To enable the students to

1. Understand the importance of environment control in the interiors.
2. Acquire knowledge on the different types of heating and cooling systems.
3. Learn about HVAC system in buildings.

UNIT - I

Environment control - meaning of environment, importance of environment control, advantages, Elements to be controlled in the interiors - Temperature, air quality, sound, light, sanitation. Measures for the Control of Indoor Environments, selection of the site, architectural design, selection of materials, Impact of environment on health and sanitation.

UNIT - II

Ventilation - Definition, Functional requirements of a ventilation system, importance, airflow through buildings - Air flow, Heat flow and Moisture Flow. Humidity - Definition, humidity control, Humidification process. Types of ventilation - Natural - Indoor air quality, Energy saving, Green house, Sick Building Syndrome and mechanical - Exhaust fan, Air filters, Space heating and cooling system. Guidelines for natural ventilation.

UNIT - III

Thermal Insulation - General principles, Need for room heating, types of heating system - central heating, Radiant, forced air; Window insulation film, Thermal conductivity, Thermal Resistance (R), Insulation Work, Solar system - Active solar system and passive solar system. Construction insulating materials - Wood Fibre, Fibre Glass, Hemp, Cellular glass, Straw, Glass mineral wool, Phenolic Foam and Aerogel.

UNIT - IV

Air conditioning - Meaning, HVAC Principles, need for air-conditioning, air conditioning applications, types of air conditioning - Central air conditioning, Window type room air condition. Essentials of an air-conditioned system and its Uses.

UNIT - V

Acoustics and sound insulation - Definition, objectives, requirements of good acoustics, properties of sound, common acoustical defects; Sound absorption - sound absorbent materials, qualities of acoustic material, general principles in acoustical design.

References:

1. Encyclopedia of Occupational Health and Safety from the International Labour Office - Part IV, Indoor Environmental Control, Fourth Edition,
2. Nathan Rice, (2015). Thermal Insulation: A Building guide, NY Research Press, 2015.

3. Faulkner, S., and Faulkner. R, (1987), Inside Today's Home, Rinehart Publishing Company, New York.
4. Park, K (1995), Text Book of Preventive and Social Medicine, Banaridas Bhanot Publishers, Jabalpur.
5. Punnia, B.C (1995), A. Text book of Building Construction, Lakshmi Publication Pvt. Ltd., New Delhi.

E - Materials:

1. <http://www.ilocis.org/documents/chpt45e.htm>
2. <https://baso.pnnl.gov/information/building-science-introduction-air-flow>
3. <https://www.slideshare.net/VijeshKumarV1/architecture-air-movement>
4. <https://www.slideshare.net/NooruleInieOsman/ventilation-system-25941705>
5. <http://www.greenspec.co.uk/building-design/insulation-materials-thermal-properties/>
6. <https://www.thermaxxjackets.com/difference-between-hot-and-cold-insulation-materials/>

Course Outcome:

After completion of the course, the student will be able to

1. Manage and control elements of environment in Interiors.
2. Understands the importance of airflow in the buildings.
3. Apply Thermal insulation materials in interiors.
4. Explore types of air condition application.
5. Relates sound absorbent material in the required field.

**INTERNAL ELECTIVE
PAPER - 2
C. FINE ARTS - DRAWING AND PAINTING**

Course Objectives:

To enable the students to

1. Explore variety of drawing media and techniques.
2. Develop skill in drawing using different tools.
3. Understand the Art movements.

UNIT - I

Drawing Equipment - Supports - Canvas, Boards, Panels and papers - water colour and oil painting - Brushes-water colour and oil paint - Developing design on various supports with different brushes.

UNIT - II

Drawing Media - Pencils - Charcoal - Pastels - Crayons - Pen and Ink - Markers and fibre tip pens - Accessories - drawing with different media - Painting media - Water colour, gouache, tempera, acrylics, oil paints, binders, diluents, mediums, palettes, and accessories. Developing wall hangers.

UNIT - III

Modern Art: Realism, Impressionism, Post-impressionism, Art Nouveau, Fauvism, Cubism, Futurism, Expressionism, surrealism, Abstract art.

UNIT - IV

Techniques of drawing - Line - Points - Tone - Wash - Texture - Developing greeting cards using different techniques. Colour and composition - Colour-language, tonal value, mixing, colour expression and colour contrast - Composition-creating focal points.

UNIT - V

Painting - Mural - Ajanta, Miniature - Moghul, Kangra - Rajasthan. Contribution of Foreign artists to art - Michelangelo and Leonardo Da Vinci. Indian artists - Raja Ravi Varma and R.K.Laxman. Madras school - K.C.S.Panikar.

References:

1. Gair, A, 1999 Artists' Manual, Hopper Collins Publishers, London.
2. Holt, F.T. and Smith, S. 1997. The Artists Manual - Equipments, Materials, Techniques, Grange Books, London.
3. Malhotra and Malhotra, 2001, Drawing Techniques, Blue Bird Books, Delhi.
4. Monahan, P., Seligman, P. and Clouse, W. 2003, Arts School - A Complete Painters Course, Chancellor Press, London.
5. Stanyer, P. 2003. The Complete Book of Drawing Techniques, Areturus Publishing Limited for Book Mark Limited, Leicester.

E - Materials:

1. https://www.researchgate.net/publication/220876920_MAI_painting_brush_an_interactive_device_that_realizes_the_feeling_of_real_painting
2. <http://www.historyofpencils.com/drawing-tools/>
3. <https://www.oxfordartonline.com/page/impressionism-and-post-impressionism/impressionism-and-postimpressionism>
4. <https://www.creativebloq.com/art/drawing-techniques-7-fundamentals-pencil-drawing-71621181>
5. <https://mymodernmet.com/basic-drawing-techniques/>
6. <https://www.quora.com/How-is-mural-painting-different-from-miniature-painting>
7. <https://earlybirdbooks.com/oil-and-marble-excerpt>

Course Outcome:

After completion of the course, the student will be able to

1. Develop design with various drawing equipments.
2. Explore various drawing and painting media.
3. Consider the role of modern art in the larger social context.
4. Recognize and apply various colour, texture in developing designs.
5. Create personal works of art, which demonstrate an introductory level of understanding of the painting discipline.

UNIT - V

Environmental factors - Noise - Noise guidelines, noise reduction materials. Temperature - Heat stress, Heat strain, Materials used for thermal comfort, Heat exchange - conduction, convection, radiation.

References:

1. Barner, R.M., (1980), Motion and Time Study, Design and Measurement of work, John Wiley, New York.
2. Borgert, E. (1982) Housecraft - Principles and Practices, Issac Pitman, London.
3. Chaffin, D.B. and Andersson, G.B.J. (1984) Occupational Biomechanics, John Wiley, New York.
4. Cromwell, L. Weibell, F.J. and Pfeirffer, E.A. (1991) Biomedical Instrumentation and
5. Measurements, Prentice Hall, New Delhi.

E - Materials:

1. [researchgate.net/publication/327542735_ERGONOMIC_DESIGN_OF_WORKPLAC](https://www.researchgate.net/publication/327542735_ERGONOMIC_DESIGN_OF_WORKPLAC)
E
2. <https://www.workdesign.com/2012/08/ergonomics-and-workplace-design/>
3. <https://www.healthline.com/health/musculoskeletal-disorders>
4. <https://www.workdesign.com/2012/08/ergonomics-and-workplace-design/>
5. <https://www.slideshare.net/vimal333/anthropometry-15401067>
6. [https://nptel.ac.in/content/storage2/nptel_data3/html/mhrd/ict/text/112107249/lec53.p
df](https://nptel.ac.in/content/storage2/nptel_data3/html/mhrd/ict/text/112107249/lec53.pdf)
7. <https://www.managementstudyguide.com/workplace-efficiency.htm>
8. <https://www.who.int/docstore/peh/noise/Comnoise3.htm>
9. [http://www.euro.who.int/en/health-topics/environment-and-
health/noise/environmental-noise-guidelines-for-the-european-region](http://www.euro.who.int/en/health-topics/environment-and-health/noise/environmental-noise-guidelines-for-the-european-region)

Course Outcome:

After completion of the course, the student will be able to

1. Distinguish the terms ergonomics and anthropometry.
2. Relate significance of anthropometry to work place design.
3. Identify Anthropometric dimension of workers at work and at rest.
4. Comprehend interrelationship of posture and work on productivity.
5. Adhere to safety principles during work performance.

**INTERNAL ELECTIVE
PAPER - 3
B. GREEN BUILDING TECHNOLOGY**

Course Objectives:

To enable the students to

1. Understand the importance of green building technology.
2. Learn the significance of using solar devices.
3. Acquired knowledge in recent green building materials and to trap rain water

UNIT - I

Green building technology - Meaning, concept, need for developing green building concept in India, importance of green building technology, benefits of green buildings - environmental benefits, economic benefits, social benefits, Disadvantages of green buildings, impact of green building on human health and natural environment.

UNIT - II

Sustainable building materials - meaning, Characteristics of sustainable materials. Materials and finishes used in green building - Bamboo, straw bale, recycled plastic, wood, dimension stone, Recycled stone, non-toxic metals, Earth blocks-compressed, rammed and baked; flax linen, sisal, wood fibres, cork, coconut, non- VOC paints and polyurethane block. Vermiculites - meaning and commercial uses.

UNIT - III

Green building practices and technologies. Site planning and design, Energy Efficiency - Passive Solar Design- advantages, use of thermostats, doors, windows and insulating materials, Materials Efficiency - recyclable materials, Operations and Maintenance Optimization, Water Efficiency - Porous paving schemes, landscaping and plumbing, Indoor Environmental Quality Enhancement - lighting, ventilation and low VOC paints, Waste Reduction.

UNIT - IV

Renewable energy resources - meaning, importance of renewable energy resources, solar energy - advantages and disadvantages, principles and functions of solar devices - solar room heater - construction and working , solar lights - components, working principles, benefits and uses, solar water heater - components, working principles, and usage, solar air conditioning system - meaning, working mechanism.

UNIT - V

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 rain water harvesting systems - surface run off and Roof top rain water harvesting, advantages, Grey water usage.

Text Books:

Unit - 1: Nilesh Y. J (2016), Green and Smart Buildings: Advanced Technology Options (Green Energy and Technology) , Springer; 1st ed.

Unit - 2: Faulkner,S. and Faulkner,R.(1987), Inside Today's Home, Rinehart Publishing Company, New York.

Unit - 3: Charles J. Kibert, (2008),Sustainable Construction: Green Building Design and Delivery, John Wiley and sons.

Unit - 4: Rai, G.D. (1995), Solar Energy Utilization, Khanna Publishers, New Delhi.

Unit - 5: Rob Avis P and Michelle A.P.(2018), Essential Rainwater Harvesting: A Guide to Home-Scale System Design New Society Publishers.

E- Material:

1. <https://theconstructor.org/building/elements-of-green-building/5375/>
2. <https://theconstructor.org/water-resources/methods-of-rainwater-harvesting/5420/>
3. <https://www.greenbuilt.org/about/importance-of-green-building/>
4. <https://chillsairconditioning.com/how-does-solar-air-conditioning-work/>
5. <https://en.wikipedia.org/wiki/Vermiculite>
6. https://en.wikipedia.org/wiki/Solar_lamp
7. <https://homeguides.sfgate.com/importance-renewable-resources-energy-79690.html>
8. https://en.wikipedia.org/wiki/Solar_air_heat
9. https://openei.org/wiki/Solar_space_heating
10. <https://home.howstuffworks.com/solar-air-heaters1.htm>

References:

1. Rai G.D (1996), Solar Energy Utilization, Khanna Publishers, Delhi.
2. Riggs, J.R. (1992) Materials and Components of Interior Design, Regents Hall, New Jersey.
3. Faulkner, R., and Faulkner. S, (1987) Inside Today's Home, Rinehart publishing House, Newyork.
4. Roa, M.P. (1998), Interior Design, Principles and Practice, Standard Publishers, Delhi.
5. Despande, R.S, (1974) Build Your Own Home, United Book Corporation, Poona.

Magazines:

1. Inside Outside
2. Society Interiors

Course Outcome:

After completion of the course the student will be able to

1. Understand the green building concepts.
2. Learn the characteristics of green building materials.
3. Know the green building practices.
4. Importance of solar energy utilization.
5. Know the methods of rain water harvesting.

**INTERNAL ELECTIVE
PAPER - 3**

C. ENTREPRENEURIAL DEVELOPMENT

Course Objectives:

To enable the students to

1. Develop entrepreneurial skills.
2. Analyze the environment related to small scale industry and business.
3. Understand the process and procedures of setting up small enterprises.
4. Develop Management skills for entrepreneurship development.

UNIT - I

Entrepreneurship - Entrepreneur, Enterprise and Entrepreneurship - meaning, Types of Entrepreneur - innovative, imitative or adoptive, Fabian, drone. Need for Entrepreneurship, transition from income generation to self employment and Entrepreneurship, qualities of a good entrepreneur, problems of entrepreneurs - traditional society, lack of infrastructure facility, lack of favourable environment, socio-cultural factors, monopoly, resource related obstacles, lack of technology, corruption.

UNIT - II

Factors influencing entrepreneurial development - Economic factor - capital, labour, raw materials, market and infrastructure, Legal factors - , Socio - caste, family background, education, attitude of society and cultural value, Economic factors - wages, interest rates, governmental policies, tax rates, and inflation, Psychological - need achievement, motives, withdrawal of status respect, Political - Government policy, corruption, political stability and employment laws, Technological factors- internet and automated process, Environmental factors - climate change, pollution, availability of natural resources and waste disposal.

UNIT - III

Agencies supporting entrepreneurial Development Programme - Small Industries Development Corporation (SIDCO), District Industries center (DIC), The Tamil Nadu Industrial Investment Corporation Limited (*TIIC*), Entrepreneurship Development Institute of India (EDII), State Industries Promotion Corporation of Tamil Nadu Ltd (SIPCOT), Khadi and Village Industries Commission (KVIC), Small Industries Development Organization (SIDO). Institutional Finance to Entrepreneurs - IDBI, ICICI, RBI, LIC, ITCOT.

UNIT - IV

Project identification and classification - Meaning of Projects, Project identification - definition, Project Classification - Quantifiable and non-quantifiable projects, sectoral projects, techno-economic projects, and service projects. Internal and External constraints in project identification, Project objectives, Project life cycle - Initiation phase, Planning phase, Execution phase, Controlling and monitoring phase, Project closure.

UNIT - V

Project formulation - meaning, Concept, Need, Elements. Stages of Project formulation - Feasibility Analysis, Techno-Economic Analysis, Project Design and Network Analysis,

Input Analysis, Financial Analysis, Cost-Benefit Analysis, Pre-Investment Analysis. Project selection, Appraisal format, Check list for feasibility report, Planning commission guidelines, Project Report - meaning .Writing a project report - content of a Detailed Project Report.

Text Books:

Unit - 1: Gupta C.B, and Srinivasan N.P, Entrepreneurship Development in India, Sultan Chand & Sons, New Delhi, 2004

Unit - 2: Gupta C.B, and Srinivasan N.P, Entrepreneurship Development in India, Sultan Chand & Sons, New Delhi, 2004

Unit - 3: Vasant Desai, Project Management and Entrepreneurship, Himalaya Publishing House, New Delhi, 2000.

Unit - 4: Vasant Desai, Project Management and Entrepreneurship, Himalaya Publishing House, New Delhi, 2000.

Unit - 5: Gupta C.B, and Srinivasan N.P, Entrepreneurship Development in India, Sultan Chand & Sons, New Delhi, 2004

E- Material:

1. <https://www.wrike.com/project-management-guide/project-lifecycle/>
2. <https://www.wrike.com/project-management-guide/faq/what-are-project-objectives-in-project-management/>
3. www.entrepreneurindia.co › *project-identification*
4. https://www.researchgate.net/publication/332255136_Factors_Influencing_Entrepreneurship_Development
5. <https://www.mavenlink.com/resources/what-is-the-professional-services-project-life-cycle>
6. <https://explore.easyprojects.net/blog/how-to-write-a-project-report>
7. <https://sites.google.com/somaiya.edu/entrepreneurshipdevelopment/process-of-entrepreneurship-development/specialised-entrepreneurship-development-agencies>

References:

1. Gupta C.B, and Srinivasan N.P, Entrepreneurship Development in India, Sultan Chand & Sons, New Delhi, 2004.
2. Chunawalla S.A, Sales Management, Himalayan Publishing House, New Delhi, 1991.
3. Vasant Desai, Project Management and Entrepreneurship, Himalaya Publishing House, New Delhi, (2000).
4. Sethurajan.S., 2003. Principles of Entrepreneurship Development, Vimal Publishers, Coimbatore
5. Radha.V., 2007. Entrepreneurial Development, Prasanna and Co., Chennai

Course Outcome:

After completion of the course, the student will be able to

1. Understand entrepreneurship development, enterprise and its types
2. Identify the factors affecting entrepreneurship development.
3. Learn various agencies supporting entrepreneurship development.
4. Understand the phases in project life cycle.
5. Know the different stages of project formulation and project report.

SKILL BASED SUBJECT
PAPER - 4
COMMERCIAL SPACE DESIGNING

Course Objectives:

To keep the students to

1. Learn the importance of Merchandizing.
2. Distinguish display techniques.
3. Study psychology of window display.
4. Acquire knowledge on retail space.

UNIT - I

Commercial Art and its importance in Merchandising. Meaning and definition of commercial art, Development of commercial art. New trends, Steps in Merchandising and art display. Role of commercial art in Merchandising.

UNIT - II

Commercial display and Techniques - Interior Display - general Arrangement, principles and factors, types and merchandise display, types of lighting arrangements in commercial buildings.

UNIT - III

Window Display - Meaning, basic principles, factors of window display, window arrangement - window art, psychology of window display, Techniques and importance. Types of window display - Closed, Open, Island, Elevated, Shadowbox, Corner and Semi-Closed displays

UNIT - IV

Introduction to commercial space. Definition of commercial space, types of commercial space - Office Space, Retail space, Hospitality space, Health care, Education, Entertainment and Relaxation, Religious, Banks and Financial Institutions, functions and need, Design Process - Programming, Conceptual planning, Design Development, Construction documents, Construction administration, Evaluation, Factors to be considered in Commercial space design, Recent trends in commercial space design.

UNIT - V

Retail Space - Introduction to Retail space, Types of Retail outlets, Types of Retail Layout - Straight plans, Angular plans, Geometrical plans and Diagonal plans. Principles of Retail store design - Eye catching Visual Merchandising, Slowing the customer journey in the store, Customer pathway, Steering the customer to the right of the store, Creativity and Innovation, Aerating the store design, Optimize space. Elements of Store Design - Exterior, Interior, Atmosphere, Fixture, Merchandise, People.

References:

1. Gupta, C.B., Dr. Nair, Rajan 2003, Marketing Management, Sultan Chand & Som, New Delhi.
2. Joseph, D.C., Julies, P. and Martiv, Z. 1992, Time Saver Standards for Interior Design and Space Planning, New York.
3. Nair, R. 2002, Marketing, Sultan Chand and Sons Publisher, New Delhi.
4. Pattanchetti, C.C. Reddy, P.N. 1995, Marketing, Rainbow publishers, Coimbatore.

E Materials:

1. <https://www.smartsheet.com/retail-merchandising>
2. <https://sinalite.com/printersuccess/visual-merchandising-7-steps-to-revitalize-your-print-shop/>
3. <https://www.digitalvidya.com/blog/display-advertising/>
4. <https://www.warehouse-lighting.com/blogs/lighting-application-suggestions/different-types-of-office-lighting>
5. <https://www.unibox.co.uk/news-inspiration/types-importance-of-window-displays>
6. <https://smallbusiness.chron.com/psychology-visual-merchandising-66054.html>
7. <https://timesofstartups.com/more/factors-consider-planning-office-design-layout/>
8. <https://accountlearning.com/selection-of-office-building-important-factors-to-be-considered/>

Course Outcome:

After completion of the course, the student will be able to

1. Recognize the role of art in merchandising.
2. Identify techniques of display.
3. Make various types of window display.
4. Design commercial space for various uses.
5. Create retail space for different requirements of customers.
