

Maharshi Dayanand University Rohtak



Ordinances, Syllabus and Courses of Reading for Bachelor of Architecture Examination

Session- 1998-1999

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Course No.	Course Title	Periods/Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 101-A	Architectural Design-I	6	100	100	---	200	---	
AR 103-A	Building Const. & Materials-I	4	100	50	---	150	---	
AR 105-A	Structural Design-I	2	50	---	50	100	2	
AR-107-A	Architectural Drawing-I	6	100	50	---	150	---	
AR-109-A	Graphics-I	4	100	50	---	150	---	
AR-111-A	History of Architecture-I	2	50	---	50	100	2	
AR-113-A	Architectural Design Theory-I	2	50	---	50	100	2	
AR-115-A	Workshop-I	4	50	---	---	50	---	
	Total	30	600	250	150	1000		

SEMESTER III

Course No.	Course Title	Periods/ Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 201-A	Architectural Design-III	6	100	100	---	200	---	
AR 203-A	Building Const. & Materials-III	6	100	50	---	150	---	
AR 205-A	Structural Design-III	2	50	---	50	100	2	
AR-207-A	Architectural Drawing-III	6	75	50	---	125	---	
AR-209-A	Building Services-III	2	50	---	50	100	2	
AR-211-A	Graphics-III	4	75	25	---	100	---	
AR-213-A	History of Architecture-III	2	50	---	50	100	2	
AR-215-A	Workshop-III	4	100	---	---	100		
AR-217-A	Educational Tour	NA	25	---	---	25		
	Total	32	575	225	150	1000		

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SEMESTER II

SYLLABUS BACHELOR OF ARCHITECTURE

Course No.	Course Title	Periods/ Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 102-A	Architectural Design-II	6	100	100	---	200	---	
AR 104-A	Building Const. & Materials-II	6	100	50	---	150	---	
AR 106-A	Structural Design-II	2	50	---	50	100	2	
AR-108-A	Architectural Drawing-II	6	75	50	---	125	---	
AR-110-A	Building Services-II	2	50	---	50	100	2	
AR-112-A	Graphics-II	4	75	25	---	100	---	
AR-114-A	Architectural Design Theory-II	2	50	---	50	100	2	
AR-116-A	Surveying-II	2	50	---	50	100	2	
AR-118-A	Educational Tour	NA	25	---	---	25	---	
	Total	30	575	225	200	1000		

SEMESTER V

Course No.	Course Title	Periods/Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 301-A	Architectural Design-V	12	125	125	---	250	---	
AR 303-A	Building Const. & Materials-V	6	100	50	---	150	---	
AR 305-A	Structural Design-V	2	50	---	50	100	2	
AR-307-A	Computer Architecture-V	4	75	---	---	75	---	
AR-309-A	Building Services-V	2	50	---	50	100	2	
AR-311-A	History of Architecture-V	2	50	---	50	100	2	
AR-313-A	Estimating and Costing-V	2	50	---	50	100	2	
AR-315-A	Bldg B/Laws & Office Mgmt-V	2	50	---	50	100	2	
AR-317-A	Educational Tour	NA	25	---	---	25	---	
Total		32	575	175	250	1000		

SYLLABUS BACHELOR OF ARCHITECTURE

SEMESTER IV

Course No.	Course Title	Periods/Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 202-A	Architectural Design-IV	6	100	100	---	200	---	
AR 204-A	Building Const. & Materials-IV	6	100	50	---	150	---	
AR 206-A	Structural Design-IV	2	50	---	50	100	2	
AR-208-A	Computer in Architecture-IV	6	100	---	---	100	---	
AR-210-A	Building Services-IV	2	50	---	50	100	2	
AR-212-A	Architectural Design Theory-IV	2	50	---	50	100	2	
AR-214-A	Communication Skills-IV	2	50	---	50	100	2	
AR-216-A	Landscape Design-IV	4	75	75	---	150	---	
Total		30	575	225	200	1000		

ARCHITECTURAL DESIGN-I
AR 101-A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 100

INTENT

Introduce in to the mathematical mind set of the students from the science stream an aesthetic line of thinking. Inculcating a sense of joy in 'design' and its process.

CONTENT

Potential of a line
Two dimensional compositions of simple geometric shares (triangles, rectangles, circles) as lines and as cut and paste in monochromatic schemes and in color schemes.
Application of form and color in differing visual creative situation like design of a carpet, a sari border, anecktie, a rangoli, a pavement pattern, curtain fabric and the like.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
At least 12 exercise must be attempted out of which half should be on design of 2D compositions applicable in different situations.

BUILDING CONSTRUCTION AND MATERIALS-I
AR 103-A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 50

INTENT

To introduce the students to the dynamics of the Construction of Buildings and an appreciation of the use of Building materials in architecture as an integral component of the conversion of Architectural Concepts into tangible reality.

SEMESTER IX

Course No.	Course Title	Periods/Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 501-A	Architectural Design-IX	12	200	200	---	400	---	
AR 503-A	Building Const. & Materials-IX	6	125	75	---	200	---	
	ELECTIVES (any four)							
AR 505-A	Town Planning-IX	3	50	---	50	100	2	
AR 507-A	Landscape Design -IX	3	50	---	50	100	2	
AR 509-A	Traffic and Transportation-IX	3	50	---	50	100	2	
AR 511-A	Construction Management-IX	3	50	---	50	100	2	
AR 513-A	Multistoried Building -IX	3	50	---	50	100	2	
AR 515-A	Low Cost Building-IX	3	50	---	50	100	2	
AR 517-A	Sustainable Architecture-IX	3	50	---	50	100	2	
AR 519-A	Art and Architecture-IX	3	50	---	50	100	2	
AR 521-A	Architectural Journalism-IX	3	50	---	50	100	2	
	Total	30	525	275	200	1000		

SEMESTER X

Course No.	Course Title	Periods/Week	Sessional Marks	Portfolio Marks	Theory Exam Marks	Total Marks	Duration of Exam (Hrs.)	Remarks
AR 502-A	Thesis	30	400	600	---	1000	---	
	Total	30	400	600	---	1000	---	

CONTENTS

Basic components of a "building".
 Role of Construction in Architecture.
 Brick as a building material
 Brick Masonry tools
 Brick waling and joints
 Brick Jallies
 Brick Arches
 Stone as a building material
 Stone Masonry Tools.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course will be supported by site visits off the studio hours.
 At least 12 sheets must be prepared in the Studio.

STRUCTURAL DESIGN-I

AR 105-A

Periods per week : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To inculcate the understanding of the basic principles of structural mechanics for understanding of Structural Systems and Design.

CONTENTS

Forces in structures
 Moments in structures
 Loads in structures
 IS : 875
 Types of supports
 Shear Force, Bending moment
 Center of Gravity, Moment of Inertia
 Forces in a simple wooden truss

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Exercises must be done at the end of each lecture.

ARCHITECTURAL DRAWING-I

AR 107-A

Periods per week : 6
 Sessional Marks : 100
 Portfolio Marks : 50

INTENT

To develop the skill of hand drafting using conventional drafting instruments.

CONTENT

Use of different drafting equipment.
 Drafting of lines
 Orthographic projections
 Reprinting simple solids
 Lettering
 Architectural Graphic Symbols
 Drawing Scales
 Measured drawing of a simple object

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 12 sheets must be prepared in the studio under supervision.

GRAPHICS-I

AR 109-A

Periods per week : 6
 Sessional Marks : 100
 Portfolio Marks : 50

INTENT

To develop the skill of using the pencil in free hand drawing and rendering to support Architectural Design and Drawing.

CONTENT

Use of pencil
Lines
Shading with pencil
Indoor sketching
Out door sketching
Drawing scaled graphics

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 8 sheets and 20 sketches to be made under supervision in the studio.

HISTORY OF ARCHITECTURE-I

AR 111-A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT

To inculcate the appreciation of 'History of architecture' in the larger context of Time, Space, Man and Architecture; to develop a curiosity of a past era; to appreciate the glory of a past era through its Architecture.

CONTENT

Eastern World (Indian Subcontinent)
Indus valley civilization
Aryan/Vedic civilization
Buddhist and Jain civilization
Indio Aryan Temple Architecture
Early and late Chalukyan architecture

Dravidian Temple Architecture.

Western world

Ancient civilizations Mesopotamia, Sumerian, Babylonian, Persian, Assyrian

Egyptian civilization

Classical Greek architecture

Roman architecture

Early Christian architecture

Romanesque architecture

Early Gothic architecture

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Each topic concerned should be followed by a written assignment by the students along with stress on sketches.

ARCHITECTURAL DESIGN THEORY-I

AR 113-A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT

To appreciate "design", the background thinking in the design of art forms; the design of natural objects

CONTENT

Meaning of design
Appreciation of beautiful objects
Design in every day life.
Logic in design.
Geometry in design
Elements of Design - Line, Form, color texture
Principles of Design - Unity, variety, hierarchy,
Scale and proportions

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Assignments must be illustrated with visuals

WORKSHOP-I

AR 115-A

Periods per week : 4
Sessional Marks : 50

INTENT

To appreciate the complexity of working by ones own hand; to familiarize students with the complexity of making quick and rendered models to support design presentation.

CONTENT

Brick masonry tools
Brick Masonry on building site
Model Making materials
Model making techniques for quick study models
Model making techniques for rendered models

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 6 quick models and 3 rendered models to be made.

ARCHITECTURAL DESIGN -II

AR 102-A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 100

INTENT

To appreciate the process of design and the complexities involved in architectural design.

CONTENT

Exercises in composing 3 dimensional objects and their representation in 2-D
Exercise in design of simple mono cellular buildings like guard house, flower kiosk, milk parlor etc.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Visits to proto type situations to be arranged off the studio hours.
At least 2 exercises in 3-D composition studies and 6 exercises in design should be done. 4 design exercises shall form the portfolio assignment.

BUILDING CONSTRUCTION MATERIAL-II

AR 104-A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 100

INTENT

To familiarize the student with the various aspects of building construction with the basic material as wood.

CONTENT

Carpentry tools.
Timber as a building material
Plywood and Boards - types and qualities
Types of Doors; Windows; Ventilators, and their details
Moldings
Types of Wooden Staircase and their Details.
Sliding and folding wooden doors, sliding wooden doors.
Substitute wood products

TEACHING AIDS :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement

STRUCTURAL DESIGN-II

AR 106-A

Periods per week : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To develop an understanding of simple timber monolith material and brick masonry (composite material) structural elements.

CONTENT

Timber as a structural material
 Design of simple timber beams
 Design of simple timber short and long columns
 Design of simple trusses and their members
 Brick as a structural material
 Design of load bearing brick walls.
 Design of brick wall footings.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Appropriate Standards must be explained and used.
 Exercises must be done in each class.

ARCHITECTURAL DRAWING-II

AR 108-A

Periods per week : 6
 Sessional Marks : 75
 Portfolio Marks : 50

INTENT

To develop the capability of understanding and drawing three dimensional solids and their various complex sections as a basis of representing architectural design.

CONTENT

Projection of group of solids

Complex section of solids,
 Development of surface,
 Inter penetration of solids,
 Isometric view of simple forms,
 Axonometric view.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 12 sheets to be prepared in the studio under supervision.

BUILDING SERVICES-II (SEWERAGE AND WATER SUPPLY)

AR 110-A

Periods per week : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

Appreciating designing and layout of the water supply, plumbing, drainage and sanitation of simple buildings.

CONTENT

Sources of surface and ground water, treatment of water, transportation and distribution at town level.
 Water supply system: fittings, direct and indirect supply, layout and sizes of pipes, hot water supply, storage.
 Sewerage system: systems, fittings and fixtures, sizes and layout, sewage collection, sewage treatment and disposal at town level.
 Solid waste management.
 Rainwater drainage

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Theory to be supported with site visits to be conducted off the class hours.

SYLLABUS
GRAPHICS-II
AR 112-A

Periods per week	: 4
Sessional Marks	: 75
Portfolio Marks	: 25

INTENT

To make students experiment in different color mediums for the final application of rendering architectural drawings.

CONTENT

Use of pencil colors for rendering
Color wheel
Theory of Color aesthetics
Representing building material in color
Use of poster color for rendering
Use of ink for rendering
Rendering on different kinds of paper.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 10 sheets to be made in the studio under supervision.

Drawing of current semester in architectural design may be taken up for rendering exercise.

ARCHITECTURAL DESIGN THEORY-II

AR 114-A

Periods per week	: 2
Sessional Marks	: 50
Theory Exam. Marks:	50

INTENT

To generate an appreciation of background aspects of thinking required in architectural design.

CONTENT

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Perception And Experience.
Tangible And Intangible In Architecture.
Function, Structure And Form.
Space, Space Usage And Interrelationship Of Spaces
Circulation Within Spatial Units.
Horizontal Circulation
Vertical Circulation
Circulation And Spaces Between Buildings
Relationship Of Plan, Section And Elevation.
Architectural Scale
Programming In Architectural Design.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Each lecture to be followed by a written assignment.

SURVEYING-II

AR 116-A

Periods per week	: 2
Sessional Marks	: 50
Theory Exam. Marks:	50

INTENT

Acquaintance with instruments and techniques of simple Surveying and leveling as used by an architect in the profession.

CONTENT

Definitions and concepts; Instrument used.
Principles of surveying; Units of measurement
Chain surveying
compass surveying
Leveling:
Contouring: Topographic maps,
Plane tabling
Marking foundations.
Measuring buildings under construction.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Field work to be done at some off time.

ARCHITECTURAL DESIGN-III

AR 201-A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 100

INTENT

Appreciation of the complexities and contradictions in the architectural design process.

CONTENT

Exercises in design of small buildings like primary health clinic, nursery school, neighborhood shopping incorporating services and basic elements of structural systems.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Visits to proto type situations to be arranged off the studio hours.
At least 4 exercises should be done. The later 2 shall be the portfolio assignment.

BUILDING CONSTRUCTION MATERIAL-III

AR 203 -A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 50

INTENT

To understand the construction details used in 3-4 storied buildings.

CONTENT

RCC as a material
RCC staircase
Flooring and roofing details
Detailed section through a 4 storied building
Concept of frame structures
RCC frame structure with in fills
RCC footings and foundations.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 10 sheets to be made under supervision.

STRUCTURAL DESIGN-III

AR 205 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks : 50

INTENT

To understand the principles of design of RCC structures

CONTENT

Concept of RCC and introduction to IS : 456 Working stress method of design for RCC structure.
Theory of singly reinforced sections - neutral axis, under reinforced sections, over reinforced sections, and moment of resistance.
Shear, Bond and development length
Analysis and design of singly reinforced rectangular RCC beam
Analysis and design of doubly reinforced rectangular RCC beam
Theory and design of long and short square, rectangular and circular RCC columns.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Appropriate Standards must be explained and used.
Exercises must be done in each class.

ARCHITECTURAL DRAWING-III

AR 207 -A

Periods per week : 6
Sessional Marks : 25
Portfolio Marks : 50

INTENT

To understand the concept of shade and shadows and its application in architecture and develop the skill of perspective drawing.

CONTENT

Perspective drawing, its concepts and various elements and methods.
2 point Perspective drawings of simple forms with changes in different parameters.
2 point Perspective drawings of small structures with changes in different parameters
1 point perspective drawing of a simple situation.
Shade and shadow of object of different shape at different levels and planes.
Shade and shadows of architectural fenestrations
Shade and shadow of facade of simple building.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
At least 10 sheets to be made under supervision.
Exercises live as well as related to other studies subjects may be given to make the subject more useful.

BUILDING SERVICES-III (CLIMATOLOGY)

AR 209 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks : 50

INTENT

Appreciate the concepts of climatology that are used in Architecture.

CONTENT

Traditional use of material and shelter design.
Climate and its elements
Classifications of various climatic zones and their characteristics
Human comfort design guidelines.
Mocro climate
Thermal comfort factors
Solar position, shadow angles shading devices.
Architectural climatic control devices
Ventilation and air movement and their architectural implications.
Climate design rules affecting settlement planning and architecture.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

GRAPHICS-III

AR 211 -A

Periods per week : 4
Sessional Marks : 75
Portfolio Marks : 25

INTENT

To augment and enhance the skill and techniques in architecture alrendering using different mediums.

CONTENT

Techniques for rendering drawings in color pencil, water color and

24
Rendering of plan, section and elevation in different mediums
Rendering of two point perspective of a building in different mediums
Rendering of one point perspective of an interior space in ink.

NOTE
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 10 sheets to be made in the studio under supervision.
Drawing made by the student in architectural design may be taken up for rendering exercises.

HISTORY OF ARCHITECTURE-III

AR 213 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks : 50

INTENT

To appreciate the growth and development of architecture from the 12th to the 18th century in the Indian sub continent and Europe in terms of the idea of the time converted to architectural enterprise at that time.

THE INDIAN SUBCONTINENT

The coming of Islam to the region and its Architectural Implications
Architecture of the Sultans in the Delhi Region
Development of Architecture in the important provinces
Architecture of the Early Rulers of the Mughal Dynasty
The city of Fatehpur Sikri
Architecture of the Later rulers of the Mughal Dynasty
Shahjahan's Contribution to Mughal Architecture.

EUROPE

The birth of Renaissance in Florence
16th century Renaissance in Italy
Renaissance and the Cult of personality

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Baroque And Rococo as outlying Styles of Renaissance
Influences of Italian Renaissance on Architecture in England.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

WORKSHOP-III

AR 215 -A

Periods per week : 4
Sessional Marks : 100

INTENT

To get hands on experience in basic carpentry and enhance the skill of architectural model making.

CONTENT

Use of carpentry tools
Characteristics of wood
Exercises in making of carpentry joints
Exercises using commercial boards
Model making in mount board and thermocol
Making of one detailed model of a building
Making of detailed site model of a contouring site.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

ARCHITECTURAL DESIGN-IV

AR 202 -A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 100

INTENT
To explore the process and complexities in architectural design; physical patterns of a small settlement; built form and various factors that contribute to its development.

CONTENT
Study of built environment of a rural settlement, covering various aspects related to physical built form and infrastructure to appreciate the development of settlement pattern.
Study of an urban area, covering various aspects related to the built form and infrastructure to appreciate the development of settlement patterns in a small town.
Design of a small community building related to the studied urban area.

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
This course needs to be supported by frequent site visits but care must be taken that drawings are prepared under supervision in the studio.
Design problem can have a thrust direction such as climatic control or some other building service.
The first problem shall comprise the Internal Sessional component.

BUILDING CONSTRUCTION AND MATERIALS-IV
AR 204 -A

Periods per week : 6
Sessional Marks : 100
Portfolio Marks : 50

INTENT
To understand the design and drawing of interior building elements in different materials.

CONTENT
Steel As a material

External Cladding materials and construction
Paneling materials and construction
Toilets
Kitchens
Wardrobes.

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
This course will be supported with site visits and market surveys outside studio hours.

STRUCTURAL DESIGN-IV
AR 206 -A

Periods per weeks : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT
To enhance the understanding of RCC structures.

CONTENT
Theory and design of simply supported circular and ribbed slabs subjected to uniformly distributed loads
Fixed beams: Bending moment diagrams for a fixed beam subjected to uniformly distributed load and point load. Formula to be explained - no derivation
Theory and design of reinforced T-beams and isolated T-beams, singly reinforced Lbeams
Theory and design of isolated sloped column footing for a square, rectangular and circular column subjected for axial loads
Column footings subjected to eccentric loading
RCC footing for axially loaded RCC and brick walls.

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Appropriate Standards must be explained and used.
Exercises must be done in each class.

COMPUTERS IN ARCHITECTURE-IV AR 208 -A

Periods per week : 6
Sessional Marks : 100

INTENT
To appreciate the potential of the computer as a tool and an aid for architectural practice.

CONTENT
Hardware components
Operating Systems
Microsoft Office suite
Photoshop
Corel Draw
Internet

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

BUILDING SERVICES-IV (LIGHTING) AR 210 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT
To understand the implication and application of natural and artificial lighting in architecture.

CONTENT
Natural lighting
Artificial light
Requirements for different situations

Lamps and luminaires.
Outdoor lighting
Specialized lighting like art galleries etc.
Electrical systems wires.
Electricity distribution with a building.
Safety devices
Electrical wiring systems.
Generation transmission and distribution of electricity.
Graphics electrical symbols.
Load calculation of a small building.

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

ARCHITECTURAL DESIGN THEORY-IV

AR 212-A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT
To create awareness about the life, time, work and philosophy of contemporary recognized architectures in India and abroad.

CONTENT
Historical scene in Europe, America and India after the Industrial Revolution.
Life, philosophy and works of
Walter Gropius
Frank Lloyd Wright
Mies Van Der Rohe
Le-Corbusier
Alvar Alto
Louis Khan
Joseph Allen Stein

Achut P. Kanvinde
B.V. Doshi
Raj Rewal

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course should be supported with appropriate and manageable visits to the concerned works off the class hours.

COMMUNICATION SKILLS-IV

AR 214 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT

To inculcate the technique and skill of effective communication mediums for the running of an effective architectural practice.

CONTENT

Principles of communication:
Office English
Interview skill, technical presentation
Report writing
Writing for publication:
Spoken English (oral presentation)
Meetings
Annotative English
Creative writing

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

An exercise should be done in each class.

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LANDSCAPE DESIGN-IV

AR 216 -A

Periods per week : 4
Sessional Marks : 75
Portfolio Marks : 75

INTENT

To appreciate that landscape design is an integral part of architectural design.

CONTENT

Principles of landscape design
Elements of landscape design and their various manifestations.
plant material: Shrubs, trees, plants, ground cover.
Water and its manifestations
Use of earth and stone as element of landscape.
Site planning.
Landscape Design Exercises for different architectural situations.
Landscape and climatology

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course should be supported with appropriate and manageable visits to the concerned works off the class hours.

Portfolio to comprise of at least 10 sheets prepared under supervision.

ARCHITECTURAL DESIGN-V

AR 301 -A

Periods per week : 12
Sessional Marks : 125
Portfolio Marks : 125

INTENT

To inculcate the appreciation of the design process and an understanding of the design complexities and contradictions to resolve architectural design problems for different situations.

CONTENT

Design of an institutional/educational building (6 weeks).

Time problem of 6 hours

Design of a Housing (7 weeks)

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course needs to be supported by frequent site visits but care must be taken that drawings are prepared under supervision in the studio.

Design problem can have a thrust direction such as socio economic studies or some building service.

Housing Design to be the portfolio assignment.

BUILDING CONSTRUCTION AND MATERIALS-V

AR 303 -A

Periods per week : 6

Sessional Marks : 100

Portfolio Marks : 50

INTENT

To familiarize the student with steel as a building material and understand its use in buildings.

CONTENT

Structural Steel members and sections.

Joining details of various steel members

Steel connections

Steel foundations.

Structural steel frame

Steel staircase

Steel Mezzanine floor

Steel support system for roofing

Steel trusses

Steel cladding

Collapsible and rolling shutters.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course will be supported with site visits and market surveys outside studio hours.

STRUCTURAL DESIGN-V

AR 305 -A

Periods per week : 2

Sessional Marks : 50

Theory Exam. Marks: 50

INTENT

To understand the principles and design of simple steel structures.

CONTENT

Design of steel beams

Design of built up girders, plate girders

Design of steel columns, long and short, built-up

Column bases slab, grillage, gusseted

Steel joints

Theory and design of steel frames.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

Appropriate IS codes should be explained.

COMPUTER IN ARCHITECTURE-V
AR 307 -A

Periods per week : 4
Sessional Marks : 100

INTENT
To appreciate the potential of the computer as a drafting aid for an architect.

CONTENT
2-D drawing and editing commands in AutoCad.

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Each student must produce individual work for evaluation.

BUILDING SERVICES -V
(ACOUSTICS AND FIRE FIGHTING)
AR 309 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT
To appreciate the role of acoustics and fire protection in buildings.

CONTENT
Terminology in acoustics
Behavior of sound
Acoustical defects and their solutions
Acoustical materials
Principles of acoustical design for different building types
Noise
Fire-fighting
Fire resistant rating,
Fire resisting materials,

MAHARASHTRA
Fire protection equipments,
NBC standards for fire fighting.

NOTE :
Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

HISTORY OF ARCHITECTURE-V
AR 311 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT
To understand the growth and development of architecture and appreciation of the role of the intangibles that brought this growth and development from the 18th century to the advent of European Modernism.

The Western Worlds:

Industrial Revolution and its architectural Implications
19th century Neo Classicism in Europe and America
Development of Architecture in Victorian England
Technology of Iron and Steel
Town Planning Trends in Europe
Rise of the Idea of Expositions
Birth of the American Skyscraper
Alternate Trends in late 10th and early 20th century in Europe.

India:

Culture of colonialism and British Response to Indian Context
Early British Architecture
Birth of Indo Saracenic Style
Classical Revival and Building of New Delhi.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

ESTIMATING AND COSTING-V

AR 313 -A

Periods per week : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To appreciate the technique and role of this subject in Architecture.

CONTENT

Types of estimates
 Thumb rules used in estimating
 Costing and valuation
 Bill of Quantities
 Methods of preparing BOQ
 BOQ for journey works
 Quantity estimation for finishes
 Principles of economics in Building planning.
 Price rise Mechanism in tenders.
 Abstract of cost of estimate of Project.
 Various forms of tenders in building civil works
 Analysis of rates for various building works.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

BUILDING BYE LAW AND OFFICE MANAGEMENT -V

AR 315 -A

Periods per week : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To acquaint the student with building legislation and basic office procedure and management techniques in architecture.

CONTENT

Building Bye Laws professional practice, office management, project management.

TOPIC

National building code.
 Building Bye Laws of Chandigarh and Delhi
 Submission drawings
 Architect's Act 1972, Council of Architecture, norms and standards regarding fees and scale of charges.
 Architectural office
 Office correspondence, Filing and record keeping
 Dealing with different personnel
 Legal responsibilities and ethics
 Architectural competitions.
 Notice inviting tenders, tender documents, agreement contract.
 Arbitration, arbitrator its advantages/disadvantages, billing, accounting.
 Project management
 Site organization and Networking techniques
 Time analysis, CPM PERT.
 Value engineering Manpower and labor law
 Basic accounts techniques and book keeping.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

ARCHITECTURAL DESIGN-VI

AR 302 -A

Periods per week : 12
 Sessional Marks : 125
 Portfolio Marks : 125

INTENT

To inculcate the appreciation of the design process and an understanding of the design complexities and contradictions to resolve architectural design problems for complex situations

CONTENT

Design of a recreational building (club, theater etc.) (6 weeks)
 Time problem of 6 hour.
 Design of a Commercial organization (sector shopping, small shopping mall, etc.) (7 weeks)

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course needs to be supported by frequent site visits but care must be taken that drawings are prepared under supervision in the studio.

Design problem can have a thrust direction such as climatic control or some other building service.

Second major project to form the portfolio assignment.

BUILDING CONSTRUCTION AND MATERIALS-VI

AR 304 -A

Periods per week : 6
 Sessional Marks : 100
 Portfolio Marks : 50

INTENT

To be aware of the content, methodology and technique of preparing working drawings before proceeding on practical training.

CONTENT

Complete working drawings with specification document of the previous semesters design project preferably an appropriate part of the housing comprising:

Foundation plan
 All floor plans
 All elevations
 Necessary sections
 Joinery details
 Kitchen detail
 Toilet detail
 Staircase detail

Wardrobe detail
 Services layout
 Site plan

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

STRUCTURAL DESIGN-VI

AR 306 -A

Periods per weeks : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To appreciate the numerous possibilities of structural systems and the techniques of dealing structural drawings.

CONTENT

Analysis of the structure of a previous design (preferably an appropriate part of the housing).
 Calculation of the structural component of the selected design.
 Preparing structural drawings for the selected design.
 Bulk active structures
 Form active structures
 Surface active structures
 Vector active structure.

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

COMPUTER IN ARCHITECTURE-VI

AR 308 -A

Periods per week : 2
 Sessional Marks : 100

INTENT

To appreciate the potential of the computer as an aid to the architect in both drafting and design.

CONTENT

Advanced 2D commands of Autocad - latest version
Basic 3D command of Autocad - latest version
Rendering packages like 3D max.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.
Each student must produce individual work for evaluation .

BUILDING SERVICES VI (AIR-CONDITIONING) AR 310-A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT

To appreciate how buildings can be made more comfortable by adding mechanical systems like artificial ventilation, air conditioning and conveyor systems.

CONTENT

Human comfort conditions
Natural and mechanical ventilation
Air Conditioning principles, systems and methods
Architectural interventions in air-conditioned buildings, study of materials (interiors) for air conditioned spaces
Types and lay out of centrally air-conditioning systems.
Lifts location, systems, sizes equipment, spatial requirement
Escalators location, equipment

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester

This course should be supported with site visits arranged off the class hours and expert lectures.

GRAPHICS-VI

AR 312 -A

Periods per week : 3
Sessional Marks : 75
Portfolio Marks : 25

INTENT

To augment and enhance the skill and techniques in architectural rendering using different mediums.

CONTENT

Rendering of all architectural drawings in
Oil Patels
Markers
Charcoal Pencil
Cut and Paste
Water Color
Poster Color

NOTE :

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

At least 12 sheets to be prepared for the portfolio in as many different mediums as possible.

HISTORY OF ARCHITECTURE-VI

AR 314 -A

Periods per week : 2
Sessional Marks : 50
Theory Exam. Marks: 50

INTENT

To understand the growth and development of architecture and appreciation of the role of the intangibles that brought this growth

and development from the advent of the Modern Movement in the early decades of the 20th century to contemporary trends.

CONTENT

The Western World :
 Early modernism
 Post War decades: The international style
 Alternatives to the International Styles
 Late Modernism
 Slick Tech. Architecture
 Post Modernism
 Neo Modernism.

India:

Post Independence Architecture
 The arrival of modernism
 Rediscovering our Roots
 Current trends in Indian Architecture
 Exploring Regionalism in Indian Architecture

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

SPECIFICATION-VI

AR 316 -A

Periods per week : 2
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

Understanding of the techniques and phraseology of writing specifications of basic and composite materials and various building works.

CONTENT

Writing specifications of

Excavations
 Earthwork
 Foundations
 Damp proof course
 Brick Masonry
 Concreting
 Flooring
 Timber doors and windows
 Metal doors and windows
 Painting and other finishes
 Sanitary fittings and fixtures
 Electrical wiring and fixtures
 Specifications as a part of the tender document.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

PRACTICAL TRAINING -VII

AR 401 -A

INTENT

To expose the student to practical conditions of architectural practice.

CONTENT

The training is to be of 24 weeks duration (Full Semester)
 The following work is to be done by each trainee during the Practical Training:
 In the architect's office :
 Drafting, tracing, presentation drawings, perspectives, models etc.
 Working drawings and details.
 Site Visits.
 Any other work desired by the architect
 In extra-office hours :
 The trainee is also required to prepare a study report on building/buildings designed preferably by his/her employer. The report is to be based on site visits and personal observations and will cover

aspects of designed, structure, use of material, construction methods, services etc.

NOTE

This entire semester will be used for practical Training, which is to be undertaken with an architect having a minimum professional experience of 10 year

Training are required to submit monthly progress reports of the work done by theme in the office. These reports will be monitored by a faculty member designated as the Practical Training Coordinator.

A Practical Training Examination will be conducted at the end of the training period, in which the work done by the trainee will be assessed through a viva voce.

A detailed Training Programme will be g/drawn up on the above guidelines by the Practical Training Coordinator and approved by the Head of Department each year before implementation. The intention is to continually update the programme in view of the changing demands of the profession.

ARCHITECTURAL DESIGN-VIII

AR 402-A

Periods per week : 12

Sessional Marks : 200

Portfolio Marks : 200

INTENT

To develop design skills for multisotried and other large scale public buildings.

CONTENT

Design of a commercial/cultural/recreational building (office/ institutional complex, shopping arcade etc.) (6 weeks)

Time problem of 6-12 hours.

Design of a services oriented building (large hotel, hospital etc.) (7 weeks).

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

This course needs to be supported by frequent site visits but care must be taken that drawings are prepared under supervision in the studio.

Design problem can have a thrust direction of resolving some building service.

The second major problem shall be the portfolio project.

BUILDING CONSTRUCTION-VIII

AR 404-A

Periods per week : 6

Sessional Marks : 125

Portfolio Marks : 75

INTENT

To generate awareness about special construction details used in interiors.

CONTENT

Furniture layout and details

False ceiling layout and details

Flooring layour and details

Partition details and design.

Paneling design and details

Staircase design and details.

Shop front design and details.

Electrical layout.

Interior accessories planters signage, display boards etc.

Specifications of interior materials.

Paints, types, characteristics, mode of application.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement

This course needs to be supported by frequent site visits but care must be taken that drawings are prepared under supervision in the studio.

URBAN DESIGN-VIII

AR 406-A

Periods per week : 3
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To familiarize the students with basic aspects of urban design as one of the specialization of Architecture.

CONTENT

Urban design vocabulary,
 Elements of urban design
 History of urban design.
 Urban spaces
 Circulation: intercity/Intra-city urban
 Visual surveys
 building typology and its impact on urban form.
 Physical and non-Physical determinants of city form patterns
 Urban design tools
 Principles and techniques of urban design, legislations related to urban design.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

INTERIOR DESIGN-VIII

AR 408-A

Periods per week : 3
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To appreciate the complexities and constraints in the design and execution of architectural interiors.

CONTENT

History of interior design
 Theory of interior design
 Constraints effecting interior design.
 Art in interior design
 Furniture and furnishings
 Color in interiors
 Lighting in interiors.
 Interior design accessories
 Building material for interior finishes
 Electrical wiring and fixtures, materials and methods.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

HOUSING-VIII

AR 410-A

Periods per week : 3
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To appreciate the issues related to housing and understanding the emerging housing scenario and the complexities of handling housing projects.

CONTENT

Definitions and vocabulary
 History of housing
 Housing scenario in the context of the National and the State.
 Housing surveys.
 National housing policies, five year plan

Housing sites - and planning
 Architectural design of various types of housing
 Housing an planning codes.
 Ownerships types, cooperatives
 Factors influencing land value.
 Housing finance
 Slums
 Housing construction technology
 Housing physical infrastructure
 Housing legislation.

NOTE

Detailed teaching programme to be made before the commencement of the semester and circulated to the students at the commencement of the semester.

REGIONAL PLANNING-VIII

AR 412-A

Periods per week : 3
 Sessional Marks : 50
 Theory Exam. Marks: 50

INTENT

To appreciate the issues involved in the planning of a region and its architectural implications.

CONTENT

Physical, social and economic parameters for regional planning
 Theories of Regional Planning
 Macro planning and micro planning
 Regional planning and National planning
 Development of new towns and cities
 Redevelopment and expansion of existing towns
 Implementation of regional plans
 Methods of making future projects
 Over-lay methods fort developing regional plans.