

Raja Mansingh Tomar Music & Arts University, Gwalior, M.P.
Bachelor of Design Interior Design Syllabus (Four Years) 2023-24

Raja Mansingh Tomar Music & Arts University, Gwalior, M.P.
Bachelor of Design INTERIOR DESIGN Syllabus (Four Years)

Bachelor of Design Interior Design

YEARLY EXAMINATION : Duration 4 Years

Syllabus 2023-24

B. DESIGN INTERIOR DESIGN YEAR 1
SCHEME OF EXAMINATION

THEORY	TIME	SIZE	EXT. MARKS	C.C.E.	TOTAL (TH)
Fundamentals & Theory of Design	3Hrs.	-	70	30	100
History of Indian Architecture	3 Hrs.	-	70	30	100
Ergonomics & Anthropometrics	3 Hrs.	-	70	30	100
				Total TH	300
PRACTICAL			Ext. Mark	Internal Marks	TOTAL (PR)
Fundamentals of Drawing & Design	6 Hrs.	A3	70	30	100
Engineering Drawing & Graphics	6 Hrs.	A3	70	30	100
Ergonomics & Anthropometrics Practices	6 Hrs.	A3	70	30	100
Construction - 1	6 Hrs.	A3	70	30	100
				Total PR	400
				Grand Total	700

B. DESIGN INTERIOR DESIGN YEAR 1

PAPER - 1 (THEORY) – FUNDAMENTALS & THEORY OF DESIGN

UNIT I — ELEMENTS & PRINCIPLES OF DESIGN

- **Line:** Definition of Line, Lines and Visual Illusion, Line and Impression. Different lam of firms and Drawings,, Development and Possibilities of Line Drawings. Knowing the Tools and Materials, Drawing— its Evolution and Possibilities, Line -Visual Kinetics (Flow and Weight), Energy and Lines, Other Values of Line. Point. Plane. Point-nothingness of the point-things come out of nothing – abstract Point
- **Shape & Form:** Definition of Shape, Primary Shapes, Geometric & Organic Shapes, Abstract Shapes, Compound shapes, Psychology of shapes in design. Planes / shapes-natural shapes-abstract shapes-geometric shapes-Form-form & shapes
Definition of form. Properties of Form, Regular & Irregular Forms, Transformation of Form, Types of Form – Additive & Subtractive Forms, Centralized, Linear, Radical, Clustered, Grid, Rotated Grid. What is form. What is space. Relationship between space & form. Study of illusion. Tectonics& Characteristics of Form.
- **Texture:** Meaning and Definition, Classification, Texture and Space. Texture and Principles of composition, Texture Creating. Tools and Ways of Creating Texture, Texture Exploration. Texture and Painting, Texture and Sculpture.
- What is **composition** (general meaning and definition). Types of Composition. Understanding Alignments
- **Unity:** Definition, object, unity and vision, unity and visitor, unity and relativity, unity creation in - painting, unity and opposite (discord)
- **Harmony:** Definition, line-harmony, form-harmony, texture-harmony, conceptual harmony. color harmony, process of harmony creation
- **Balance:** definition, balance and visual weight (line, form, color and tone), principles of balances. etc.
- **Dominance:** Definition and object, fundamentals, dominance and background, ways to create dominance point of interest in a painting space.
- **Rhythm:** Definition, different types, ways of creating rhythm, feeling of rhythm. Repetition. Hierarchy.
- **Proportion** — Definition, Proportion and space division, form and proportion, color and proportion, human forms and proportion. Proportion & Scale – Material, Structural & Manufactured Proportions, Proportioning Systems, Golden Sections, Renaissance Theories

UNIT 2 – COLOR THEORY

- What is **Color?** — Physiology, how light gives objects colors, Factors involved in color perception. Local, Optical and Arbitrary Colors,
- Color Systems and Color Wheels —The Pigment Wheel. The Process Wheel. The Munsell Wheel, The Light Wheel, The Visual Wheel.
- Coloring Agents --Additive Color Mixing Subtractive Color Mixing, Dimensions of Color - Value, Intensity, Temperature,
- Color in Compositions — Rhythm, Balance, Proportion, Scale, Emphasis, Harmony. Transparency. Volume Color, Film Color, Intensity and Space, Line, Texture, Light, Contrast. Shadows.
- Color Schemes and color harmonies.
- The Influence of Color — Color Symbolism, Ho Color Influences Life, Color Association in Language and Emotion, influences of the Dimensions of Color
- Tone: Definition, Classification, Impression, Tone-Its Importance and Application, Emotional Aspects of Tone, Relation of Tone with Space
- Medium and methods — All about painting medium and methods relating to creation
- Drawing and rendering — Definition, problem relating two-dimensional drawing and rendering, and three dimensional effects, do's and don'ts in it.

UNIT 3 – SPACE IN INTERIOR DESIGN

- **Space:** Definition, Types of spaces – Social, Private, Work & Storage.
- Theories / & Principles Relating Space & Space planning.
- Role Of Space - Negative/Passive, Passive/Active, Neutral/Assisting and Their Importance)
- Process of Space Planning. Measuring a Space. Scales and units used in Space Planning.
- Organization Of Space, Shapes, Form and other elements of design in relation To Space, Form Defining Space.
- Element defining space – Horizontal Elements, depressed Elements, Overhead elements, Vertical Elements- Linear, L Shaped, Parallel Planes, U Shaped, Four Planes

UNIT 4 – THEORY OF DESIGN

- What is Design? How to Design? Creative Process. Developing Concepts,
- Problem Solving Process in Design
- Information Required to Start Design. How to get information? Site Analysis – Soil analysis, Elevation from the road analysis, Water sources on and near site analysis, Breeze and ventilation analysis, Sunlight analysis,
- Types of diagrams, Diagramming elements , Diagramming Relationships. Diagramming Concepts,
- Understanding Transformation. Dimensional Transformation, Subtractive Transformation, Additive Transformation, Grouping Forms . Surface Articulation, Form and Movement,
- Layering , Recombining, rotating,

UNIT 5 – FUNDAMENTALS OF ARCHITECTURE

- How Architecture is Organized. Organization of Form and Space. Space within a Space.
- Interlocking spaces, Adjacent spaces, Space linked by a common spaces, Spatial organization of spaces,
- Centralized Organization, Linear Organization, Radial Organization, Clustered Organization, Grid Organization, Circulation governed organization
- Ordering Principles – Axis, Symmetry, Hierarchy, Datum, rhythm, transformation,
- Qualities, Characteristics and Behaviors of Architectural Materials.
- Optimal Balance between built and open spaces.
- Drawing Classification systems used in Interior & Architecture. Types of Architectural Drafting. Drafting Media,
- Drafting Standards and symbols.

SUGGESTED READING

1. Introduction to Architecture by Francis D.K. Ching
2. Design Process: A Primer for Architectural and Interior Design by Sam F. Miller
3. Design Thinking Process and Methods 3rd Edition by Robert Curedale
4. Design Literacy for All – A Hand book by IIID
5. The Pattern Language by Christopher Alexander

PAPER-2 THEORY -HISTORY OF INDIAN ARCHITECTURE

UNIT 1 – ANCIENT INDIAN ARCHITECTURE

- Understanding Time line and classification of Indian Architecture
- Town planning of Mohenjo-Daro and Harappa, . Dholavira , Lothal, Bet Dwarka
- Rock Cut Buddhist Architecture - Barabar caves in Bihar, Ajanta caves, Ellora Caves, Badami Caves, Bhaja Caves, Karla Caves, Bedse Caves, Kanheri Caves, Jogimara Caves, Sitamarhi Cave of Rajgir, Udayagiri and Khandagiri Caves, Sittanavasal Cave, Sittanavasal Cave, Bagh Caves, Elephanta Caves,
- Salient features of a Chaitya hall and Vihara
- Stupa of Sanchi & Nagarjunakonda

UNIT 2 - TEMPLE ARCHITECTURE

- Basic Features of the Hindu Temples - Garbhagriha, Mandapa, Shikhar or Vimana, The Vahan, Gopura,
- Concept and evolution of Hindu Temple - Nagara style, Dravida style , Vesara style
- Famous Temples of India - Tigawa temple, Ladh Khan temple, Aihole Papanatha and Virupaksha temple at Pattadakal. Kailasanathar temple, Dashavatara temple in Deogarh.
- Mandapas & Rathas Example of masonry temples – Shore Temple, Mahaballipuram, Kanchipuram, , Brihadeeswarar Temple, Tanjore , Meenakshi Amman temple, Madurai
- Lingaraja Temple, Bhubaneswar & Sun Temple, Konarak –
- Kandariya Mahadeva temple, Khajuraho –Surya Temple, Modhera.

UNIT 3 – INDO-ISLAMIC ARCHITECTURE

- Evolution of Islamic Architecture in India - Time line : Early Islamic Architecture (12th to 16th century, Mughal Architecture (16th to 18th century & Indo-Islamic Architecture (18th to 19th century)
- Key Features of Islamic Architecture in India - Domed Roofs, Minarets, Archways, Calligraphy, Geometric Patterns, Courtyards, Water Features, Ornate Decoration, Perforated Screens
- **IMPERIAL STYLE** - Delhi Sultanate - Kutub Minar & Kutub Complex, Tomb of Ghiyasuddin Tughlaq, Alai Darwaza,
- **PROVINCIAL STYLE** – (Mandu, Gujarat, Bengal, and Jaunpur) – Jahaj Mahal, Jami masjid, Ahmedabad,
- **THE MUGHAL STYLE** (Delhi, Agra, And Lahore) - Humayun’s Tomb, Delhi, Fatehpur Sikhri (lay out, Buland darwaza, Diwan-i-Khas, The Taj Mahal, Agra, Red Fort, Delhi
- **THE DECCANI STYLE** (Bijapur, Golconda) - Gol Gumbaz, Bijapur, & Charminar, Hyderabad

UNIT 4 - COLONIAL & MODERN INDIAN ARCHITECTURE

- Characteristics of Indo-Serenic Architecture : St. Paul’s Cathedral, Calcatta, Bombay Town Hall, University of Madras Senate House & Victoria Memorial hall, Calcatta
- Renaissance, Art Deco, Gothic Architecture in India - Mumbai High Court, David Sassoon Library, Wellington Fountain, Regal Cinema, Victoria Terminus
- Contribution of Edwin Lutyens & Herbert Baker to the lay-out and Architecture of New Delhi – Rashtrapathi Bhavan & Parliament House.

UNIT 5 – REGIONAL ARCHITECTURE OF INDIA

- Rajput Architecture, Sikh Architecture, Maratha Architecture
- Indian Vernacular Style of Architecture
- Dravidian Architecture
- Kalinga Architecture

SUGGESTED READING

1. History of Indian Architecture : Binda Thapar
2. Modern Architecture History of India – Keneth Franpton
3. Art and Architecture of Indian Subcontinent – Harle J C
4. Indian Architecture by Percy Brown

PAPER – 3 (THEORY) –ERGONOMICS & ANTHROPOMETRY

UNIT I – INTRO TO ERGONOMICS & ANTHROPOMETRY

- What is ergonomics . What is Anthropometrics. Definition of Anthropometry. applications of Anthropometry
- Human proportion basics - Ergonomics & Design, Five Fundamental Fallacies. User Centered Designs.
- Application of Ergonomics in various fields.
- Domains of Ergonomics - Psychological, Cognitive & Organizational.
- Psychology, Anatomy and Engineering relationship in Ergonomics.
- Relationship of Human requirements and Ergonomic. Physiology (work physiology) and stress.
- Environmental factors influencing human performance.

UNIT 2 : PRINCIPLES AND PRACTICE OF ANTHROPOMETRIES

- Constraints and criteria in Ergonomics & Anthropometrics.
- Clearance. Reach. Posture & Principle of the limiting the user. Zones of convenient reach.
- Criteria for optimal & satisfactory working heights. The normal working area
- Ergonomic injuries. User difficulties, Fatigue, Accidents, injuries and errors
- Environmental factors influencing human performance

UNIT 3 : HUMAN BODY STRUCTURE AND FUNCTION

- Anatomical terminology. Human physical dimension concern: Human body- structure and function,
- Anthropometry: body growth and somato types, Static and dynamic anthropometry
- Human Body Structure and Function. Working posture. Working height.
- Posture and strength. Vision and the posture of the head and neck . Anthropometry of the hand
- Sitting and Seating. Fundamentals of seating

UNIT 4: ERGONOMICS IN DESIGN

- Anthropometry landmark - Standard Anthropometric postures
- Standard Standing postures
- Standard Sitting, squatting and cross legged postures. Normal Seating Slump
- Posture and job relation, Posture and body supportive devices,
- Vertical work surface, Horizontal work surface, movement pertaining to work surfaces,
- Ergonomics in the Home - The kitchen, The bathroom, The bedroom
- Ergonomics in the Office - The office desk The office chair.

UNIT 5 : ANTHROPOMETRIC DATA

- Anthropometric measuring techniques, Statistical treatment of data and percentile calculations
- Anthropometric Variance Parameters - Gender, Age, Ethnicity
- Anthropometric data sources.
- Techniques of Data collection - Purist approach & Pragmatic Approach, rule of Thumb Approach, Ratio scaling approach.
- Standard Anthropometric PLANES - Horizontal reference plane, vertical reference plane, Median Plane, Seat Reference point (SRP)..

Suggested Reading

1. Body Space - Anthropometry, ergonomics & the design of work - Stephen Pheasant
2. Handbook of Human Factors & Ergonomics Methods - Stanton & Hedge
3. Ergonomics & Design: a reference guide - Scott Openshaw
4. Introduction to Human Factors and Ergonomics - Bridger

B. DESIGN INTERIOR DESIGN YEAR 1 - PRACTICAL

PRACTICAL 1 — FUNDAMENTALS OF DRAWING & DESIGN

DRAWING

- Still Life - Study of various objects in pencil and color (cube, sphere, cone. etc.) Study of drapery, pots, jugs, glass, random objects. Study of various forms of nature leaves, flowers, plants, fruits, etc.
- Fundamentals of Perspective (1 Point & 2 Point)
- Study of Figures — Human figures , Animals, Birds, Fishes, Human Gestures etc.
- Line –movement –conversion into strips n checks
- Shape –visualization of an image through line and plane using ‘-ve’ ‘+ve’ space
- Measuring & Drawing to Scale - Scales, simple object, reduction and enlargement of drawings.
- Architectural representation of landscape elements such as trees, indoor plants, planters, hedges, foliage, vehicles, Street Furniture etc by using different Media and techniques by integrating into presentation drawing.-
- Rendering Tonal Values in Architectural / Interior drawing.

COMPOSITION & COLOR STUDIES

- Geometric Shape Compositions with lines & shading.
- Compositions of Organic shapes.
- Color Study – Color Schemes – Primary, Secondary, Analogous, Tints & Shades, Achromatic & Monochromatic, Di Chromatic Colors, Color Wheels.
- Color Harmonies – Complementary, Split Complementary, Triad, Tetrad
- Print Making & Textures –an introduction to the basic materials, creating textures using all, art media like pencils, crayons, pastels, paints etc

PRACTICAL SUBMISSION All to be done on A3 Size Sheets

- Still Life 15 Sheets (5 Pencil & 5 Color)
- Nature Study 15 Sheets (5 Pencil & 5 Color)
- Color Schemes – 10 Sheets (1 sheet of each color scheme and color harmony)
- Free Hand drawing of Interior Perspective of various rooms & Measured drawings - 30 sheets -
- 5 sheets of **wall paper print designs** in poster or pencil color rendering using Flowers & Leaves or other organic shapes as design reference.

Suggested Reading

1. Light, Shade and Shadow (Dover Art Instruction) by E. L. Koller
2. Now to Draw What You See (Practical Art Books) by Rudy De Reyna
3. Bridgman's Complete Guide to Drawing from Life by George B Bridgima
4. Color by Edith Anderson Feisner
5. Color by Betty Edwards
6. How Color affect Design – Aaris Sherin

PRACTICAL 2 – ENGINEERING DRAWING & GRAPHICS

- Drawing for Idea Generation. Drawing as Design and presentation media.
- Drawing as Guide for construction
- Drawing Tables & Surfaces. Drawing Papers, Films, Pencils, Leads & Pens
- Parallel Bar, T- Square & Drafting Machines, Triangles, Templates, Compass, Scales, Erasers, Erasing shields & Brushes
- Methods of Architectural, Engineering, Interior drawings.
- Introduction to the basic principles of drawing, sign conventions. Line Types & Line Weights.
- Lettering & use of stencils in drawings. Lettering used in architectural drawings and drawing different fonts.
- Introduction to plane geometry and exercises in lines and angles, construction of triangles, quadrilaterals and regular polygons.
- Construction of plane curves, ellipse, parabola, hyperbola and ovals.
- Arches, typical arch forms and methods of drawing them.
- Scales, construction of plain and diagonal scales and their uses in practice.
- **PROJECTIONS - Orthographic** projection (first angle projection). Principles of orthographic projection, projection of points, lines, planes, solids.
- Principles of **Isometric, Oblique, Axonometric projections.**
- Three dimensional representation, isometric and axonometric projection of solids.
- **SCIOGRAPHY** - Principles of Shade & Shadows in plan, elevation & different views. Rendering techniques of 2D and 3D drawings and sciography,
- Human Figures and accessories in 2D and 3D.
- Measured Perspective Drawings - 1 point, 2 point & 3 Point.
- Drafting Standards. Dimensioning Floor Plans, Designation of Materials, Multi View Drawings

PRACTICAL SUBMISSION – A3 Sheets of above topics.

Suggested Reading

1. Architectural Graphics – D K Ching
2. Color & Graphics Basics - Cole
3. Interior Graphics Standard – Corky Binggeli
4. Perspective for Interior Design - John Pile
5. Engineering Drawing by N.D. Bhatt

PRACTICAL 3 – ERGONOMICS & ANTHROMOMETRY PRACTICES

- Human Proportions – Drawing Men, Women and Kids figures in scale
- Human Forms, Human Dimensions
- HUMAN BODY STRUCTURE AND FUNCTION – Stature, Body dimensions, Eye Height,
- Shoulder Height, Elbow Height, Hip Height,
- Knuckle height, Fingertip height,
- Sitting height, Sitting eye Height, Sitting Shoulder Height, Sitting Elbow Height,
- Thigh Thickness, Buttock - Knee Length, Buttock-Popliteal length, Knee Height, Popliteal Height.
- Shoulder Breadth (Bideltoid), Shoulder Breadth(Bicromial),
- Hip Breadth, Chest(Bust) depth, Abdominal Depth, Shoulder elbow length, Elbow-fingertip length,

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- Upper limb Length, Shoulder Grip length, Head Length, Head Breadth,
- Hand Length, Hand Breadth, Foot Length, Foot Breadth
- Arm Span. Elbow Span.
- Clearance in Various positions.
- Space requirements for circulation – detailed chart of various circulation spaces and standard requirements.
- Zones of convenient reach.
- FURNITURE SKETCHES, -Standard Dimension sketches of : chairs, beds, cupboards, alimra, residential & commercial furniture
- Furniture Sketches of Office Furniture : Desk, Chairs, Work Stations, Storages,

PRACTICAL SUBMISSION - A3 Sheets of above topics.

Suggested Reading

1. Body Space - Anthropometry, ergonomics & the design of work - Stephen Pheasant
2. Handbook of Human Factors & Ergonomics Methods - Stanton & Hedge
3. Ergonomics & Design: a reference guide - Scott Openshaw
4. Introduction to Humarn Factors and Ergonomics - Bridger

PRACTICAL 4 – CONSTRUCTION - I

- Design & Construction Drawings. Bubble Diagram.
- **PLAN DRAWING** - Ceiling plan, Floor Plans, Scale and Orientation, Sections, Floor Plans Checklist
- **ELEVATIONS** - Exterior Elevations, Interior Elevations, Scale of Interior Elevations, Dimensioning of Interior Elevations
- **SECTION DRAWINGS**, Sections of Interior Spaces, Wall Sections, Floor Sections, Ceiling Sections
- **Components of interior space - from foundation to roof,**
- Stairs & Ramps,
- Different types of Doors, Windows, Ventilators.
- Different types of Floors – Construction drawings of flooring,
- Varanda, Balcony and railings.
- Planning of Kitchens
- Planning of Toilet & Bath
- Planning of various Rooms - Drawing, Living, Dining, , Bedroom. .
- drawing & rendering with environmental study
- **Planning & Drawing Full Residence plan, elevations & views.**
- **Planning & Drawing an Office Plan, Elevation & Views.**

Suggested Activity – Site Visits to understand various construction phases.