

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 IV

Semester – VII

SUBJECT	SIZE	MIN. ASSIGNMENT	TOPIC & MEDIUM
Design Project V	A1, A2	According to Project Specifications	Medium – Pencil, Color Pencil, Water Color, Poster Color & on computer
Design Project VI	A1, A2	According to Project Specifications	Medium – Pencil, Color Pencil, Water Color, Poster Color & on computer

SCHEME OF EXAMINATION

B. DESIGN INTERIOR DESIGN YEAR IV

Semester – VII

Paper	Time	Size	Ext. Marks	C.C.E	Total
Estimation & Costing	3 Hrs.	-	70	30	100
Acoustics	3 Hrs.	-	70	30	100
Interior Design Studio IV	3 Hrs.	-	70	30	100
				Total	300
Practical			Ext. Marks	Int. Assignment	
Design Project V	6 Hrs.	A1, A2	120	80	200
Design Project VI	6 Hrs.	A1, A2	120	80	200
				Total	400
Grand Total					700

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PAPER – I (THEORY) – ESTIMATION & COSTING

- 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.
- 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 lamination) for walls & ceiling. Electrical & plumbing products, wiring, ducting, and laying of tiles & wall paneling in the estimate format of the project.
- 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.
- COSTING OF FIXTURES & FITTINGS – Cost of the following items: electrical fitting like, luminaries, fan, cables, switches, 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, shower panels, cubicles, tubs, Jacuzzis, taps, motors, fountains, false ceiling of aluminum panels, steel & wooden frame work, thermocol. Wall paneling of ceramic tiles & other tiles of materials suitable for the same, partitions made of materials like aluminum wood, steel.
- 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 also of materials like steel aluminum glass of various kind. Wall paneling & false ceiling of materials like aluminum, steel, wood, electrical, plumbing, air conditioning & fighting equipments.

Suggested Readings –

1. Estimating and Costing in Civil Engineering: Theory and Practice Including Specifications and Valuations by UBS Publishers & Distributors
2. The Interior Designers Guide to Pricing Estimating and Budgeting by Theo Stephan Williams

PAPER – II (THEORY) – ACOUSTICS

- INTRODUCTION TO ACOUSTICS – Definition, Theory of sound generation, transmission – reception of sound – Terms related to acoustics – sound waves, frequency, intensity, wavelength – measurement of sound.
- ROOM ACOUSTICS – Characteristics of speech – Making of sound – Human ear characteristics – Behaviour of sound in enclosed space – Reverberation, RT, Optimum reverberation, simple exercise using Sabine's formula. Echo.
- SOUND ABSORPTION, INSULATION, SOUND REINFORCEMENT – Sound absorption, absorption co-efficient and their measurements – sound absorbing materials – sound insulation – materials – sound amplification and sound reinforcement.

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- NOISE CONTROL – Sources and types of noise – effect on human behavior, noise curves, transmission of noise – noise control – materials and techniques.
- ACOUSTICS IN BUILDINGS – Design and detailing – Basic principles in designing of lecture halls, auditorium theatres, cinema halls, broadcasting studio, recording studio. Acoustical requirements of different types of building.

Suggested Readings –

1. Master Handbook of Acoustics, Sixth Edition Paperback by F. Alton Everest, Ken C Pohlmann
2. Acoustic Design (Architectural Press library of design & detailing) by Duncan Templeton, David Saunders

PAPER – III (THEORY) – INTERIOR DESIGN STUDIO IV

- RESTURANT INTERIORS – 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
- HEALTH CARE INTERIORS - The design of Health care spaces, such as hospitals, consulting, treatment rooms, Diagnostic facilities – study of special acoustics and functional materials and furniture detailing.
- AUDITORIUM – Spatial and environmental standards for various auditorium – performing arts, cinema, convention centre. Detail schematics of wall paneling, false ceiling and carpeting to satisfy acoustic requirements. Lighting study to develop ideas for foyer, auditorium and stage requirements.
- FIVE STAR HOTELS – Spatial and service standards for five star hotels – integration of interior design schemes for rooms, restaurants, bars, health clubs, shopping arcade and other guest areas with the general theme of the hotel. Special ideas for suites and banquet halls – contemporary interior schemes to integrate new concepts in lighting and materials.

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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B. DESIGN INTERIOR DESIGN YEAR IV

Semester – VII

PRACTICAL

PRACTICAL 1 –DESIGN PROJECT VII

Design problem –

1. 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

OR

2. Make the same restaurant in two floors (Ground + First) including a roof top restaurant – Plot Area 2500 sq. ft. (Total carpet area 6000 sq. ft. including terrace)

Suggested Readings –

1. Hospitality and Restaurant Design 2 (Hospitality & Restaurant Design) by Roger Yee

PRACTICAL 2–DESIGN PROJECT VIII

Design problem – Design a 3-star hotel. Plot Area – 1 acre. Construction – 50,000 Sq. ft. The hotel should include 100 rooms (divide into single bed, double bed, triple bed & suits), 2 restaurants, gym, spa, parking, landscape, swimming pool, 2-3 kitchens. Submit -

- Presentation drawings - Make the plan, elevation & end view using isometric view, perspective view & axonometric view
- Electric & Plumbing Layouts
- Scheme Detailing (Any 4) –
 1. Lobby
 2. Swimming Pool
 3. Restaurant
 4. Suite
 5. Disco
 6. Gym & Spa
 7. Banquet
- 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. Hotel Design, Planning and Development by Richard H. Penner, Lawrence Adams, Walter Rutes

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SUBMISSION DETAILS (PRACTICAL)

B. DESIGN INTERIOR DESIGN YEAR IV

Semester –VIII

SUBJECT	SIZE	MIN. ASSIGNMENT	TOPIC & MEDIUM
Professional Training	-	-	-
Final Design Project	A1, A2, A3	According to Project Specifications	Medium – Pencil, Color Pencil, Water Color, Poster Color & on computer

SCHEME OF EXAMINATION

B.DESIGN YEAR IV

Semester –VIII

Paper	Time	Size	Ext. Marks	C.C.E	Total
Design Contextual Studies	3 Hrs.	-	70	30	100
Adaptive Reuse & Recycling	3 Hrs.	-	70	30	100
Project Management	3 Hrs.	-	70	30	100
				Total	300
Practical			Ext. Marks	Int. Assignment	
Professional Training	-	A1, A2	120	80	200
Final Design Project	6 Hrs.	A1, A2	120	80	200
				Total	400
				Grand Total	700

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B. DESIGN INTERIOR DESIGN YEAR IV

Semester –VIII

PAPER – I (THEORY) – DESIGN CONTEXTUAL STUDIES

- ENTERTAINMENT SPACES: Study of interiors for entertainment buildings such as clubs, multiplex and amusement parks – schemes for video games parlour, food court areas and exclusive indoor game areas of clubs.
- EDUCATIONAL SPACES: Study of interiors for class rooms, seminar halls and AV halls – schemes for library, smart class rooms and discussion areas.
- SPORTING SPACES: Study of interior requirements for gymnasium, indoor stadium and aquatic complex – schemes for interiors of stadium with focus on lighting requirements and visibility.
- COMMERCIAL SPACES: Study of interiors in salons, pubs, discotheque and banks, etc – schemes for the same.
- TRANSPORTATION SPACES: Study of interiors for airports, MRTS, railway stations and bus terminals – schemes for the same

Suggested Readings –

1. Architecture on Sports Facilities by Carles Broto
2. Planning: Buildings for Administration, Entertainment and Recreation by Edward David Mills
3. New Transport Architecture by Will Jones
4. Building Type Basics for Transit Facilities by Kenneth W. Griffin
5. Stations (Architecture in Focus) by Chris Van Uffelen

PAPER – II (THEORY) – ADAPTIVE REUSE AND RECYCLING

- NEED FOR ADAPTIVE REUSE: Cultural inheritance – heritage buildings and old structures – ascertaining the structural stability – estimation of the prolonged life of the building – strategies of adaptive reuse – investigation into material finishes, etc
- NEED FOR RECYCLING OF MATERIALS: The logic behind recycling – recycling of steel, wood, glass etc – estimation of the quality of recycled timber – criteria for recycling of steel, glass, etc
- CONCEPT OF SUSTAINABILITY: Earth summit declaration – definition of sustainability – economic, social and environmental issues – green rating of buildings – criteria for LEED rating.
- RECYCLING OF WASTE WATER: Sullage and sewage – techniques of water purification for sullage – treatment plant for sewage – techniques of biological and chemical purification.
- ENERGY EFFICIENCY – Reasons for Energy Crisis - Need for the Energy Conservation – Concept of conventional, non-conventional, renewable, non-renewable energy sources – Global Energy use – Impacts of energy use – Merits and demerits of both conventional and non-conventional Energy sources.
- NEED FOR CONSERVATION: Architectural conservation – conservation of heritage and important buildings – levels of intervention – structural, construction related, finishes etc. Revival of old building techniques and finishes.

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- VERNACULAR ARCHITECTURE - Urban and rural vernacular architecture, role of sustainability in vernacular architecture, Environment & Resource Management, Vernacular building materials- Recognize the different ways in which these materials were used at different times and in different parts of the country. Case studies of Vernacular towns within Kerala. Knowledge of vernacular architecture in contemporary regional designs.

Suggested Readings –

1. Sustainable Design: A Critical Guide (Architecture Briefs) by David Bergman
2. Sustainable Construction: Green Building Design and Delivery by Charles J. Kibert
3. Solid Waste Management by Sasikumar K
4. Handmade Houses and Other Buildings: The World of Vernacular Architecture by John May
5. Lessons from Vernacular Architecture by Willi Weber, Simos Yannas

PAPER – III (THEORY) – PROJECT MANAGEMENT

- INTRODUCTION – Project planning and project scheduling and project controlling, Role of Decision in project management, Method of planning and programming, Human aspects of project management, work breakdown structure, Life cycle of a project, disadvantages of traditional management system.
- ELEMENTS OF NETWORK – Event, activity, dummy, network rules, graphical guidelines for network, numbering of events.
- CRITICAL PATH METHOD AND PERT ANALYSIS – CPM network analysis & PERT time estimates, time computation & network analysis.
- PROJECT TIME REDUCTION AND OPTIMIZATION – Project cost, Indirect project cost, direct project cost, slope of the direct cost curve, total project cost and optimum duration, contracting the network for cost optimization, steps in cost-time optimization.
- PROJECT UPDATING AND ALLOCATION – When to update? Data required for updating, steps in the process of updating. Resource usage profile: Histogram, Resource smoothing and Resource leveling, Computer applications in project management.

Suggested Readings –

1. Professional Practice for Interior Designers by Christine M. Piotrowski
2. Project Management for the Design Professional: A Handbook for Architects, Engineers and Interior Designers by David Burstein (Author), Frank A. Stasiowski
3. Time Management for Architects & Designers by Thorbjørn Mann

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B. DESIGN INTERIOR DESIGN YEAR IV

Semester – VIII

PRACTICAL

PRACTICAL 1 – PROFESSIONAL TRAINING

- Develop Resumes & Portfolios
- Apply for internships at Interior Design Firms, Architectural Firms, Civil Contractor Office or under any professional interior designer or architect.
- At the end of the training period, the student will have to produce a certificate of experience and satisfactory performance from the concerned office in the prescribed format as proof of them having finished the required minimum 45 days full time or 90 days part time internship.

The practical marks shall be awarded based on the following works to be submitted by the student and presented during the practical exam –

1. Training Report: This shall contain copies of various drawings done by the student either drafted or designed. It shall also contain other works like photographs of sites visited, models done, computer output produced etc.
2. Building Study – This shall be a detailed critical study of a building designed by the architect with whom the student has worked. It shall include the study of function, aesthetics, context, structure, etc. This shall be presented through drawings, photographs, write ups, etc.
3. Building Material Study – This shall be a detailed study of a new or relatively new building material available in the market. A study of its properties, uses, cost, maintenance, etc. is expected to be done. Samples of materials shall also be obtained and presented.
4. Detailing study – This shall be a study of any interesting detail done in the firm where the student has undertaken training. This shall include sketches and photographs of the detail.

PRACTICAL 2 – FINAL DESIGN PROJECT

Final Design projects can be of any scale and size (in terms of built areas) as long as the required rigor and depth is demonstrated by the student to merit consideration as a final project. Very large campus projects can be avoided as the work tends to be repetitive and more often ends with a large number of structures but with minimal variations and content. It is expected that all genre of projects (study or design) would end with a design solution; in fact all projects should be grounded in some kind of critical enquiry. The depth of enquiry can be extended and the time spent on design can be reduced in a specific case, but such a project should demonstrate clarity in terms of research design. The following stages have been identified as a generic model of the studio. The stages can be fine-tuned depending on the resources. It is expected that this project will be run as a studio with individual guidance under a project coordinator.

Pre-Project – This stage should ideally be accomplished in the previous semester. The work involves students to discuss with the faculty to identify an area of interest or specific types of buildings. The pre project stage should end with a project proposal giving routine information on site, location, need, broad requirements and scale. In addition, proposal should clearly indicate the “project question” or an area (or areas) of interest.

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Project Seminar – Student shall present a seminar on the project topic which would include the following -

- Precedents of similar projects, either actual visit to such projects or through literature reviews.
- Cultural, contextual, historical, technological, programmatic concerns of the project.
- Prevalent or historical models of architectural approach to such projects and a critique of such models and
- A rhetorical or a speculative statement that would be the basis of further investigation. (For example: Architecture in the information age: Design of libraries in the new virtual reality regime). Documentation which is a part of this presentation shall be taken as completion of “case study” part of the final requirement.

Mid Review – There shall be a review to clarify the conceptual statements and assumptions of the students. Students shall present a clearly articulated response to context, program and users. Conceptual framework and preliminary architectural scheme shall be the end products of this stage.

Final Review – Final review should consist of all the works which would be presented at the viva. Mode of presentation shall be tentative. Number of sheets shall be limited to maximum of 15 plus two case study sheets. Study Models are expected to be presented

The final output shall include a report, all drawings, study models and a presentation model. The report in typed or computer printed form shall discuss the program, site- analysis, literature review, case studies, design criteria, concept and detailed design. Three copies of the reports shall be submitted along with drawing and models.

Note – The requirements pertaining to the handicapped and elderly people and children are to be addressed in design and detailing.