

20/9-20

Raja Mansingh Tomar Music & Arts University, Gwalior, M.P.
Diploma in Interior Design Syllabus

SCHEME OF EXAMINATION
DIPLOMA IN ^YINTERIOR DESIGN
Fine Art

PRACTICAL

TOPIC	TIME	MARKS
Material & Construction II	3 Hrs.	50
3D Max & Photoshop	9 Hrs.	50
Interior Design Studio II	6 Hrs.	50
	TOTAL	150

THEORY

TOPIC	TIME	MARKS
History of Interior Design	3 Hrs.	50
	TOTAL	50
	GRAND TOTAL	200

Bob Q

Raja Mansingh Tomar Music & Arts University, Gwalior, M.P.**Diploma in Interior Design Syllabus****SYLLABUS****DIPLOMA IN INTERIOR DESIGN****PRACTICAL****MATERIAL & CONSTRUCTION II**

- **WALLS - TYPES OF MASONRY** - Different types - Stone walls, random rubble, coursed rubble, square rubble, polygonal rubble & Ashlar, etc. Brick masonry - Types of bonds, single & double Flemish bond, header bond, stretcher bond, rat trap bond, ornamental bonding.
- **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, cement based paints, properties, uses and applications. Painting on different surfaces - defects in painting, clear coatings & stains, varnishes, lacquer, shellac, wax polish & stains, properties, uses and application. Special purpose paints- bituminous, luminous, fire retardant and resisting paints- properties, uses and applications.
- **DOORS** - Types including, openable, sliding, folding pivoted Lodged and braced, paneled doors, glazed doors, Joinery details for doors.
- **PARTITIONS** - Details of fixed, sliding and sliding and folding partitions with wood, steel and aluminium frames & panels in glass, particle board, MDF, gypsum board and plywood.
- **TIMBER WINDOWS** - Types - Casement, fixed, horizontal sliding, vertical sliding, pivoted, and top hung types. Ventilators- top hung, bottom hung, pivoted, louvered, fixed types. Joinery details for windows, ventilators
- **WINDOWS IN STEEL AND ALUMINIUM** - Details of sliding and openable windows in aluminium 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

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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.

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

LIGHTING

- Introduction to Lighting – Nature of light - wavelength, photometric quantities – Intensity, Flux, Illumination & Luminescence, Visual Efficiency, Sources of Light, Day Light Factor Concept, Design Sky Concept, Day Lighting Requirements, Light & Psychology, Emotional Impact, Degrees of Stimulation.
- Artificial Lighting – Electric Lamps – Lamp Bases, Filaments, Incandescent, Fluorescent, Sodium Vapor, Mercury, Halogen & Neon. Different types of lights in interior & exterior – task lighting, special purpose lighting, Ambient Lighting, Lighting 3 Dimensional Objects. Calculation of artificial lighting, guidelines for lighting design, glare in artificial lighting, Sustainable Design – Integrating Light & Architecture, Visual Clarity, Architectural Surfaces, Balance of Brightness
- Effects of Color in Lighting – Colors, Color Schemes – Monochromatic, analogous, complementary color schemes, triadic & tetradic schemes, effects of color in different areas, color temperature, psychological effect of colors in interiors, factors affecting color, Prang Theory – Color wheel, Munsell System & Oswald System
- Luminaries & Fixtures – Definition, Different luminaries for lighting, lighting control system – Benefits & application, Impact of lighting, fixture types – free standing or portable, fixed, light fixture control, Glare Control, Recommended Illuminance Values, Surface Reflectance, Illuminance Calculation, Switch Control, Dimming Control, Digital Lighting Controls, Energy Management Controls

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- Lighting Accessories – Switches, sockets, Fused Connection Units, Lamp holders, Ceiling Roses, etc.
- Case Study – Study of projects based on different lighting concepts used in interiors & exteriors.

Suggested Readings

1. Lighting by Design (Decor Best-Sellers) by Salley Storey
2. The Architecture Of Light (2nd Edition) by Sage Russell
3. Lighting: A Design Source by Elizabeth Wilhide
4. An Introduction to Energy Efficiency Lighting Upgrades for Buildings by J. Paul Guye

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.
- FIRE SAFETY – Mechanism of fire spread in building and prevention – Fire safety standards – concepts in fire protection- Fire fighting installation and requirements – Heat sensitive detectors – Smoke detectors – Automatic water sprinkler system- Foam systems. Fire Safety Codes – Fire-combustibility – NBC – fire resistant rating of materials – fire fighting requirements – wet riser, dry riser, fire zones, fire escape stair case, fire alarms, smoke detectors and fire lifts.

Suggested Readings

1. Textbook of Refrigeration and Air-conditioning (M.E.) by R.S. Khurmi
2. Principles of Fire Safety Engineering : Understanding Fire and Fire Protection by A.K. Das

3DS MAX & PHOTOSHOP

- Photoshop interface, creating and saving images
- Basic image editing
- Photoshop tool box and tools
- Using layers in photoshop
- Special effects in photoshop.
- 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
3. "Adobe Photoshop CC 2015 Release Classroom in a Book" by Andrew Faulkner (Author), Conrad Chavez



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DESIGN PROJECT II

Design problem – Small commercial shop or boutique accommodating 10 to 15 people. Area – 1500 sq ft. Built Up Area. Submit –

- Conceptual sketches
- Presentation drawings - Make the plan, elevation & end view using isometric view, perspective view & axonometric view
- Large scale details of furniture items
- Scheme Detailing of Flooring and Ceiling.
- Computer Drafting (3DS Max, AutoCAD or Sketchup) or Hand Drafting

Suggested Readings

1. Designing Commercial Interiors by Christine M. Piotrowski
2. Commercial Space: Boutiques by Francisco Asensio Cerver, Lawrence Mc Allister

DESIGN PROJECT III

Design problem – Design a single floor restaurant (Built Up Area – 5000 sq. ft.). Submit –

- Presentation drawings - Make the plan, elevation & end view using isometric view, perspective view & axonometric view
- Large scale details of furniture items
- Make working drawings of wall murals, reflected ceiling plans and flooring patterns.
- Make plumbing layout & working drawings of various fittings and fixtures of water supply and sanitary installations.
- Electrical Layouts
- Computer Drafting (3DS Max, AutoCAD or Sketchup) or Hand Drafting
- Rendering on computer or by hand using water color, poster color, Rotring pen, Hatching, Stippling

Suggested Readings

1. Interior Graphic Standards: Student Edition by Corky Binggeli
2. Hospitality and Restaurant Design 2 (Hospitality & Restaurant Design) by Roger Yee
3. Bar and Restaurant Interior Structures by Lorraine Farrelly
4. The Best of Hospitality Architecture and Design: v. 1 by Cindy Allen
5. 21st-Century Interiors by Beth Browne



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THEORY PAPER

HISTORY OF INTERIOR DESIGN

- **EARLY CLASSICAL PERIOD** – Prehistoric Cave Paintings – Primitive Designs- Interiors during Egyptian, Greek, Roman, Gothic, Early Christian & Renaissance Periods.
- **MIDDLE AGES** – Interiors in Romanesque, Gothic, and renaissance periods
- **COLONIAL TO THE BEGINNING OF THE 20TH CENTURY** – Colonial, Victorian designs, Arts & Crafts movement, Art Nouveau, Eclecticism, Frank Lloyd Wright.
- **BAUHAUS TO POST MODERNISM** – Walter Gropius/ Bauhaus, De Stijl, Mies Van Der Rohe, Le Corbusier, Art Deco, Postwar Modernism.
- **RECENT DIRECTIONS** – Design movements such as Late Modernism, High Technology, Post Modernism, and De constructivism and Minimalism
- **NON EUROPEAN TRADITIONS** – Interiors in China, Japan & the Islamic World – Influences of Pre Columbian American art & culture, African influences in interiors
- **SCANDINAVIAN TRADITIONS** – Interior Design in Sweden, Finland, Norway. Contributions of Architects such as Alvar Alto, etc.
- **INDIAN TRADITIONAL DESIGNS** – Traditional Styles of design & decorations of homes & accessories across the states in India including Rajasthan, Gujarat, Andhra, Tamil Nadu, Madhya Pradesh etc.
- **CONTEMPORARY INTERIOR DESIGNERS** - Works of Charles Rennie Mackintosh, Antonio Gaudi, Gerrit Rietveld. Interiors of Le Corbusier, Frank Lloyd Wright, Louis Khan, Kenzo Tange and Oscar Niemeyer. The works of Alvar Aalto, Phillip Johnson, Charles and Ray Eames, Eero Saarinen, Eero Aarnio, Arne Jacobsen. Interiors of Zaha Hadid, Santiago Calatrava, Frank Gehry and Peter Eisenmann.

Suggested Readings

1. A History of Interior Design by John Pile

