

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

**SUBMISSION DETAILS (PRACTICAL)**

**B. DESIGN INTERIOR DESIGN YEAR III**

SUBJECT	SIZE	MIN. ASSIGNMENT	TOPIC & MEDIUM
Construction II	A2, A3	11	Pencil, Color Pencil
Interior Design Studio II	A2, A3	7	Pencil, Color Pencil, On Computer
Interior Design Studio III	A2, A3	12	Pencil, Color Pencil, On Computer
3DS MAX	-	5	On Computer

**SCHEME OF EXAMINATION**

**B. DESIGN INTERIOR DESIGN YEAR III**

Paper	Time	Size	Ext. Marks	C.C.E.	Total
Material & Construction II	3 Hrs.	-	50	25	75
Interior Services II	3 Hrs.	-	50	25	75
Interior Landscape Design	3 Hrs.	-	50	25	75
Furniture Design	3 Hrs.	-	50	25	75
				Total	300
Practical			Ext. Marks	Internal Assignment	
Construction II	6 Hrs.	A2, A3	60	40	100
Interior Design Studio II	3 Hrs.	A2, A3	60	40	100
Interior Design Studio III	3 Hrs.	A2, A3	60	40	100
3DS MAX	2 Days	-	60	40	100
				Total	400
<b>Grand Total</b>					<b>700</b>

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**B. DESIGN INTERIOR DESIGN YEAR III**

**PAPER – I (THEORY) – MATERIAL & CONSTRUCTION II**

- FLOORS - Floor coverings – Softwood, hardwood, resilient flooring, linoleum, asphalt tile, vinyl, rubber, cork tiles, terrazzo, marble & granite, properties, uses & laying. Floor tiles – Ceramic glazed, mosaic and cement tiles, properties, uses and laying, details for physically handicapped.
- FALSE CEILING – Construction of various kinds of false ceiling such as thermacol, plaster of paris, gypsum board, metal sheets, glass and wood. Construction of domes, vaults, & other special ceilings.
- WALL PANELING – Paneling- Using wooden planks, laminated plywood, cork sheets, fibre glass wool & fabric for sound insulation and wall paneling for thermal insulation.
- FINISHES – Paints- enamels, distempers, plastic emulsions, and cement based paints, properties, uses and applications. Painting on different surfaces – defects in painting, clear coatings & strains, varnishes, lacquer, shellac, wax polish & strains, properties, uses and application. Special purpose paints- bituminous, luminous, fire retardant and resisting paints- properties, uses and applications.
- PARTITIONS – Details of fixed, sliding and sliding and folding partitions with wood, steel and aluminum frames & panels in glass, particle board, MDF, gypsum board and plywood.
- WINDOWS IN STEEL AND ALUMINIUM – Details of sliding and openable windows in aluminum and steel frames with glazed panels
- STAIRCASE – Types according to profile – straight flight, doglegged, quarter turn, half turn, bifurcated, spiral & helical. Types based on materials (timber, wood, steel, synthetic materials). Details of handrails & balusters. Designing and detailing for physically handicapped.

**Suggested Readings –**

1. Building Construction by B.C. Punmia
2. Engineering Materials by RANGWALA
3. Building Construction: Metric - Vol. 1 – 3 by W.B. McKay
4. Interior Design Illustrated by Francis D. K. Ching
5. Contemporary Ceilings Vol 1- 3 by IAG
6. Building Construction: Metric - Vol. 1 – 3 by W.B. McKay

**PAPER II (THEORY) – INTERIOR SERVICES II**

- BASIC CONCEPTS AND SYSTEM COMPONENTS IN AIR CONDITIONING – Vapour compression cycle – Compressors – Evaporators – Refrigerant control devices – Electric motors – Air handling units – Cooling towers.
- AIR-CONDITIONING SYSTEM AND APPLICATIONS – Window type and packaged air conditioners – chilled water plants – Fan coiled systems – Water piping – Cooling load. Air-conditioning systems for different types of buildings – Duct lay out. Codes for Ventilation – Ventilation rates – air changes per hour – relative humidity – cross ventilation, stack effect, recommended ventilation rates for kitchen, toilet.
- ELECTRICAL SYSTEMS – Single/three phase supply – Protective devices in electrical installation – ISI Specifications – Types of wires, Wiring systems and their choice – Planning electrical wiring for building interiors – Main and distribution boards- Typical Electrical layout for interiors. Codes for Electrical Layout – Typical electrical layout for a building – location requirement for switch rooms and distribution panels – codes for fan pints, power points and light points – PVC sheathed wiring system – protective earthing – earth electrode.

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**PAPER – III (THEORY) – INTERIOR LANDSCAPE DESIGN**

- INTERIOR LANDSCAPING – Definition, classification of plants, indoor plants and their functions, layout & components, Floriculture, commercial ornamental, Selection of plants & pest control.
- PHYSICAL REQUIREMENTS OF PLANTS – Physical requirements of plants – light, temperature, water, planting medium, soil separator, weight of plants, acclimatization & maintenance. Techniques to meet physical requirements.
- INTERIOR LANDSCAPING ELEMENTS & PRINCIPLES – Various interior landscaping elements, water bodies, pools, fountains, cascades, plants, rocks, artifacts, paving & lighting. Design guidelines- plant texture & colour, plant height, plant spacing.
- ROOF AND DECK LANDSCAPE – Protection of the integrity of the roof and structure, provisions for drainage, light weight planting medium, irrigation, selection of materials, water proofing, provision for utilities and maintenance.
- EXERCISE ON INTERIOR LANDSCAPE –
  1. Courtyard design
  2. An outdoor room design
  3. Terrace garden

**Suggested Readings –**

1. The Professional Practice of Landscape Architecture: A Complete Guide to Starting and Running Your Own Firm by Walter Rogers
2. Foundations of Landscape Architecture: Integrating Form and Space Using the Language of Site Design by Norman Booth
3. Residential Landscape Architecture: Design Process for the Private Residence by Norman K. Booth (Author), James E. Hiss

**PAPER – IV (THEORY) – FURNITURE DESIGN**

- HISTORY OF FURNITURE DESIGN – Furniture designs during Egyptian, Greek, Roman, Romanesque, Gothic, Renaissance, Industrial Revolution, Contributions in the beginning of the 20<sup>th</sup> century by the four pioneer architects in furniture design, Bauhaus, De Stijl & other modern furniture designs.
- HUMAN FACTORS – Study of Anthropometry & Design criteria involved in the design of
  1. Sofa, settee, couch, etc.
  2. Cot, bedside lockers, wardrobes
  3. Cupboards, shelves
  4. Bunk beds, study table
  5. Display furniture
  6. Furniture for the physically challenged
- PRINCIPLES OF DESIGN & DETAILINGS
  1. Form – Colour, Symbols
  2. Materials & finishes – Wood, Glass, Metal, Plastics and Upholstery, include various finishes.
  3. Fabrication Techniques involved
  4. Multiple Utility Oriented Approaches to Furniture Design.
- ROOM PLANS AND FURNITURE ARRANGEMENT – Types of furniture, Built in furniture, Movable furniture, Systems furniture, Specially Designed furniture, Readymade furniture, Modular,

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Knockdown & Economy Furniture. Traffic pattern and furniture layout for residence, commercial and office areas.

• DESIGN & DETAILING

1. Residential Furniture – Seating, Sleeping, Storage & Children’s furniture
2. Commercial furniture – Showcases, Counters, Display units, Restaurant furniture, Bar furniture
3. Office furniture – Adjustable desks & storage, Mobile & Resilient chairs, Portable chairs, Movable Tables, Lounge seating.

**Suggested Readings –**

1. Furniture: World styles from classical to contemporary by David Linley (Foreword), Judith Miller
2. The Encyclopedia of Furniture: Third Edition - Completely Revised by Joseph Aronson
3. Design of the 20th Century by Charlotte & Peter Fiell
4. Interior Design and Decoration: Whiton : Interior Design Décor by Augustus Sherrill Whiton

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**B. DESIGN INTERIOR DESIGN YEAR III**

**PRACTICAL**

**PRACTICAL 1 – CONSTRUCTION II**

- Construction details of wooden flooring and ceiling. Skirting detail.
- Working Drawing of a 1 bhk residence showing:
  - Kitchen counter details (all civil counter details)
  - Flooring details
  - False ceiling detail with electrical & AC layout.
  - Construction details of all furniture units.
  - All toilet details.
- SKILL PROJECT 3: Model Making - Make an actual 1:10 scale furniture model for the 1 bhk. Residence designed by the student in 2<sup>nd</sup> year.

**Suggested Readings –**

1. Architectural Graphics by Francis D.K. Ching
2. Orthographic Projection Simplified Paperback by Charles Quinlan
3. Engineering Drawing by V.M. PANCHAL, PRAMOD R. INGLE N.D. BHATT
4. Creative Perspective by Robert W. Gill
5. Rendering in Pen and Ink by Arthur L. Guptill
6. Perspective for Interior Designers by John Pile
7. Drawing Geometry: A Primer of Basic Forms for Artists, Designers and Architects by Jon Allen
8. Sciography: Or, Radical Projection of Shadows by R Campbell (Robert Campbell) Puckett
9. A Text Book of Perspective and Sciography by Shankar Mulik

**PRACTICAL 2 – INTERIOR DESIGN STUDIO II**

- SHOPS – Planning for retail activity – anthropometrics, types of Shop layouts Modular units. Materials used in counters, shelves, worktops, their comparative study. Lighting & colour scheme – natural & artificial light.
- COMMERCIAL SPACES – The art of selling-displays/products/marketing, design of display units, design of boutiques, showrooms. Concepts in modern day Retail interiors – materials & finishes, colour, texture & pattern.
- SHOPPING MALLS – Product display – windows/internal displays/hierarchy of product display/power of visual communication/graphics. Exhibition spaces – display for exhibition, Lighting design for commercial spaces – task/display/atmospheric/focal lighting. Coloring commercial spaces – coding/decoding/visual communication. Design of commercial Environments such as Malls, Shopping Arcades, etc.
- CONSULTING OFFICE FOR PROFESSIONAL PRACTITIONER – Planning for small office – office of architects, interior designers, lawyer, and auditor – individual layouts, Modular units, play with levels. Lighting & colour scheme – natural & artificial light.
- CORPORATE OFFICE - Interior designing for multi-functional, multi-level planning, design and detailing of various work spaces, interactions zones. Design of corporate Environments such as BPO, corporate office.
- CODES FOR BARRIER FREE ENVIRONMENT – Requirement of toilets, corridors, for handicapped person – wheel chair clearance – ramps for handicapped, according to ISO 9001 Standards.

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- Design problem – Small commercial office accommodating 10 to 15 people. Area – 1500 sq. ft. Built Up Area
  - Case Study
  - Site Analysis
  - Conceptual sketches, Zoning Plan
- Make the plan, elevation & sections
  - Large scale details of furniture items
  - Scheme Detailing of Flooring and Ceiling.
  - Working Drawings of Toilets, Sanitary Details, etc.
  - Computer Drafting or Hand Drafting
  - Final Presentation drawings using different views

**Suggested Readings –**

1. Designs for 20th Century Interiors by Fiona Leslie
2. Building Codes Illustrated: A Guide to Understanding the International Building Code by Francis D. K. Ching
3. Interior Graphic Standards: Student Edition by Corky Binggeli
4. The Interior Design Course: Principles, Practices and Techniques for the Aspiring Designer by Tomris Tangaz
5. Interior Color by Design by Jonathan Poore
6. Designing Commercial Interiors by Christine M. Piotrowski
7. Commercial Space: Boutiques by Francisco Asensio Cerver, Lawrence Mc Allister
8. Designing Commercial Interiors by Christine M. Piotrowski

**PRACTICAL 3 – INTERIOR DESIGN STUDIO III**

- Design a 3BHK Residential apartment.
  - Case Study
  - Site Analysis
  - Conceptual sketches, Zoning Plan
  - Make the plan, elevation & sections
  - Large scale details of woodwork – paneling & furniture items
  - Scheme Detailing of Flooring and Ceiling.
  - Working Drawings of Kitchen, Toilets
  - Complete electrical plus AC & plumbing drawings
  - Fabrication drawings for gate, stair railing, parapet railing, etc.
  - Basic Landscaping
  - Computer Drafting or Hand Drafting
  - Final Presentation drawings using different views

**Suggested Readings –**

1. Contemporary Houses by Indian Architects by IAG (Author)

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**PRACTICAL 4 – 3DS MAX**

- INTRODUCTION TO 3DS MAX: An overview of GUI, types of modeling, transforming objects, Compound objects, modifiers & modifier stack.
- MODELLING TECHNIQUES: Lathing, displacement, lofting, Boolean operations using standard and compound primitives, modeling with lofts, low polygon modeling and nurbs modeling.
- TEXTURES AND TEXTURE MAPPING: Using material editor, material browser, mapping textures
- RENDERING: Lighting, cameras and render effects, environment mapping, fogs and atmospheres

**Suggested Readings –**

1. Autodesk 3ds Max 2014 Bible by Kelly L. Murdock
2. Mastering Autodesk 3ds Max 2013 by Jeffrey M. Harper

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