



# LINGAYA'S VIDYAPEETH

## SCHEME OF STUDIES

### SESSION: 2021-22

School: School of Architecture and Planning								Batch: 2021					
Department:								Year: I					
Course: B.Sc (Interior Design)								Semester: I					
S N	Cate - gory	Course Code	Course Name	Periods			Cred its	Evaluation Scheme					Subject Total Marks (CE+IP+EX P)/2
				L	T	P		Theory			Practical		
								CE	MS E	ES E	IP	EX P	
1	PC	BNT-151	Theory of Design-I	0	0	4	2	-	-	-	100	100	100
2	PC	BNT-153	Basic Design-I	0	0	8	4	-	-	-	100	100	100
3	PC	BNT-155	Anthropometrics and Ergonomics	0	0	6	3	-	-	-	100	100	100
4	PC	BNT-157	History of Design	0	0	4	2	-	-	-	100	100	100
5	PC	BNT-159	Graphic Design	0	0	4	2	-	-	-	100	100	100
6	PC	BNT-161	Drawing & Rendering-I	0	0	4	2	-	-	-	100	100	100
7	BS AE	BNT-163	Workshop & Model Making	0	0	4	2	-	-	-	100	100	100
8	SEC	BNT-165	Presentation Skills	0	0	2	1	-	-	-	100	100	100
			Total---->	0	0	36	18	-	-	-	800	800	800

#### Abbreviations:

PC: Programme Core Courses  
 PE: Professional Elective Courses  
 BS – AE: Building sciences and applied engineering  
 SEC: Skill enhancement  
 L: Lecture  
 T: Tutorial  
 P: Practical

CE: Continuous Evaluation  
 MSE: Mid Semester Examination  
 ESE: End Semester Examination  
 IP: Internal Practical  
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## SCHEME OF STUDIES

### SESSION: 2021-22

School: School of Architecture and Planning								Batch: 2021					
Department:								Year: I					
Course B.Sc (Interior Design)								Semester: II					
S N	Cate - gory	Course Code	Course Name	Periods			Credit s	Evaluation Scheme					Subject Total Marks (CE+IP+EX P)/2
				L	T	P		Theory			Practical		
								CE	MS E	ES E	IP	EX P	
1	PC	BNT-102	Theory of Design-II	1	0	2	2	20	-	-	80	100	100
2	SEC	BNT-104	Value and Ethics	1	0	2	2	20	-	-	80	100	100
3	PC	BNT-106	Creative Thinking	1	0	2	2	20	-	-	80	100	100
4	PC	BNT-108	History of Design-II	1	0	2	2	20	-	-	80	100	100
5	BS AE	BNT-110	Construction Techniques and Representations - I	1	0	4	3	20	-	-	80	100	100
6	BS AE	BNT-112	Environmental Science	1	0	2	2	20	-	-	80	100	100
7	SEC	BNT-152	Computer Design and Digital Fabrication-I	0	0	4	2	-	-	-	100	100	100
8	PC	BNT-154	Basic Design – II	0	0	6	3	-	-	-	100	100	100
			Total---->	6	0	24	18	120	-	-	680	800	800

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# LINGAYA'S VIDYAPEETH

## SCHEME OF STUDIES

### SESSION: 2022-23

School: School of Architecture and Planning								Batch: 2021					
Department:								Year: II					
Course: B.Sc (Interior Design)								Semester: III					
S N	Cate - gory	Course Code	Course Name	Periods			Credit s	Evaluation Scheme					Subject Total Marks (CE+IP+EX P)/2
				L	T	P		Theory			Practical		
								CE	MS E	ES E	IP	EX P	
1	BS AE	BIN-201	Construction Techniques and Representation-II	1	0	6	4	20	-	-	80	100	100
2	PC	BIN-203	Furniture Design-I	1	0	6	4	20	-	-	80	100	100
3	PC	BIN-205	History of Design -III	1	0	4	3	20	-	-	80	100	100
4	OE	BHI-207	Interior Photography	1	0	2	2	20	-	-	80	100	100
5	SEC	BIN-251	Computer Design & Digital Fabrication -II	0	0	4	2	-	-	-	100	100	100
6	PC	BIN-253	Interior Design-I	0	0	6	3	-	-	-	100	100	100
			Total---->	4	0	28	18	80	-	-	520	600	600

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 BS – AE: Building sciences and applied engineering  
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# LINGAYA'S VIDYAPEETH

## SCHEME OF STUDIES

### SESSION: 2022-23

School: School of Architecture and Planning								Batch: 2021					
Department:								Year: II					
Course: B.Sc (Interior Design)								Semester: IV					
S N	Cate gory	Course Code	Course Name	Periods			Credi ts	Evaluation Scheme					Subje ct Total Mark s (CE+I P+EX P)/2
				L	T	P		Theory			Practical		
								CE	MS E	ES E	IP	EX P	
1	PC	BIN-202	Furniture Design-II	1	0	6	4	20	-	-	80	100	100
2	PC	BIN-204	History of Design-IV	1	0	2	2	20	-	-	80	100	100
3	BS AE	BIN-206	Interior Services-I	1	0	2	2	20	-	-	80	100	100
4	PE	BIN-208A	Vernacular Architecture & Interiors	1	0	2	2	20	-	-	80	100	100
		BIN-208B	Works of famous designers										
5	BS AE	BIN-252	Layout Drawing & Display Techniques	0	0	4	2	-	-	-	100	100	100
6	PC	BIN-254	Interior Design-II	0	0	12	6	-	-	-	100	100	100
			Total---->	4	0	28	18	80	-	-	520	600	600

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# LINGAYA'S VIDYAPEETH

## SCHEME OF STUDIES

### SESSION: 2023-24

School: School of Architecture and Planning								Batch: 2021					
Department:								Year: III					
Course: B.Sc (Interior Design)								Semester: V					
S N	Cat e- gor y	Course Code	Course Name	Periods			Credit s	Evaluation Scheme					Subject Total Marks (CE+IP+EX P)/2
				L	T	P		Theory					
								CE	MS E	ES E	IP	EX P	
1	PC	BIN-301	Interior Landscape	1	0	2	2	20	-	-	80	100	100
2	BS AE	BIN-303	Interior Services-II	1	0	2	2	20	-	-	80	100	100
3	OE	Open Elective - II		1	0	2	2	20	-	-	80	100	100
4	BS AE	BIN-351	Working Drawing & Detailing	0	0	6	3	-	-	-	100	100	100
5	PC	BIN-353	Interior Design-III	0	0	10	5	-	-	-	100	100	100
6	PAE CC	BIN-355	Dissertation	0	0	8	4	-	-	-	100	100	100
			Total---->	3	0	30	18	60	-	-	540	600	600

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PC: Programme Core Courses  
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 PAECC: Professional Ability Enhancement Compulsory course  
 IP: Internal Practical  
 EXP: External Practical  
 L: Lecture  
 T: Tutorial  
 P: Practical

CE: Continuous Evaluation  
 MSE: Mid Semester Examination  
 ESE: End Semester Examination



# LINGAYA'S VIDYAPEETH

## SCHEME OF STUDIES

### SESSION: 2023-24

School: School of Architecture and Planning								Batch: 2021					
Department:								Year: III					
Course: B.Sc (Interior Design)								Semester: VI					
S N	Cate - gory	Course Code	Course Name	Periods			Credit s	Evaluation Scheme					Subject Total Marks (CE+IP+EX P)/2
				L	T	P		Theory			Practical		
								CE	MS E	ES E	IP	EX P	
1	PC	BIN-302	Estimation & Costing	1	0	2	2	20	-	-	80	100	100
2	PAEC C	BIN-304	Professional Practice	1	0	4	3	20	-	-	80	100	100
3	PC	BIN-306	Thesis	1	0	2 0	11	20	-	-	80	100	100
4	OE	Open Elective III		1	0	2	2	20	-	-	80	100	100
5	PAEC C	BIN -352	Internship	0	0	0	2	-	-	-	100	100	100
			Total---->	4	0	2 8	20	80	-	-	42 0	500	500

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 Compulsory course  
 OE: Open  
 Elective  
 L: Lecture  
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 Practical

## PROGRAMME OUTCOMES

PO1	Demonstrate a comprehensive knowledge of historical and contemporary design practice and theory.
PO2	Understand contemporary and historical art and design issues, appropriate theory and the development of skills in critical analysis for their own sake or for their application to art and design practice
PO3	Demonstrate an advanced level of practical understanding and technical competence - whether in traditional or digital technology - in design to enable them to practice successfully in the profession
PO4	Demonstrate a critical understanding of the relationship between theory and practice in art and design as it relates to the subject.
PO5	Possess a professional level of individual creativity, vision, personal expression and intellectual ability to enable students to practice successfully in design.
PO6	Demonstrate an advanced understanding of new and future methods, materials, processes and technologies appropriate to three-dimensional design.
PO7	Express an understanding of the national and international contexts of art and design practice.
PO8	Demonstrate the ability to recognize the cultural, conceptual and professional contexts relevant to the evaluation and understanding of their work.
PO9	Demonstrate individual creativity, personal expression and technical competence, using the practical skills necessary to critically evaluate, realize and coherently communicate three dimensional ideas in appropriate media suitable for portfolio.
PO10	Demonstrate the development of problem-solving skills through research, critical analysis and the subsequent development of creative solutions within a professional, contextual and ethical framework.
PO11	Demonstrate a critical understanding of design practice impact on culture, society and the environment, including an appropriate knowledge of the application of materials and processes.

# B.Sc Interior Design (2021 Batch)

## SYLLABUS

### 1<sup>st</sup> Semester

#### NM1: Ideate

Module 1		NM1: Ideate
Subject Code	Subject Name	Max Marks
BNT-151	Theory of Design-I	30
BNT-153	Basic Design-I	25
BNT-155	Anthropometrics and Ergonomics	20
BNT-157	History of Design	50
BNT-159	Graphic Design	25
BNT-161	Drawing & Rendering-I	25
BNT-163	Workshop & Model Making	25
BNT-165	Presentation Skills	25

#### COURSE OUTCOMES

Designer will be able to:	
1	Investigate the fundamental aspects of the design process
2	Underlying principles of design methodologies utilized in the industry
3	To generate a variety of design ideas that lead to high quality design outcomes

**Project: Compositions with patterns, textures etc.**

#### COURSE CONTENT

<b>BNT-151</b>	<b>Theory of Design - 1</b>
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##### UNIT – I

##### INTRODUCTION TO DESIGN

Definitions and meaning of design, importance of design, examples of design from nature. Fundamental elements of design in 2-D and their definitions; point, line, shape, form, space, texture, value, colour and material. Introduction to the principles of design in 2-D and 3D - unity, balance, symmetry, proportion, scale, hierarchy, rhythm, contrast, harmony, focus, etc. ; use of grids, creating repetitive patterns.

##### UNIT – II

##### PRINCIPLES OF COMPOSITION

Principles of composition using grids, symmetrical/ asymmetrical, Rule Of Thirds, Center Of Interest, Gestalts Theory of Visual Composition.

<b>BNT-153</b>	<b>Basic Design-I</b>
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##### UNIT – I

##### INTRODUCTION TO BASIC DESIGN

Definitions of creativity, understanding components of creativity, definitions of problem solving, theories of creativity, goals and objectives, value judgments, defining problems, information gathering, creative incubation, creative thinking and creative process.

<b>BNT-155</b>	<b>Anthropometrics and Ergonomics</b>
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##### UNIT – I

##### NEED FOR STUDY

Introduction to Ergonomics, Need for study of anthropometric and ergonomics. , Design today- Human aid to lifestyle.



<b>BNT-157</b>	<b>History of Design</b>
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#### **UNIT –I**

#### **PURPOSE AND RELEVANCE OF ART DEVELOPMENT**

A survey of history of art forms: pre historic times to present times: changing nature of art through time in terms of content: form and material.

#### **UNIT – II**

#### **EXPLORATION OF ART FORMS**

Study of traditional and contemporary art forms – painting, sculpture, architecture, decorative arts, design arts, digital art. Relationship between art and design from the earliest time.

<b>BNT-159</b>	<b>Graphic Design</b>
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#### **UNIT – I INTRODUCTION TO FREE HAND DRAWING**

Basic exercises, Still life, Basic forms, effect of lines to represent textures - Understanding of different types of perspective views using vanishing points, Shading exercises etc.

#### **UNIT – II SKETCHING**

Outdoor sketching including Lawns, bushes, Water Bodies, Plants & trees in different media. Indoor sketching – furnitures, lights, corridor, lobby, class room etc.

<b>BNT-161</b>	<b>Drawing &amp; Rendering-I</b>
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#### **UNIT I**

#### **GEOMETRICAL CONSTRUCTIONS**

SCALES : Construction of plain scale and diagonal scale

CONIC SECTIONS : Construction of conic sections given the distance of focus from the directrix and eccentricity. Construction of ellipse – concentric circle method, rectangular method and intersecting arc method.

Construction of parabola by rectangular method and by tangent method. Construction of hyperbola– given the asymptotes and a point on the curve SPIRALS : Construction of Archimedean spiral and Logarithmic spiral

HELIX : Construction of cylindrical helix ,conical helix and square helical spring

<b>BNT-163</b>	<b>Workshop &amp; Model Making</b>
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#### **UNIT I**

#### **INTRODUCTION TO MODEL MAKING**

Need; role of scale models in design: general practices: Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques.

Introduction to the Mount Board/Paper/Boards for model making – types, properties etc. Hand building techniques on different planes - making rigid forms like, cubic, spherical, pyramidal shaped forms, depiction of steps, free forms, sculptures, etc.

<b>BNT-165</b>	<b>Presentation Skills</b>
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#### **Unit 1 Basic Communication Theory**

Importance of Communication – Stages of communication, Modes of Communication – Barriers to Communication, Strategies for Effective Communication – Listening: Importance, Types, and Barriers, Developing Effective Listening Skills.

## NM2: Communicate

Module 2		NM2: Communicate
Subject Code	Subject Name	Max Marks
BNT-151	Theory of Design-I	25
BNT-153	Basic Design-I	25
BNT-155	Anthropometrics and Ergonomics	25
BNT-157	History of Design	20
BNT-159	Graphic Design	30
BNT-161	Drawing & Rendering-I	20
BNT-163	Workshop & Model Making	25
BNT-165	Presentation Skills	50

### COURSE OUTCOMES

Designer will be able to:	
1	Ability to draw and communicate design intent clearly
2	Effective manipulation of materials, mediums and software
3	To easily realize and communicate design ideas, both in a 2d and 3d format
4	Conventions in drawings used within the wider design industry.

### Project: Basic Shapes models and compositions

### COURSE CONTENT

<b>BNT-151</b>	<b>Theory of Design - 1</b>
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#### UNIT – III

#### CONCEPTS OF GEOMETRY

Introduction to different 3-D forms and primitive forms, shapes and understanding the behavior when combined. Transformation of 2-D to 3-D.

<b>BNT-153</b>	<b>Basic Design-I</b>
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#### UNIT- II

#### THINKING TECHNIQUES

Principles in generative, convergent, lateral, interactive, graphical thinking, check lists, analysis and synthesis simulation, action ability and implementations of intentions. Blocks in creative thinking.

#### UNIT- III

#### TOOLS AND TECHNIQUES OF CREATIVITY

Mind mapping, brain storming with related stimuli and unrelated stimuli, positive techniques for creativity, creative pause, Focus, Challenge, alternatives, concepts, sensitizing techniques, group or individual techniques.

<b>BNT-155</b>	<b>Anthropometrics and Ergonomics</b>
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#### UNIT – II

#### ERGONOMICS IN INDIA

Environmental factors influencing human performance, Ergonomics in India. Ergonomics/ human Factors fundamentals, Physiology (work physiology) and stress

<b>BNT-157</b>	<b>History of Design</b>
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#### UNIT – III

#### STUDY OF ORNAMENTS & ACCESSORIES

Ornaments & Accessories in Interior Design. Different types of Ornamentation & Accessories in the interiors. Study and evaluation of artefacts, historic examples and their applicability.

## UNIT – IV

### INTRODUCTION TO HERITAGE INTERIORS

Heritage Interiors Buddhist, Islamic and Hindu: Evolution of Interiors in different regions of India with examples. Heritage and identity at different spatial scales.

<b>BNT-159</b>	<b>Graphic Design</b>
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## UNIT – III MEASURED DRAWING

Lettering - types, Scale, measured drawing of furniture, Wall paneling, flooring pattern, ceiling pattern, doors and windows.

<b>BNT-161</b>	<b>Drawing &amp; Rendering-I</b>
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## UNIT II

### PROJECTIONS

First angle projection Points and Lines : Orthographic projection of lines for any given condition, determination of true length, traces and inclinations to the planes of projection of any given line Planes : Traces of planes, plane figure inclined to one or both the reference planes

## UNIT III

### SOLIDS

Solids : Simple solids in simple position, prisms, regular pyramids, tetrahedron, octahedron, cone, spheres and their combinations placed in different positions. Auxiliary projections of simple solids and their combinations. Change of position and auxiliary plane method.

<b>BNT-163</b>	<b>Workshop &amp; Model Making</b>
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## UNIT -II

### MATERIALS AND TECHNIQUES (CLAY)

Ceramics – clay/ plaster of Paris : Introduction to model making, Need; role of scale models in design: general practices - The potter's wheel – kneading the clay, function of hands in throwing. Learning basic techniques in making different objects like bowl, plate, cylinder, vase, etc. Essentials of model making: understanding of various tools and machines employed, best practices involved in operating the tools and the techniques. Introduction to the Ceramic materials used for model making – clay, types and mixtures, properties etc. Hand building techniques- coiling, hand building with clay strips- making a small sculpture in Relief work – addition - making a mural, scooping – tile work. .

<b>BNT-165</b>	<b>Presentation Skills</b>
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### Unit 2 Comprehension and Analysis

Comprehension of Technical and Non Technical Material – Skimming, Scanning, Inferring-Note Making and extension of Vocabulary, Predicting and Responding to Context- Intensive Reading and Reviewing.

### Unit 3 Writing

Effective Sentences, Cohesive Writing, Clarity and Conciseness in Writing – Introduction to Technical Writing– Better Paragraphs, Definitions, Practice in Summary Writing, four modes of writing, use of dictionaries, Indices, library References, Making Bibliographical Entries with Regard to Sources from Books, Journals, Internet, etc.

## NM3: Contextualize

Module 3		NM3: Contextualize
Subject Code	Subject Name	Max Marks
BNT-151	Theory of Design-I	25
BNT-153	Basic Design-I	25
BNT-155	Anthropometrics and Ergonomics	30
BNT-157	History of Design	30
BNT-159	Graphic Design	25
BNT-161	Drawing & Rendering-I	25
BNT-163	Workshop & Model Making	25
BNT-165	Presentation Skills	25

### COURSE OUTCOMES

Designer will be able to:	
1	To see critical and cultural studies as a vital tool for innovative and well-informed practice
2	To explore a range of theoretical positions that inform recent and contemporary practice.
3	To reflect critically upon their own work and to locate their practice within the context of historical, social, political, cultural, environmental and theoretical perspectives

### Project: Human figures (Sketches and Models)

#### COURSE CONTENT

<b>BNT-151</b>	<b>Theory of Design - 1</b>
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#### UNIT- IV

##### THEORY OF COLOURS

Introduction –visible spectrum, coloured light, colour temperature, colour interaction, colour blindness. Color wheel – primary, secondary, tertiary colors, color wheel, color schemes color value, intensity, and modification of color hues – tints, shades, neutralization. Color charts – types, making and using. Color harmony, use of color harmony.

<b>BNT-153</b>	<b>Basic Design-I</b>
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#### UNIT – IV

##### PROBLEM STATEMENTS

Brain writing with unrelated stimuli, idea mapping, random input, story boarding exercises, problem solving techniques – brain storming, lateral thinking of De Bono

<b>BNT-155</b>	<b>Anthropometrics and Ergonomics</b>
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#### UNIT – III

##### HUMAN PHYSICAL DIMENSION

Human physical dimension concern: Human body- structure and function, anthropometrics, Anthropometry: body growth and somatotypes, Static and dynamic anthropometry, Stand Postureerect, Anthropometry landmark: Sitting postures, Anthropometry: squatting and cross-legged postures, Anthropometric measuring techniques, Statistical treatment of data and percentile calculations.

#### UNIT- IV

##### HUMAN BODY STRUCTURE AND FUNCTION

Posture and job relation, Posture and body supportive devices, Chair characteristics, Vertical work surface, Horizontal work surface , movement , work Counter.

<b>BNT-157</b>	<b>History of Design</b>
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#### UNIT – V

##### NEW DIRECTIONS IN ART

Context for new directions in art in the late 19th and early 20thcentury - Impressionism - post

Impressionism – Fauvism- Expressionism- Cubism –Dadaism – Surrealism - abstract art – Futurism - Constructivism – Suprematism – De-Stijl -Abstract Expressionism - Pop art - Op art- new forms and media of art. Study of famous and influential Artists, Craftsmen and people who pioneered innovations in their own fields and their influence on design and other fields. Works of Van Gogh, Dali, William Morris, Picasso, Da Vinci

<b>BNT-159</b>	<b>Graphic Design</b>
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### **UNIT – III GEOMETRICAL DRAWING**

Orthographic projections - Projection of lines, planes and solids, section of primary solids such as pyramids, cones, cylinder, prism, sphere, cuboid, etc.

<b>BNT-161</b>	<b>Drawing &amp; Rendering-I</b>
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### **UNIT IV**

### **SECTIONS & DEVELOPMENTS OF SOLIDS**

Intersection of surfaces : Line of intersection of two prisms , two cylinders and cone Section of solids : Section of simple solids by planes inclined. True shape of sections. Development of surfaces: Development of surfaces of simple solids, prisms, cylinders, pyramids, cones , spheres and truncated solids.

<b>BNT-163</b>	<b>Workshop &amp; Model Making</b>
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### **UNIT - III**

### **MATERIALS AND TECHNIQUES (WOOD)**

Wood : Working with wood and wood derivatives to understand material parameters. Wooden joinery and its strength, Wood polishes and other finishes – colour and surface quality. Making of elements of various scales in the built form, such as, interior space making elements, furniture forms, various products, Art & Artifacts by using wood. Understanding the material and tools by making objects which allow students to explore the forms, surfaces, textures and patterns. Explore different joinery, support conditions, and woven surfaces.

### **UNIT - IV**

### **MATERIALS AND TECHNIQUES (METAL)**

Metal : Types of metals, properties of metals, definitions of terms with reference to properties and uses of metals, various methods of working with metals, fixing and joinery in metals, finishing and treatment of metals., finishes on metals. Standard specifications. Metals in built form activity – horizontal, vertical and inclined surfaces – in interior environment elements- products and furniture forms - doors, windows, grilles, railing, stair etc. Metals and other materials – form and joinery.

<b>BNT-165</b>	<b>Presentation Skills</b>
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### **Unit 4**

### **Business Writing/Correspondence**

Report Writing, Memoranda, Notice, Instruction Letters.

### **Unit 5**

### **Oral Communication**

Presentation skills, Group Discussions, Dialogue Writing, Short Extempore, Debates, Role Plays, Conversation Practice for interviews.

## NM4: Illustrate

Module 4		NM4: Illustrate
Subject Code	Subject Name	Max Marks
BNT-151	Theory of Design-I	20
BNT-153	Basic Design-I	25
BNT-155	Anthropometrics and Ergonomics	25
BNT-159	Graphic Design	20
BNT-161	Drawing & Rendering-I	30
BNT-163	Workshop & Model Making	25

### COURSE OUTCOMES

Designer will be able to:	
1	To see critical and cultural studies as a vital tool for innovative and well-informed practice
2	To explore a range of theoretical positions that inform recent and contemporary practice.
3	To reflect critically upon their own work and to locate their practice within the context of historical, social, political, cultural, environmental and theoretical perspectives

### Project: Technical View Drawings

#### COURSE CONTENT

<b>BNT-151</b>	<b>Theory of Design - 1</b>
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#### UNIT – V

##### USE OF COLOURS

Psychological impact of color – warm, cool and neutral colors, impact of specific hues, meanings of color, color and form, color and light, color and surface qualities, color and distances and scales.

Problems with color. Use of colors in various functional contexts – e.g. Residential interiors, Non Residential interiors.

Use of color in special situations – out door/indoor spaces, accessories, art works etc.

<b>BNT-153</b>	<b>Basic Design-I</b>
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#### UNIT – V

##### CREATIVE SOLUTIONS

Applicable to designs – Design, Invention, opportunity, problems, improvement, planning, projects, conflicts. Simple Design exercises. Creative Design process – conceptual design, embodiment design, detail design, Iterations

<b>BNT-155</b>	<b>Anthropometrics and Ergonomics</b>
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#### UNIT- IV

##### HUMAN BODY STRUCTURE AND FUNCTION

Posture and job relation, Posture and body supportive devices, Chair characteristics, Vertical work surface, Horizontal work surface , movement , work Counter.

#### UNIT – V

##### BEHAVIOUR AND PERCEPTION

Communication and cognitive issues, Psychosocial behavior aspects, behavior and stereotype, Information processing and perception, Cognitive aspects and mental workload, Human error and risk perception

<b>BNT-159</b>	<b>Graphic Design</b>
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#### UNIT – IV ISOMETRIC DRAWING

Isometric projection of all platonic solids such as cube, cuboid, hexagonal prism, pyramids, cone and sphere etc –

#### UNIT – V ISOMETRIC SURFACES

isometric projection of singly and doubly curve surfaces.

<b>BNT-161</b>	<b>Drawing &amp; Rendering-I</b>
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#### **UNIT V**

#### **MATERIAL PROJECTIONS**

Isometric Projection : Isometric scale, isometric view of planes , simple solids, truncated solids , combination of objects  
 Perspective projection : Perspective projection of simple solids and their combinations by visual ray method and vanishing point method

<b>BNT-163</b>	<b>Workshop &amp; Model Making</b>
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#### **UNIT -V**

#### **MATERIALS AND TECHNIQUES (TEXTILES)**

Textiles – Weaving & printing : Introduction to fibers and yarns, table loom and floor loom, preparing warp, setting up loom for weaving. Basic weaves and their variations. Variation weaves and design quality, weaves as light controlling device, weaves and its quality for upholstery, curtains and floor coverings, Rugs and durries – motifs design, patterns and color variations. Development of textile design in different cultures from primitive art to contemporary designs. Criteria of design of the elements and principles of textile design. Analysis of a motif, developing repeat as a basic unit of design in textile printing. Printing – developing block, understanding the material used, colors, types and their mixing process, various color printing. Screen printing – design evolution for wall hangings, preparing screen and understanding the technique, printing on paper and printing on fabric.



## 2<sup>nd</sup> Semester

### NM5: Establishing Design

Module 5		NM5: Establishing Design
Subject Code	Subject Name	Max Marks
BNT-102	Theory of Design-II	25
BNT-104	Value and Ethics	50
BNT-106	Creative Thinking	25
BNT-108	History of Design-II	50
BNT-110	Construction Techniques and Representations - I	25
BNT-152	Computer Design and Digital Fabrication-I	25
BNT-154	Basic Design – II	25
BNT-112	Environmental Science	25

### Course Outcome

Designer will be able to:	
1	To extend individual and collective practice in response to local and/or global issues
2	To further develop an understanding interdisciplinary mode of enquiry
3	To demonstrate or disseminate innovative artistic and design work
4	To encourage responses to themes from broad disciplinary boundaries, human experiences and values

### Project -

BNT-102	Theory of Design-II
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#### UNIT- I

##### PRINCIPLES OF DESIGN

Exploration of the basic principles of composition such as Proportion, Scale, Balance, Rhythm, Unity, Contrast, Character with garment examples. Ordering Principles such as Axis, Symmetry, Hierarchy, Datum, Rhythm & Repetition..

BNT-104	Value and Ethics
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#### UNIT I

##### NEED FOR STUDY

Value Education—Introduction – Definition of values – Why values? – Need for Inculcation of values – Object of Value Education – Sources of Values – Types of Values: i) Personal values ii) Social values iii) Professional values iv) Moral and spiritual values) Behavioral (common) values

#### UNIT II

##### PERSONAL VALUES

Personal values – Definition of person – Self- confidence – Relative and absolute confidence, being self- determined, swatantrata (loosely equivalent to freedom). Self- discipline – Self Assessment – Self- restraint –Self motivation – Determination – Ambition – Contentment Self- respect and respect to others; expression of respect

#### UNIT III

##### SOCIAL VALUES

Social values – Units of Society - Individual, family, different groups – Community – Social consciousness – Equality and Brotherhood – Dialogue – Tolerance – Sharing – Honesty Responsibility – Cooperation; Freedom – Repentance and Magnanimity. Peer Pressure – Ragging - examples - making one's own choices

BNT-106	Creative Thinking
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#### UNIT I

##### CREATIVITY



Explanation on creativity, Icebreaker: Thinking Outside the Box, Combining Ideas: How to combine ideas for creative thinking breakthroughs, Combining ideas is one of the fundamental exercises in creative thinking.

## **UNIT II**

### **CREATIVE THINKING TOOLS**

Thinking tool no. 1: Kick Cards, 2: The Inverse, 3: Double Six Good Bad Interesting: Get creative thinking with the G.B.I. exercise – Dr Edward de Bono. Brainstorming,

<b>BNT-108</b>	<b>History of Design-II</b>
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## **UNIT I**

### **ELEMENTS OF STYLE**

Elements of style and determinants of Interior environments in Ancient Civilization, Classical world & the Middle ages : emphasis shall be on Architectural elements, furniture, decorative arts, colours& materials. Egyptian - Indus Valley Civilization - The ancient Near East - Samaritans, Babylonians, Assyrians, Persians

## **UNIT II**

### **CLASSICAL WORLD**

Greek, Roman architecture and Eastern influences - China and Japan.

## **UNIT III**

### **THE MIDDLE AGES**

Early Christian and Byzantine, Romanesque and Gothic, Renaissance in Italy, Spain, France and England, Baroque, Rococo, Neoclassicism-Boulle, Ledoux.

<b>BNT-110</b>	<b>Construction Techniques &amp; Representations-I</b>
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## **UNIT I**

### **HARDWARE**

Hardware & Accessories : all hardware required for residences, offices, other public & private spaces, etc., including all types of hinges, drawer slides, handles, locks, wire managers, etc., accessories for toilet, kitchen, office, glass patch fittings, profiles, etc.,

## **SUGGESTED BOOKS**

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Technique and Methods of Construction, 19<sup>th</sup> ed. Dhanpat Rai Pub., New-Delhi, 2000
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22<sup>nd</sup> ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19<sup>th</sup> ed. Standard Pub. Delhi, 2003.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008

<b>BNT-152</b>	<b>Computer Design &amp; Digital Fabrication-I</b>
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## **UNIT I**

### **MS OFFICE**

Computer Orientation, Microsoft word, Microsoft excel, Microsoft presentation software, scanning and MS Paint

## **UNIT II**

### **BASIC OUTLINE , AXIS POINTS**

Introduction to the menu, starting drawings from scratch. Creating and using templates- starting drawings with setup wizards. Saving and closing a file. Introduction to the menu, starting drawings from scratch. Creating and using templates- starting drawings with setup wizards. Saving and closing a file.

## **SUGGESTED BOOKS**

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Auto Desk, 3DS MAX comprehensive tutorial resources Wiley 2014.

- Sketch up for interior Design . 3D visualising designing & space planning by Lidya Sloan, Wiley Publisher – 2014.
- Computer Design & Digital Fab
- Auto Desk Auto cad 2017 for Architecture, Sybex , 2016

<b>BNT-154</b>	<b>Basic Design-II</b>
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#### **UNIT I**

##### **BASIC ANTHROPOMETRICS**

Average measurements of human body in different postures – its proportion and graphic representation, application in the design of simple household and furniture.

#### **UNIT II**

##### **SPATIAL PARAMETER**

Role of mannequins in defining spatial parameter of design. Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions.

##### **SUGGESTED BOOKS**

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 3<sup>rd</sup> edition 2009.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2<sup>nd</sup> edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2<sup>nd</sup> edition, Wiley publishers, 2004
- Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003.

<b>BNT-112</b>	<b>Environmental Science</b>
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#### **UNIT I**

##### **INTRODUCTION TO WORLD ART & CULTURES**

Definition, scope and importance, of environmental studies, Need for public awareness. Renewable and non- renewable resources: Natural resources and associated problems. Forest resources: Water resources: Mineral \ resources : Food resources : Energy resources: Land resources :

##### **SUGGESTED BOOKS**

- Cunningham, W.P. Cooper T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p
- Text Book for environmental Studies For UGC, ErachBharucha

## NM6: Applications

Module 6		NM6: Applications
Subject Code	Subject Name	Max Marks
BNT-102	Theory of Design-II	25
BNT-104	Value and Ethics	25
BNT-106	Creative Thinking	25
BNT-108	History of Design-II	25
BNT-110	Construction Techniques and Representations - I	25
BNT-152	Computer Design and Digital Fabrication-I	25
BNT-154	Basic Design – II	25
BNT-112	Environmental Science	25

### Course Outcome

#### Designer will be able to:

1	To provide the skills and knowledge to communicate art and design skills creatively
2	To introduce a range of technical skills appropriate to future learning
3	To establish strong and supportive peer networks
4	To develop research, design and communication skills

### Project -

<b>BNT-102</b>	<b>Theory of Design-II</b>
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#### UNIT- II

##### ORGANISATION OF FORMS

Spatial Relationships: i) Space within space, ii) Interlocking spaces, iii) Adjacent spaces, iv) Space linked by a common space b) Spatial Organization: influencing factors and their types i) Centralized, ii) Linear, iii) Radial, iv) Clustered, v) Grid c) Articulation of forms and spaces types: i) Edges and corners, ii) Surface. A Project on Creation of forms & spaces using the principles learnt.

<b>BNT-104</b>	<b>Value and Ethics</b>
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#### UNIT IV

##### PROFESSIONAL VALUES

Professional values – Definition – Competence – Confidence – Devotion to duty –Efficiency – Accountability – Respect for learning /learned – Willingness to Learn- Open and balanced mind – Team spirit – Professional Ethics – Willingness for Discussion; Difference between understanding and assuming Time Management: Issues of planning, as well as concentration (and aligning with self- goals) Expectations from yourself. Excellence and competition, coping with stress, Identifying one's interests as well as strengths.

<b>BNT-106</b>	<b>Creative Thinking</b>
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#### UNIT III

##### PRINCIPLES OF CREATIVITY

Creative Problems: Defining creative problems and solutions. Diffusion: Spreading ideas through social networks.Divergence and convergence: Staying open and staying focused. Exploration: Going where no one has gone before.Forced association: Banging things together to create new things. Ground Rules: Shared rules that enable safe creativity.Jumping: Jumping to new idea domains. Practice: Build your 'creative muscle' with regular practice. Questioning: Asking things to get the mind going.

<b>BNT-108</b>	<b>History of Design-II</b>
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#### UNIT IV

#### INDIAN ARCHITECTURE AND INTERIORS

Hindu, Islamic and Buddhist architecture, Secular architecture of the princely states like Rajasthan, etc.

<b>BNT-110</b>	<b>Construction Techniques &amp; Representations-I</b>
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#### UNIT II

#### STONES

Stones : Igneous, metamorphic & sedimentary – classifications, types, properties, availability, applications

#### SUGGESTED BOOKS

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Technique and Methods of Construction, 19<sup>th</sup> ed. Dhanpat Rai Pub., New-Delhi, 2000
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22<sup>nd</sup> ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19<sup>th</sup> ed. Standard Pub. Delhi, 2003.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008

<b>BNT-152</b>	<b>Computer Design &amp; Digital Fabrication-I</b>
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#### UNIT III

#### UNITS, LIMITS AND LAYERS

Setting up the drawing environment – setting the paper size, setting units, grid limits, drawing limits, snap controls. Use of paper space and model space. Basic commands dealing with drawing properties: Layer control, change properties, line weight control, etc.

#### SUGGESTED BOOKS

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Auto Desk, 3DS MAX comprehensive tutorial resources Wiley 2014.
- Sketch up for interior Design . 3D visualising designing & space planning by Lidya Sloan, Wiley Publisher – 2014.
- Computer Design & Digital Fab
- Auto Desk Auto cad 2017 for Architecture, Sybex , 2016

<b>BNT-154</b>	<b>Basic Design-II</b>
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#### UNIT III

#### INTRODUCTION TO DESIGN METHODOLOGY

Detailed study of residential spaces: such as, living, dining, bedrooms, kitchen, toilet etc. including the furniture layout, circulation, clearances, etc. Case study of existing residential spaces and the analysis of the spaces therein, to be taken up. Preparing user profile, bubble and circulation diagrams.

#### SUGGESTED BOOKS

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 3<sup>rd</sup> edition 2009.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2<sup>nd</sup> edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2<sup>nd</sup> edition, Wiley publishers, 2004
- Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003.

<b>BNT-112</b>	<b>Environmental Science</b>
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## UNIT II

### ECO SYSTEMS

Structure and function of an ecosystem, Concept of an ecosystem , Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Types of Ecosystem

#### SUGGESTED BOOKS

- Cunningham, W.P. Cooper T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p
- Text Book for environmental Studies For UGC, ErachBharucha, 2004

## NM7: Design Domains

Module 7		NM7: Design Domains
Subject Code	Subject Name	Max Marks
BNT-102	Theory of Design-II	25
BNT-104	Value and Ethics	25
BNT-106	Creative Thinking	25
BNT-108	History of Design-II	25
BNT-110	Construction Techniques and Representations - I	25
BNT-152	Computer Design and Digital Fabrication-I	25
BNT-154	Basic Design – II	25
BNT-112	Environmental Science	50

## Course Outcome

Designer will be able to:	
1	To understand the various domains and their philosophies
2	To develop basic understanding of the requirements, purpose and need of various design domains
3	To relate the design process and demands of various domains
4	To illustrate design skills for various domains

## Project -

<b>BNT-102</b>	<b>Theory of Design-II</b>
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## UNIT – III

### PRINCIPLES OF COMPOSITION

Unity, harmony and specific qualities of design to include dominance, punctuating effect, dramatic effect, fluidity,

### UNIT – IV TYPOGRAPHY & GEOMETRY

climax, accentuation and contrast with garment examples. Basics of Calligraphy and typography, Understanding structure and proportion of types of (Roman Serif and San Serif). Basic solid Geometry

<b>BNT-104</b>	<b>Value and Ethics</b>
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## UNIT V

### BEHAVIOURAL VALUES

Behavioral values – Individual values and group values. Anger: Investigation of reasons, watching one's own anger; Understanding anger as: a sign of power or helplessness, distinction between response and reaction. Right utilization of physical facilities. Determining one's needs, needs of the self and of the body, cycle of nature. Relationship with teachers. Inside the class, and outside the class, interacting with teachers. Complimentary nature of skills and values.

Distinction between information & knowledge Goals: Short term goals and long term goals; How to set goals; How to handle responsibilities which have to be fulfilled while working for goals

<b>BNT-106</b>	<b>Creative Thinking</b>
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**UNIT IV**

**TOOLS FOR DEFINING THE PROBLEM**

CATWOE, Challenge, Chunking, Context Map, A Day in the Life of., Is – Is not, how to: The Kipling method (5W1H), Positives, Negatives, Problem Statement: achieve. Purposing: Reversal: Storyboarding: Visioning: Assumption Busting: Brainstorming: Brain mapping. Essence: Forced Conflict: Lotus Blossom: PSI: Problem + Stimulus = Idea, Random Words: Modeling: Morphological Analysis, Post-Up: Provocation: Role-play: Reverse Brainstorming: , SCAMPER: , Storyboarding: , Visioning: , Wishing

<b>BNT-108</b>	<b>History of Design-II</b>
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**UNIT V**

**STUDY OF VERNACULAR ARCHITECTURE AND INTERIORS**

Jammu and Kashmir, Southern India, Gujarat, , Himachal Pradesh , states of North & eastern India, Maharashtra, Uttar Pradesh, Orissa etc.

<b>BNT-110</b>	<b>Construction Techniques &amp; Representations-I</b>
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**UNIT III**

**RUBBER**

Rubber – Natural rubber, latex, coagulation, vulcanizing and synthetic rubber- properties and application

**SUGGESTED BOOKS**

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Technique and Methods of Construction, 19<sup>th</sup> ed. Dhanpat Rai Pub., New-Delhi, 2000
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22<sup>nd</sup> ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19<sup>th</sup> ed. Standard Pub. Delhi, 2003.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008

<b>BNT-152</b>	<b>Computer Design &amp; Digital Fabrication-I</b>
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**UNIT IV**

**DIMENSIONS, CALCULATIONS AND GROUPING**

Inquiry methods: Using data base information for objects, calculating distance, angle, areas etc. Dimensioning commands and blocks: Dimensioning the objects in linear, angular fashions along with quick time dimensioning etc. Creating and working with blocks, creating symbols, use of blocks in creating a layout, of a residential area- one exercise to be done as lab assignment.

**SUGGESTED BOOKS**

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Auto Desk, 3DS MAX comprehensive tutorial resources Wiley 2014.
- Sketch up for interior Design . 3D visualising designing & space planning by Lidya Sloan, Wiley Publisher – 2014.
- Computer Design & Digital Fab
- Auto Desk Auto cad 2017 for Architecture, Sybex , 2016

**UNIT IV****VISUAL ANALYSIS**

Visual analysis designed spaces of noted for comfort and spatial quality; analysis of solid and void relations, positive and negative spaces.

**UNIT V****DESIGNED SPACES**

Integration of spaces and function in the design of kiosk for – traffic police, ATM center, etc; stalls inside a shopping mall, - jewellery stall, flower stall, ice cream stall, etc; booths – bus ticketing booth, smokers' booths, etc.

**SUGGESTED BOOKS**

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 3<sup>rd</sup> edition 2009.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2<sup>nd</sup> edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrated, 2<sup>nd</sup> edition, Wiley publishers, 2004
- Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003.

**UNIT III****BIODIVERSITY AND ITS CONSERVATION**

Bio- geographical classification of India, Value of biodiversity: Iconsumptive use, productive use, social, ethical, aesthetic and option values, Hot- sports of biodiversity. Threats to biodiversity. Endangered and endemic species of India. Conservation of biodiversity

**UNIT IV****ENVIRONMENTAL POLLUTION**

Air pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal pollution, nuclear hazards, Solid waste Management, Disaster management: floods, earthquake, cyclone and landslides.

**UNIT V****SOCIAL ISSUES AND THE ENVIRONMENT**

Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies. Wasteland reclamation. Consumerism and waste products. Environment Protection Act. Air (Prevention and Control of Pollution) Act. Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation. Public awareness

**SUGGESTED BOOKS**

- Cunningham, W.P. Cooper T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Publ. House, Mumbai, 1196p
- Text Book for environmental Studies For UGC, ErachBharucha, 2004



## NM8: Design Collectives

Module 8		NM8: Design Collectives
Subject Code	Subject Name	Max Marks
BNT-102	Theory of Design-II	25
BNT-106	Creative Thinking	25
BNT-110	Construction Techniques and Representations - I	25
BNT-152	Computer Design and Digital Fabrication-I	25
BNT-154	Basic Design – II	25

### Course Outcome

Designer will be able to:	
1	To use creativity, conceptual skills and judgement to identify human needs and requirements and to invent appropriate solutions to design problems
2	To analyse, criticise and reflect on your own practice and the practice of others
3	To communicate your ideas and thought processes through verbal, written and visual representations
4	To be flexible and adaptable in approaches in the development of design projects.

### Project -

<b>BNT-102</b>	<b>Theory of Design-II</b>
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#### UNIT – V

##### CIRCULATION

Function of building circulation components of building circulation - The building approach, The building entrance, configuration of the path, path space relationship, form of circulation space with examples. Simple circulation diagram for buildings

<b>BNT-106</b>	<b>Creative Thinking</b>
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#### UNIT V

##### TOOLS FOR SELECTING IDEAS

Concept Screening: , The Hundred Dollar Test: , Negative Selection: , NUF Test: Check idea is New, Useful and Feasible., PINC Filter: , Swap sort:

<b>BNT-110</b>	<b>Construction Techniques &amp; Representation-I</b>
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#### UNIT IV

##### PLASTIC

Plastics – Types, thermosetting and thermo plastics, resins, common types of moldings, fabrication of plastics, polymerization and condensation. Plastic coatings reinforced plastic, plastic laminates – properties, uses and applications.

#### UNIT V

##### GLASS

Types of glass (plate, tinted, heat absorbing etc); structural glass bricks and glasscrete; fiber glass and glass wool etc; properties, varieties and uses.

### SUGGESTED BOOKS

- Bindra, S.P. and Arora, S.P. Building Construction: Planning Technique and Methods of Construction, 19<sup>th</sup> ed. Dhanpat Rai Pub., New-Delhi, 2000
- Moxley, R. Mitchell's Elementary Building Construction, Technical Press Ltd.
- Rangwala, S.C. Building Construction 22<sup>nd</sup> ed. Charota Pub. House Anand, 2004.
- Sushil Kumar. T.B. of Building Construction 19<sup>th</sup> ed. Standard Pub. Delhi, 2003.
- Francis D. Ching, Building Construction Illustrated, Wiley publishers, 2008



<b>BNT-152</b>	<b>Computer Design &amp; Digital Fabrication-I</b>
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**UNIT V**

**BASICS OF ADOBE PHOTOSHOP**

Tool box ( Moving , marque tool), Magic ward selection, Crop tool, Paint Brush, Opacity, Tent Styles, Blue tool, Sharpening Tool, Colour correction, Layers, moving Tool, Masking Tooll

**SUGGESTED BOOKS**

- Auto Desk, Revit 2017 for Architecture, Sybex, 2016 .
- Auto Desk, 3DS MAX comprehensive tutorial resources Wiley 2014.
- Sketch up for interior Design . 3D visualising designing & space planning by Lidya Sloan, Wiley Publisher – 2014.
- Computer Design & Digital Fab
- Auto Desk Auto cad 2017 for Architecture, Sybex , 2016

<b>BNT-154</b>	<b>Basic Design-II</b>
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Final design generation

**SUGGESTED BOOKS**

- Karlen Mark, Space planning Basics, Van Nostrand Reinhold, New York, 3<sup>rd</sup> edition 2009.
- Joseph D Chiara, Julius Panero, & Martin Zelnick, Time Saver standards for Interior Design & space planning, 2<sup>nd</sup> edition, Mc-Graw Hill professional, 2001.
- Francis.D. Ching & Corky Bingelli, Interior Design Illustrared, 2<sup>nd</sup> edition, Wiley publishers, 2004
- Karlen Mark, Kate Ruggeri & Peter Hahn, Space Planning Basics, Wiley publishers, 2003.

## 3<sup>rd</sup> Semester

### IM9: Design Investigation

Subject Code	Subject Name	Design Investigation
		<b>IM9</b>
BIN-201	Construction Techniques and Representation-II	25
BIN-203	Furniture Design-I	25
BIN-205	History of Design -III	50
BIN-251	Computer Design & Digital Fabrication -II	25
BIN-253	Interior Design-I	50

### COURSE OUTCOMES

Designer will be able to:	
1	To provide an educational and creative framework that enables you to become a designer.
2	To explore existing and new building contexts where you will design for potential users in an array of timescales
3	To learn many types of analogue and digital representation techniques as well as a theoretical and historical context

### Course Content

<b>BIN-201</b>	<b>Construction Techniques and Representation-II</b>
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#### UNIT I

##### HARDWARE

Hardware & Accessories : all hardware required for residences, offices, other public & private spaces, etc., including all types of hinges, drawer slides, handles, locks, wire managers, etc., accessories for toilet, kitchen, office, glass patch fittings, profiles, etc.,

<b>BIN-203</b>	<b>Furniture Design-I</b>
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#### UNIT I

##### FUNCTIONAL AND FORMAL ISSUES IN DESIGN

Study and evaluation of popular dictums such as “Form follows function”, “Form and function are one”, “God is in Details”, “Less is more” or “Less is bore” etc.

Evaluation of visual design: study of Gestalt theory of design – law of closure, law of proximity, law of continuity etc. Typology of furniture with respect to the different states in India.

<b>BIN-205</b>	<b>History of Design -III</b>
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#### UNIT I INDUSTRIAL REVOLUTION

Reviewing Industrialisation :- Industrial revolution and its influence on social, economic conditions of that period, Scientific and technological progress, invention of new materials. –Joseph Paxton – Gustav Eiffel etc  
An overview of Art and Crafts movement in Europe and America.

#### UNIT II ANCIENT HISTORY

Indian Colonial Architecture-Portuguese, French and British : The styles and trends of architecture and design brought to India and their evolution – Their impact on architecture and design in India – The characteristics of Colonial Architecture with examples from Goa-Bom Jesus Cathedral Complex-Old Goa- Fountainahs , Puducherry, Mahe and Edwin Lutyenetc.,

<b>BIN-251</b>	<b>Computer Design &amp; Digital Fabrication -II</b>
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#### UNIT I SKETCH UP

Orientation towards 3D : 2D to 3D conversion, perspective view, walk through the layout

<b>BIN-253</b>	<b>Interior Design - I</b>
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The primary focus should be on

- Anthropometry
- Design methodology
- Conceptual exploration and representation.
- Creativity

## IM10: Technical Studies & Representation

Subject Code	Subject Name	Technical Studies & Representation
		IM10
BIN-201	Construction Techniques and Representation-II	25
BIN-203	Furniture Design-I	25
BIN-205	History of Design -III	
BIN-251	Computer Design & Digital Fabrication -II	25
BIN-253	Interior Design-I	25

### COURSE OUTCOMES

Designer will be able to:	
1	To get familiar with the fundamental techniques of concept sketches, design development sketches
2	To get knowledge of presentation sketches, presentation renderings and architectural drawing
3	To develop the appropriate skills for visualization and representation

### Course Content

<b>BIN-201</b>	<b>Construction Techniques and Representation-II</b>
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#### UNIT II

STONES Stones : Igneous, metamorphic & sedimentary – classifications, types, properties, availability, applications

#### UNIT III

#### RUBBER

Rubber – Natural rubber, latex, coagulation, vulcanizing and synthetic rubber- properties and application

<b>BIN-203</b>	<b>Furniture Design-I</b>
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#### UNIT II

#### ERGONOMICS AND HUMAN FACTORS

Human factors, engineering and ergonomic considerations: Principles of Universal Design and their application in furniture design,

<b>BIN-251</b>	<b>Computer Design &amp; Digital Fabrication -II</b>
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#### UNIT II 3D MAX

Understanding 3D, theory behind 3D modeling. Preparing for construction of 3D models. Construction of 3D surface models- extrusion, wire frame, creation of a shell, elaborate surfaces

<b>BIN-253</b>	<b>Interior Design-I</b>
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- Scale/proportion
- Documenting space
- Graphic design (page layout and composition)
- Concepts sketching
- Application of design principles and elements
- Portfolio development

## IM11: Material Integration

Subject Code	Subject Name	Material Integration
		IM11
BIN-201	Construction Techniques and Representation-II	25
BIN-203	Furniture Design-I	25
BIN-205	History of Design -III	
BIN-251	Computer Design & Digital Fabrication -II	25
BIN-253	Interior Design-I	25

### COURSE OUTCOMES

Designer will be able to:	
1	Understand the appropriate application of a comprehensive range of current and emerging tools, materials
2	Promote the exploration of experiential material and technological capabilities.
3	To understand effective manipulation of materials

### Course Content

<b>BIN-201</b>	<b>Construction Techniques and Representation-II</b>
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#### UNIT IV

##### PLASTIC

Plastics – Types, thermosetting and thermo plastics, resins, common types of moldings, fabrication of plastics, polymerization and condensation. Plastic coatings reinforced plastic, plastic laminates – properties, uses and applications.

<b>BIN-203</b>	<b>Furniture Design-I</b>
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#### UNIT III

##### EVOLUTION OF FURNITURES

Evolution of furniture from Ancient to present: Various stylistic transformations. Furniture designers and movements for various types of furniture.

<b>BIN-251</b>	<b>Computer Design &amp; Digital Fabrication -II</b>
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#### UNIT III REVIT (2D + 3D IN SAME PLATFORM)

Introduction to REVIT ,Learning to use basic tools such as wall,roof floor ,staircases,dimensioning, plotting etc.

<b>BIN-253</b>	<b>Interior Design-I</b>
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The list of suggested topics to be covered as design problems shall be as single space like: Single room residence, Doctor's clinic, kindergarten classroom, Crèche, Architect's studio, Lawyer's office, small cafeteria, bank extension counter, florist shops, medical outlets, clothing store, shoe store, accessory store, book shop, waiting lounges for – hospitals, corporates, hotels, etc.

## IM12: Design Culture

Subject Code	Subject Name	Design Cultures
		<b>IM12</b>
BIN-201	Construction Techniques and Representation-II	25
BIN-203	Furniture Design-I	25
BIN-205	History of Design -III	50
BIN-251	Computer Design & Digital Fabrication -II	25
BIN-253	Interior Design -I	

### COURSE OUTCOMES

Designer will be able to:	
1	To examine of current and historical design
2	To explore cultural socio-economic concerns, styles and artefacts and considers their importance within and influence upon the visual and material culture of society
3	To develop academic critical appraisal, analysis, evaluation and reflection upon identified issues which are deemed important and relevant to design

### Course Content

<b>BIN-201</b>	<b>Construction Techniques and Representation-II</b>
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#### UNIT V

##### PARTITIONS AND FALSE CEILING

Partition walls : all types of partitions – full height, half & dwarf, double skinned, single skinned, frameless glass, etc.,  
Wall paneling : plywood, leather, acoustic boards, etc., False Ceiling : all types, with full system, insulation, acoustical, etc.,

<b>BIN-203</b>	<b>Furniture Design-II</b>
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#### UNIT IV ROLE OF FURNITURE

Furniture categories – role of furniture in interior design, exploration of the idea of furniture as elements of living units, education institutes, health facilities, street elements office, educational institutes, banks, stores, street furniture, etc.

#### UNIT V SEATING

Seating Design: Different types of seating with Functionality, Aesthetics , Style, Human factors and ergonomics

<b>BIN-205</b>	<b>History of Design -III</b>
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#### UNIT III MODERNISM

Impressionism –Expressionism – Cubism – Neoclassicism – Neoplasticism Suprematicism – Art Nouveau Constructivism  
– Futurism – Post modernism- Post- Post Modernism– Deconstructivism Antonio Gaudi, Victor Horta, Charles Renee Mackintosh, LeCorbusier.

#### UNIT IV AFTER MODERNISM

Critical regionalism, Bauhaus, International style, Post Modernism.-Walter Gropius.

#### UNIT V WORKS OF ARCHITECTS

Works of Foreign Architects /Artisans in India and their influence – Edwin Lutyens, Le Corbusier, Louis Khan, Philip Johnson.  
Works of Indian Architects – Laurie Baker, Charles Correa, B.V. Doshi, A.P. Kanvinde, Raj Rewal, , Joseph Allen Stein

<b>BIN-251</b>	<b>Computer Design &amp; Digital Fabrication -II</b>
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#### UNIT IV SOLID MODELING (TRANSFORMING SPACES)

Solid modeling : concepts behind solid modeling, composite solids creation and modification, solids display and inquiry. (Rhino and Grasshopper).

#### UNIT V RENDERING & PRESENTATION TECHNIQUES

Rendering and presentation. Printing and plotting.(Vray,Indesign,Illustrator,Lumion)

<b>BIN-253</b>	<b>Interior Design-I</b>
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Note: At least three major exercises and four minor design/time problems should be given. Internal marking shall be done in stages project wise:

- Schematic layouts
- Final layout
- Sectional elevations
- Typical details
- Complete project with all details
- 3D drawings with colour rendering

<b>BHI-207</b>	<b>Interior Photography (Open Elective)</b>
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#### **UNIT – I PRINCIPLES OF COMPOSITION**

Rule of thirds, perspective-worm's eye view, normal eye view, bird's eye view, one-point perspective, two-point perspective, three-point perspective, exercises in composition

#### **UNIT – II PRINCIPLES OF PHOTOGRAPHY**

Technical definitions, understanding a camera, anatomy of a SLR camera, technical setting in a SLR camera, different types of lenses

#### **UNIT – III PRINCIPLES OF INTERIOR LIGHTING**

Technical definitions, lighting sources, types of lighting fixtures, types of lamps, calculating lighting levels, flash photography, types of flashes, controlling lighting levels with flash photography Exercise in interior lighting photography with artificial light and black and white photos

#### **UNIT – IV PRINCIPLES OF COLOUR**

Color rendering in photographic medium, color rendering in photographs under different lighting condition, lighting colors and its effect on a photograph, color filters in a camera Exercise on color photography of interiors

#### **UNIT – V INTEGRATION**

Project work/exercise in integrating all prior units

## 4th Semester

### IM13: Design: Spatial Investigation

Subject Code	Subject Name	Design: Spatial Investigation
		<b>IM13</b>
BIN-202	Furniture Design-II	25
BIN-204	History of Design-IV	50
BIN-206	Interior Services-I	25
BIN-252	Layout Drawing & Display Techniques	25
BIN-254	Interior Design-II	25
BIN-208A	Vernacular Architecture & Interiors	50
BIN-208B	Works of famous designers	50

### COURSE OUTCOMES

Designer will be able to:	
1	To introduce to the context and scope of the generic subject of Interior Architecture and Spatial Design
2	To develop an awareness of both historic and contemporary design
3	To encourage and develop the skill of critical appraisal
4	To develop an understanding of the impact of culture, heritage and ethical considerations when analysing design and the built environment

### Course Content

<b>BIN-202</b>	<b>Furniture Design-II</b>
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#### UNIT – I

#### STORAGE SYSTEM -KITCHEN

Storage systems: Functional analysis of storage systems and thereby deriving types of cabinets needed for interior spaces – kitchen cabinets, wardrobes closets & respective hardware for modular kitchen.

Assignment: Exercise to design kitchen cabinets for a given kitchen in details.

<b>BIN-204</b>	<b>History of Design-IV</b>
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#### UNIT I MODERN MOVEMENT:

Return to the fundamentals and origins in nature and geometry; new inventions of iron and glass; horizontal and vertical expansions; responses to the vernacular. Social intentions and the search for the 'ideal' world; simplicity, abstraction, non-objective, nonrepresentative and neglect of content and ornament; new notions of technology; importance and precedence of function; De Stijl, etc. – an overview of the works of Louis Sullivan, C. R. Mackintosh, Edwin Lutyens, Antoni Gaudi, Walter Gropius, Frank Lloyd Wright, Le Corbusier, Mies van der Rohe.

#### UNIT II THE INTERNATIONAL STYLE:

Simplification of the Modern architecture into steel and glass cubes – an overview of the works of Philip Johnson.

<b>BIN-206</b>	<b>Interior Services-I</b>
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**UNIT - I WATER SUPPLY** General idea of sources of water supply. Standards for quality of water. Domestic water systems, suction and storage tanks and their capacity. Pipes and their sizes and jointing. Consumption of water. Down take supply to various fittings.

<b>BIN-252</b>	<b>Layout Drawing &amp; Display Techniques</b>
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#### UNIT I COLORING STUDY

Introduction of colors, Usage of water colors, poster colors, pen & ink, rendering techniques, etc.

#### UNIT II DRAWING AND SKETCHING INTERIOR ENVIRONMENTS

Drawing and sketching interior environments, one point interior perspective, two point interior perspective, refined linear perspective methods, two point plan projection method, and perspective traced from photographs.

<b>BIN-254</b>	<b>Interior Design -II</b>
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The primary focus should be on –

- i. Documenting space (sketch and photodocumentation)
- ii. Space planning process (block diagram, concept statement)
- iii. Concept sketching

<b>BIN-208A</b>	<b>Vernacular Architecture &amp; Interiors</b>
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#### UNIT I ETYMOLOGY

Etymology, Definitions, Vernacular and the architect, Regional influences on vernacular Architecture, Humanitarian response, Urban and rural vernacular architecture, role of sustainability in vernacular architecture, Environment & Resource Management

#### UNIT II MATERIAL AND TECHNIQUES

Building materials and traditions, Vernacular building materials- Recognize the different ways in which these materials were used at different times and in different parts of the country, Documenting vernacular traditions, and knowledge systems.

<b>BIN-208B</b>	<b>Works of famous designers</b>
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Works of Foreign Architects /Artisans in India and their influence – Edwin Lutyens, Le Corbusier, Louis Khan, Philip Johnson. Works of Indian Architects – Laurie Baker, Charles Correa, B.V. Doshi, A.P. Kanvinde, Raj Rewal, Joseph Allen Stein

## IM14: Design : Inhabitation

Subject Code	Subject Name	Design: Inhabitation
		<b>IM14</b>
BHI-202	Furniture Design-II	25
BHI-204	History of Design-IV	
BHI-206	Interior Services-I	25
BHI-252	Layout Drawing & Display Techniques	25
BHI-254	Interior Design-II	25
BHI-208A	Vernacular Architecture & Interiors	50
BHI-208B	Works of famous designers	50

## COURSE OUTCOMES

Designer will be able to:	
1	To understand the dynamic process of analysis in design thinking
2	To build skills and consolidating techniques in design
3	To introduce and apply survey techniques in design schemes
4	To develop and test design process through multiple iterations

## Course Content

<b>BIN-202</b>	<b>Furniture Design-II</b>
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#### UNIT – II

#### STORAGE SYSTEMS – BOOK CASES & SHOWCASE

Storage systems: Functional analysis book cases, show cases, display systems, compactors, mechanical storage, etc. and respective hardware for these. Survey of several modular systems available for different functions in the market.

<b>BIN-204</b>	<b>History of Design-IV</b>
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<b>BIN-206</b>	<b>Interior Services-I</b>
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**UNIT - II SANITARY FITTINGS** Types of fittings like taps, ball valves, hot water supply systems, bathtubs, showers, jets, cocks, valves etc. Faucets for kitchens, bathrooms and toilets. Check valves, foot valves, sump pump check valves etc.

<b>BIN-252</b>	<b>Layout Drawing &amp; Display Techniques</b>
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### **UNIT III RENDERING WITH PEN AND INK**

Introduction to pen and ink rendering, materials, media and tools, rendering orthographic projection drawings, rendering perspective drawings.

<b>BIN-254</b>	<b>Interior Design -II</b>
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- iv. Application of design principles and elements
- v. Creativity/originality
- vi. Design

<b>BIN-208A</b>	<b>Vernacular Architecture &amp; Interiors</b>
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### **UNIT III DECORATIVE FEATURES**

Assess the likely sources of stylistic and decorative features of vernacular buildings and employ these to assist in dating analyzing their role and application in the present context.

### **UNIT IV DOCUMENTATION**

Recording vernacular buildings- Why record buildings? Recording basics (measuring and recording historic buildings) Drawing up; conventions and equipment Documentary sources and what they can tell us Briefing for recording day(s) Recording the chosen building(s) Reviewing the results; and role of photography in documenting vernacular buildings.

### **UNIT V VERNACULAR TOWNS**

Vernacular Towns – evolution process , character, morphology, growth and decay. Case studies of Vernacular towns within Tamil Nadu. Knowledge of vernacular architecture in contemporary regional designs. Traditionalism and Vernacular.

<b>BIN-208B</b>	<b>Works of famous designers</b>
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Works of Foreign Architects /Artisans in India and their influence – Edwin Lutyens, Le Corbusier, Louis Khan, Philip Johnson. Works of Indian Architects – Laurie Baker, Charles Correa, B.V. Doshi, A.P. Kanvinde, Raj Rewal, , Joseph Allen Stein

## **IM15: Experiencing Interiors**

Subject Code	Subject Name	Experiencing Interiors
		<b>IM15</b>
BIN-202	Furniture Design-II	25
BIN-204	History of Design-IV	25
BIN-206	Interior Services-I	50
BIN-252	Layout Drawing & Display Techniques	25
BIN-254	Interior Design-II	25
BIN-208A	Vernacular Architecture & Interiors	
BIN-208B	Works of famous designers	

## COURSE OUTCOMES

Designer will be able to:	
1	To develop a deep understanding of the poetic and practical qualities of different interiors through history
2	To contextualize history of interior design
3	To develop understanding of the profession of interior design

## Course Content

<b>BIN-202</b>	<b>Furniture Design-II</b>
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### UNIT – III

#### MODULAR APPROACH TO FURNITURE DESIGN

Various materials, combination of materials, their hardware and applications. Cost criteria of furniture design. Assignments: Survey of several modular systems available for different functions in the market..

<b>BIN-204</b>	<b>History of Design-IV</b>
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### UNIT III POST MODERNISM OF REACTION:

Architecture entrenched in place and history; sarcastic approval of expression, ornament, symbolism and context – an overview of the works of James Stirling, Michael Graves, Charles Moore. Post modernism of Resistance: Disregard for historical imagery; revival of the ideals of the Modern Architecture of the 20's; exaggerated and sophisticated revival of the grid and Corbusier's geometry – an overview of the works of Richard Rogers, Norman Foster, Richard Meier.

### UNIT IV HI-TECH AND HISTORICISM:

Synthesis of the Hi-Tech and Historicism – an overview of the works of Cesar Pelli, Aldo Rossi

<b>BIN-206</b>	<b>Interior Services-I</b>
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**UNIT – III SANITATION** Basic principles of sanitation and disposal of waste materials from buildings. Connection to outdoor drainage system, size requirements, types of pipes available in the market. Water carriage systems, standard sanitary fittings, traps, pipes and their jointing. Flushing systems. Bathroom interior layouts, extensive market survey of products available, economies of products available, fixing of the products with other finishing materials.

**UNIT – IV SOLID WASTE** Wastemanagement : Refuse, different forms of refuse garbage, house refuse ,refuse chutes , rain water harvesting etc.

<b>BIN-252</b>	<b>Layout Drawing &amp; Display Techniques</b>
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### UNIT IV RENDERING WITH COLOUR PENCILS AND SKETCH PENS

Rendering of interior perspectives with colour pencils and sketch pens – stroke effects, smudge effects – use of schoeller and kent sheets – leather cartridge etc.

<b>BIN-254</b>	<b>Interior Design - II</b>
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Process/methodologyvii.

Structuralintegration

viii. Style

ix. ColorRendering

x. Anthropometry andergonomics

xi. Furniture Design xii. Materialselection

xii. Graphic design (page layout andcomposition)

xiii. Portfoliodevelopment

## IM16: Situating Interiors

Subject Code	Subject Name	Situating Interiors
		IM16
BIN-202	Furniture Design-II	25
BIN-204	History of Design-IV	25
BIN-206	Interior Services-I	
BIN-252	Layout Drawing & Display Techniques	25
BIN-254	Interior Design - II	25
BIN-208A	Vernacular Architecture & Interiors	
BIN-208B	Works of famous designers	

### COURSE OUTCOMES

Designer will be able to:	
1	To explore a thematic history of designed spaces, situating in particular the emergence of the interior in modernity
2	To address particular ideas and practices of contemporary design of spaces
3	To examine the relationship between theory and practice.
4	To develop an understanding of how spaces, emerge and are situated as cultural responses to modernity

### Course Content

<b>BIN-202</b>	<b>Furniture Design-II</b>
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#### UNIT – IV

#### DESIGN APPROACHES IN FURNITURE DESIGN

An introduction of various manufacturing processes most frequently adopted in furniture design such as Injection Molding, investment casting, sheet metal work, die casting, vacuum - forming etc.

Assignments : Survey of different types of moulded or casted furniture available for different functions in the market.

#### UNIT – V

#### FAMOUS DESIGNERS

Charles & Ray Eames, Eero Saarinen, Jean Prouve, Paul McCobb, Ettore Sottsass, Knoll, Jens Risom etc.

<b>BIN-204</b>	<b>History of Design-IV</b>
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#### UNIT V DECONSTRUCTION:

Deconstruction as a reaction to the Post Modern; non-perfection as important as perfection, narrative and representational; traditional purity of form, geometry and structure in question – an overview of the works of Frank O. Gehry, Peter Eisenman, Bernard Tschumi, Rem Koolhaas, Zaha Hadid.

<b>BIN-206</b>	<b>Interior Services-I</b>
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**UNIT – V ELECTRICITY** Electrical Installations : Building wiring system. Service wires, metering distribution boards, circuits, MCB cutouts. Conductors, wiring methods, switch boards, electrical devices in the buildings, light and power circuits. Indian electricity rules, relevant provisions of NBC. Preparation of electrical layout scheme for a interior using standard electrical symbols

<b>BIN-252</b>	<b>Layout Drawing &amp; Display Techniques</b>
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#### UNIT V RENDERING WITH POSTER/WATER COLOURS

Use of kent/ cartridge sheets for poster colours and waterman/cartridge sheets for water colours – transparency effects in water colours – block effects in poster colours.

<b>BIN-254</b>	<b>Interior Design-II</b>
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Design portfolio to include designs in response to today's situation of urban society, i.e., contemporary spaces

required in modern society – needs, realities, value system etc.. The spaces to be considered shall be : home, office, bank, school, college, public level spaces - restaurant, lounge (hotel), etc. The

list of suggested topics to be covered as design problems:

Thematic space making with Art and craft forms of our own culture in India – East, West, North, Central and so on.

Design of built units of various geographical locations and culture by involving historical periods, styles and use of craft in its inherent quality and form - integrating craft and living environment.

## 5<sup>th</sup> Semester

### IM17: Design Exploration

Subject Code	Subject Name	Design Exploration
		<b>IM17</b>
BIN-301	Interior Landscape	25
BIN-303	Interior Services-II	25
BIN-351	Working Drawing & Detailing	25
BIN-353	Interior Design-III	25
BIN-355	Dissertation	25

#### Course Outcome

Designer will be able to:	
1	to develop an understanding and explorative approach to the production of spatial design proposals
2	to integrate design process, creative experimentation and visual communication techniques
3	the development of organisational, creative and CAD competencies

#### Course Content

<b>BIN-301</b>	<b>Interior Landscape</b>
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#### UNIT I LANDSCAPE AND BUILT ENVIRONMENT

Introduction and role of landscape design in the built environment. Types of natural elements – stones, rocks, pebbles, water forms, plants and vegetation. Introduction to the study of plants in relation to landscape design and interiors. Types of indoor plants, visual characteristics: i.e., color, texture, foliage.

<b>BIN-303</b>	<b>Interior Services-II</b>
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#### UNIT I

#### HVAC

Heating Ventilation & Air Conditioning (HVAC) systems : Air conditioning, Mechanical ventilation – mechanical inlet and extraction systems. Functions of air conditioning, Principles of AC, capacity of AC, Types of AC systems – window AC, split, ductable, central AC and their details. Air distribution systems – ducts, air inlets.

<b>BIN-351</b>	<b>Working Drawing &amp; Detailing</b>
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#### UNIT I

#### BUILDING COMPONENTS

Working drawing of different types of doors and windows.

<b>BIN-353</b>	<b>Interior Design - III</b>
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The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing.. Interior designing for multi functional Restaurants and Banquet halls, multi level planning, design and detailing of various work spaces, interactions zones. Design of hospitality spaces such as theme based restaurants, corporate banquet venues etc.

<b>BIN-355</b>	<b>Dissertation</b>
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**UNIT – I** Selecting a subject establishing relevance through facts, statistics of the social, cultural economic feasibilities

## IM18: Material Innovation

Subject Code	Subject Name	Material Innovations
		IM18
BIN-301	Interior Landscape	50
BIN-303	Interior Services-II	
BIN-351	Working Drawing & Detailing	25
BIN-353	Interior Design - III	25
BIN-355	Dissertation	25

### Course Outcome

Designer will be able to:	
1	to acquire and develop a vocabulary and understanding of fundamental concepts and principles associated with the design of the built environment
2	identification, consideration, selection and specification of materials, products and finishes
3	Emphasis is placed on the role of design, general arrangement and detailed drawings, appraisal of materials, products and finishes relevant to achieving and effecting well-conceived design proposals

### Course Content

<b>BIN-301</b>	<b>Interior Landscape</b>
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#### UNIT II VISUAL PERCEPTION

Flowers- its colors, texture and its visual perception in various indoor spaces and science of flower arrangement  
Indoor plants in Indian context. Plant biology, soil, moisture, light nutrient, atmospheric conditions, growing medium, pests & diseases. Botanical nomenclature, anatomy and physiology of plant growth. Market survey and costs.

#### UNIT III DESIGN WITH PLANTS

Design with plants – Basic principles of designs. The physical attribute of plants and relation to design. Appearance, functional and visual effects of plants in landscape design and built environment. Selection and management of plant material in relation to the built environment.

#### UNIT IV HARDSCAPE

Design concepts related to use of sculpture, lightings, garden furniture, architectural feature and grouping them into meaningful compositions for visual and functional effects.

<b>BIN-351</b>	<b>Working Drawing &amp; Detailing</b>
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#### UNIT II

#### BUILDING SURFACES

Working drawing of wall murals, reflected ceiling plans and flooring patterns.

<b>BIN-353</b>	<b>Interior Design - III</b>
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The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing.. Interior designing for multi functional Restaurants and Banquet halls, multi level planning, design and detailing of various work spaces, interactions zones. Design of hospitality spaces such as theme based restaurants, corporate banquet venues etc

<b>BIN-355</b>	<b>Dissertation</b>
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**UNIT – II** Doing research by reading , collecting information and statistics, questionnaire

## IM19: Process

Subject Code	Subject Name	Process
		IM19
BIN-301	Interior Landscape	25
BIN-303	Interior Services-II	50
BIN-351	Working Drawing & Detailing	25
BIN-353	Interior Design - III	25
BIN-355	Dissertation	50

### Course Outcome

Designer will be able to:	
1	To understand the interior design process in context
2	To address the significance of research, observation, documentation, evaluation, idea generation, concept development
3	To familiarize with core interior design considerations
4	To develop conscious awareness and practice of all aspects of design process

### Course Content

<b>BIN-301</b>	<b>Interior Landscape</b>
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#### UNIT V LANDSCAPE DESIGN PARAMETERS

Landscaping design parameters for various types of built forms- indoor and outdoor linkage to spaces. Landscaping of courtyards- residential and commercial forms. Indoor plants and their visual characteristics- . Science of maintaining and growing greenery. Automatic irrigation costing and installation of micro irrigation systems

<b>BIN-303</b>	<b>Interior Services-II</b>
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#### UNIT II

##### FIRE SAFETY

Fire – causes and spread of fire. Design considerations for fire safety, Devices for firefighting – portable, built in wet riser system, sprinkler system, fire hydrant. Class of fire and occupancy, study of fire regulations as per NBC

#### UNIT III

##### VERTICAL TRANSPORT

Services for multi storied buildings - Vertical transportation systems – Introduction – lifts, escalators vertical & horizontal, definition, location, arrangement, structure, drives, traffic analysis, supervisory control, remote monitoring.

#### UNIT IV

##### SAFETY & SECURITY

Security and safety systems – introduction, designing a security system – burglar alarm, CCTV, central alarm systems, intrusion sensors and space sensors. Other services – cable TV, PABX, computer labs – access flooring, server rooms.

<b>BIN-351</b>	<b>Working Drawing &amp; Detailing</b>
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#### UNIT III

##### FURNITURE

Working drawing of work station, living room furniture, bedroom furniture and dining tables.

<b>BIN-353</b>	<b>Interior Design - III</b>
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The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing.. Interior designing for multi functional Restaurants and Banquet halls, multi level planning, design and detailing of various work spaces, interactions zones. Design of hospitality spaces such as theme based restaurants, corporate banquet venues etc.

<b>BIN-355</b>	<b>Dissertation</b>
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**UNIT – III** Learning various data collection methods.

**UNIT IV** - Selecting the related case studies either live or book to understand the typology.

**UNIT V** - Synthesizing and documenting the data, information, findings etc , and establishing the fact by concluding to establish the feasibility of the design proposal which ultimately leads to the generation of a design opportunity

## IM20: Design Alternatives

Subject Code	Subject Name	Design Alternatives
		IM20
BIN-301	Interior Landscape	
BIN-303	Interior Services-II	25
BIN-351	Working Drawing & Detailing	25
BIN-353	Interior Design - III	25
BIN-355	Dissertation	

### Course Outcome

Designer will be able to:	
1	To recommend alternatives of design
2	To check the feasibility of a project and compare on the basis of the chosen indicators
3	To develop conscious awareness and practice of all aspects of design process

### Course Content

<b>BIN-301</b>	<b>Interior Landscape</b>
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<b>BIN-303</b>	<b>Interior Services-II</b>
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#### UNIT V

##### BUILDING AUTOMATION AND ENERGY MANAGEMENT

Building automation and energy management–Introduction, History of development of BAS, typical BAS, criteria for choosing the right BAS, open system architecture. Information technology, communications & artificial intelligence in intelligent buildings. Design in computer age, engineering intelligence through nature

<b>BIN-351</b>	<b>Working Drawing &amp; Detailing</b>
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#### UNIT IV

##### DETAILING OF SPECIAL AREAS

Working drawing for toilets with plumbing diagram – working drawing of kitchen with detailing of shelves and cupboards

#### UNIT V

##### DETAILING OF STORAGE AREAS

Working drawing of wardrobes, TV cabinet and showcase, crockery shelves, cadenza, chest of drawers, dressing table, etc.

<b>BIN-353</b>	<b>Interior Design - III</b>
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The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing.. Interior designing for multi functional Restaurants and Banquet halls, multi level planning, design and detailing of various work spaces, interactions zones. Design of hospitality spaces such as theme based restaurants, corporate banquet venues etc.

## 6<sup>th</sup> Semester

### IM21: Design Realization

Subject Code	Subject Name	Design Realization
		IM21
BIN-302	Estimation & Costing	50
BIN-304	Professional Practice	25
BIN-306	Thesis	25

### Course Outcome

Designer will be able to:	
1	To focus towards audience and client expectations and needs, competitiveness, social
2	To apply ethical considerations in design
3	To identify of design criteria.
4	To understanding the importance of digital presentation and modelling techniques and related issues in the design process.

### COURSE CONTENT

<b>BIN-302</b>	<b>Estimation &amp; Costing</b>
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#### UNIT – I INTRODUCTION TO ESTIMATION

Estimation – definition, purpose, types of estimate, and procedure for Estimating the cost of work in order to implement an interior design project or to make products related to interior design like furniture, artifacts etc.

#### UNIT – II RATE ANALYSIS & ESTIMATION FORMAT

Rate Analysis – definition, method of preparation, quantity & labour estimate for woodwork, steelwork, Aluminum work, glass & its rate for different, thickness & sections, finishing (enamel paint, duco paints, melamine, DU coats, Hand polishing, veneering and laminating) for walls & ceilings. Electrical & plumbing products, wiring, ducting etc., and laying of tiles & wall paneling in the estimate format of the project.

#### UNIT – III DETAILED ESTIMATE

Detailed Estimate – data required, factors to be considered, methodology of preparation, abstract of Estimate, contingencies, labour charges, bill of quantities, different methods of estimate for interior design works, methods of measurement of works.

<b>BIN-304</b>	<b>Professional Practice</b>
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#### UNIT 1: ENTREPRENEURSHIP

Social Entrepreneurship, Business Entrepreneurship, Trading Entrepreneurship, Corporate Entrepreneurship, and Agricultural Entrepreneurship

<b>BIN-306</b>	<b>Thesis</b>
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### IM22: Interior Context

Subject Code	Subject Name	Interior Context
		IM22
BIN-302	Estimation & Costing	
BIN-304	Professional Practice	25
BIN-306	Thesis	25



## Course Outcome

Designer will be able to:	
1	Understand and apply a substantial knowledge of professional practice in interior design, including; the designers' relationship with an audience; clients; users; colleagues; environments; markets and intellectual property issues.
2	Engage with increasing effectiveness, in self and peer reflection, respond positively to critical judgement of others, with relevance to both general professional progression and specific development within contemporary practice in Interior Design.
3	Employ a formative knowledge and understanding of the contexts, frameworks, and environments within which Interior Design operates

## COURSE CONTENT

<b>BHI-302</b>	<b>Estimation &amp; Costing</b>
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<b>BIN-304</b>	<b>Professional Practice</b>
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### UNIT 2: BUSINESS FOUNDATION

Timmons Model of Entrepreneurship, Investment Models, Startup Business Models, Business Plans, Pitch presentations, Small Business models

UNIT 3: Legal aspects of business Contracts and Agreements, Conflict Resolution, Arbitration

<b>BIN-306</b>	<b>Thesis</b>
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## IM23: Resurgence

Subject Code	Subject Name	Interior Context
		<b>IM22</b>
BIN-302	Estimation & Costing	
BIN-304	Professional Practice	25
BIN-306	Thesis	25

## Course Outcome

Designer will be able to:	
1	To apply research skills and process of investigation, reflection and writing
2	To develop a research topic specific to interest pertaining to interior design domain
3	To analyse critical and theoretical engagement of with contemporary interior issues

## COURSE CONTENT

<b>BHI-302</b>	<b>Estimation &amp; Costing</b>
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<b>BIN-304</b>	<b>Professional Practice</b>
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UNIT 4: Running a Design Business Set up of an independent design business, Hiring processes, Project Scheduling and work delegation, Cost Estimation; Billing, salaries and taxation

<b>BIN-306</b>	<b>Thesis</b>
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## IM24: Process 2

Subject Code	Subject Name	Design Realization
		IM21
BIN-302	Estimation & Costing	50
BIN-304	Professional Practice	25
BIN-306	Thesis	25

### Course Outcome

Designer will be able to:	
1	To understand the interior design process in context
2	To address the significance of research, observation, documentation, evaluation, idea generation, concept development
3	To familiarize with core interior design considerations
4	To develop conscious awareness and practice of all aspects of design process

### COURSE CONTENT

<b>BHI-302</b>	<b>Estimation &amp; Costing</b>
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#### UNIT – IV COSTING OF FIXTURES & FITTINGS

Cost of the following items: electrical fitting like, luminaries, fan, cables, switches etc., tiles in skirting & dado, cement plaster, joinery in wood, steel & aluminum, painting to walls – cement paint, oil paints, distemper acrylic emulsion, enamel paint painting to joinery, varnishing, French polishing plumbing equipments like piping, shower panels, cubicles, tubs, Jacuzzis, taps, motors, fountains, false ceiling of 25 aluminum panels, steel & wooden frame work, thermocol etc. wall paneling of ceramic tiles & other tiles of materials suitable for the same, partitions made of materials like aluminum wood, steel etc

#### UNIT – V INTRODUCTION TO SPECIFICATION

Specification – Definition, purpose, procedure for writing specification for the purpose of calling tenders, types of specification. Specification for different item related to interior design project – woodwork for furniture window frames & pelmets, partitions etc also of materials like steel aluminum glass of various kind. Wall paneling & false ceiling of materials like aluminum, steel, wood, electrical, plumbing, airconditioning & fire fighting equipments.

<b>BIN-304</b>	<b>Professional Practice</b>
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**UNIT 5: PROFESSIONAL ETHICS** Ethics in Profession, Code of conduct