CURRICULUM AND SYLLABUS

(applicable to students admitted from 2019-2020 onwards)

For

Bachelor of Architecture (B.Arch.)
Programme

NATIONAL INSTITUTE OF TECHNOLOGY
TIRUCHIRAPPALLI – 620 015
TAMIL NADU, INDIA
2019
## CURRICULUM

### SEMESTER I

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SYLLABUS

SEMESTER – I

AR101 ENVIRONMENTAL SCIENCE

Natural resources and associated problems. Role of and function of an ecosystem. 
Energy flow in the ecosystem. Introduction, types, characteristic features, 
conservation of natural resources. Equitable use of resources for sustainable lifestyles. 
Concept, Structure, structure and function of various ecosystems.

**Biodiversity:** Genetic, species and ecosystem diversity. Bio geographical classification 
of India. Value of biodiversity: Biodiversity at global, national and local levels. Hot 
spots of biodiversity. Threats to biodiversity: Endangered and endemic species of 
India. Conservation of biodiversity.

**Environmental Pollution:** Definition, Causes, Effects and control measures of: Air 
pollution, Water pollution, Soil pollution, Marine pollution, Noise pollution, Thermal 
pollution, and nuclear pollution. Role of an individual in prevention of pollution. 
Disaster management: Floods, earthquake, cyclone and landslides.

Social Issues: Sustainable development. Urban problems related to energy. Water 
conservation, rain water harvesting, watershed management. Resettlement and 
rehabilitation of people. Environmental ethics. Climate changes and global warming. 

information Technology in Environment and human health.

REFERENCES

1. MillerT. G Jr., Environmental Sciences, Wadsworth Pub Co. (TB)

2. Cunningham, W.P. Cooper, T.H. Gorhani, E & Hepworth, MT.2001, 
AR103 HISTORY OF ARCHITECTURE – I


Greek Architecture, Important construction techniques, Visual refinement (Optical correction), The Greek Orders, Brief description of the urban spaces, temples & other public buildings, Greek houses etc. Eg: Agora, Acropolis, Parthenon, Erechtheion & Theatre at Epidaurus - all in Athens.

Roman Architecture: A brief account of materials, structural systems adopted and construction techniques - The Roman Orders - a short description of Roman urban spaces, temples, thermae, basilicas, theatres, Pantheon amphitheaters, circuses & houses.


REFERENCES


AR105 THEORY OF ARCHITECTURE


Elements of architecture- Basic elements: Point, line, plane & volume. Qualities of shape, color, texture, scale, proportion; qualities of surfaces, edges and openings; Form, space and their organizational pattern, relationships, hierarchy. Ordering principles.

Experiencing Architecture: Circulation- approach and entry, path configuration and access, sequence of spaces. Multi-sensory dimension of architectural design- Light, view, touch, hearing and smell.

Relationship of form and function in architecture. Evolution of styles in architecture. Elaboration on “function” in architecture- Pragmatic function, circulatory function, symbolic function, psychological function, cultural and contextual function etc. Importance of incorporation of empathy in design.

Introduction to Architectural design methodology and processes- Architectural programming- user requirements, needs, aspirations, socio cultural factors, economic factors, legal restraints, user activity spatial analysis; Site analysis; concept development; schematic design; working drawings; site execution. Liaison with other experts- Structural, services, construction, management etc.

REFERENCES
AR107 ARCHITECTURAL GRAPHICS - I


Learning to observe, measure and draw to scale the plans, elevations of simple objects such as Furniture and small Buildings.

REFERENCES

AR109 COMMUNICATIVE ENGLISH

Skimming, scanning, inferring, predicting and responding to content - Guessing the meaning of words from contexts - Note making and vocabulary extension.
Listening and understanding recorded, structured talks and classroom lectures - Comprehending the matter - understanding the links between different parts of speech - practice in note taking.

Features of an effective Speech-Practice in speaking fluently - Dialogue practice - simple social exchanges - short extempore talks.

Effective sentences-cohesive paragraphs - clear and concise writing - Introduction to technical writing - Definition, Description, Instruction - Summary Writing practice. Use of library - Role of Bibliography, Table of contents, Index etc. - use of Dictionary.

REFERENCES


AR111 BASIC & ARCHITECTURAL DESIGN - I

Exercises in Points & Lines. Organization of a large number of identical geometric shapes to obtain symmetrical and asymmetrical patterns. Family of shapes: developing various shapes from a given geometric shape - working out composition with such developed shapes.

Organizing a large number of identical geometric shapes to express a given theme. Combining different geometric shapes and making a unit of bigger/larger shape and using many such units and expressing a design/pattern. To give emphasis in the expression of design - introducing value & color.

To achieve focus and center of interest in design using different textural elements. Development of geometric pattern by division, subtraction, and addition or overlapping & to express them with the use of colors. Expressing a given theme in a geometric pattern.

Models/Sculptures to understand the evolution of three dimensional forms from two dimensional shapes. Additive model with similar forms and dissimilar forms made out of various mediums/materials. Subtractive model out of a given geometric form.
Models with linear members such as match sticks, reeds, etc. to understand geometric form and structure. Posters with a given theme. Collage with a given theme.

**REFERENCES**


**AR113 VISUAL ARTS – I**

Line, shapes, form, space, colour, value & texture - exercises given to meet the elements of art.

Balance, unity, pattern, emphasis, movement, rhythm & contrast are introduced and exercises to explain this conditions.

Free hand drawing exercises to be introduced to develop visual perception & thinking by drawing still life objects, furniture, equipment.

Outdoor exercises like sketching - buildings, streets, rows of buildings and human figures.

Exercises in different mediums for drawing/sketching - to provide sufficient training and practice in using various qualities of pencils, pen & ink. (Pencil, Charcoal, Lumograph Pencil). Understanding of anatomy for anthropometric studies.

**REFERENCES**


SEMESTER – II

AR102 COMPUTER APPLICATIONS IN ARCHITECTURE – I

Introduction to CAD, Intro to AutoCAD/ Precision Drawing & Drawing Aids/ Geometric Shapes

Setting up & controlling the AutoCAD drawing environment – Creating & Editing Commands. Organizing a drawing with layers

Advanced geometry editing – Creating & using Blocks – Inquiry Tools – AutoCAD Design Center. Internet and collaboration, Blocks, Drafting symbols, Attributes, Extracting data

Attributes – understanding object linking and embedding – Importing objects into AutoCAD using OLE working with OLE objects, Text annotation – Creating & Customizing Hatch patterns – Productive Dimensioning – Defining Text & Dimension Styles

Printing & plotting - creating a slide presentation – Drawing utilities – importing / exporting files.

REFERENCES


AR104 HISTORY OF ARCHITECTURE-II

Outline of ancient Indian architecture: the Indus valley civilization - city planning, one typical residence, granary, great bath; Evolution of early Aryan architectural forms - impact on architecture of later days; Outline of Buddhist architecture: the Hinayana and Mahayana phases; Evolution of the form of the Hindu temple – Gupta and early Chalukyan temples.

South Indian Hindu architecture: Pallava Architecture - Rock-cut Rathas & Mandapas, Shore temple, Mahabalipuram, Kailasanathar temple & Vaikunthaperumal temple,
Kanchipuram; Chola Architecture: Eg.: Brihadeswara temple, Thanjavur; Pandya & Madura Styles - Evolution of the Gopuram, City planning: Eg. Meenakshi temple, Madurai & Temple at Srirangam; Hoysala Style: Eg. Temple at Belur; a comparative study of all the South Indian styles.

Hindu architecture of other Regions: Orissa Style - Eg.: Lingaraja temple, Bhubaneshwar; Indo-Aryan Style Eg.: Khandharia Mahadev temple, Khajuraho; Gujarat Style: (Hindu & Jain) Eg.: Dhiwara temple, Mt. Abu; a comparative study of the Dravidian and Indo-Aryan styles; a comparative study of the Buddhist and Hindu styles.


Provincial styles: Jaunpur Eg. Jami Masjid of Jaunpur; Malwa - royal complex at Mandu; Gujarat - earlier period – Eg. Mosque at Broach, Jami Masjid at Ahmedabad, middle period - Eg. Mosque at Champanir, Teen Darwaza, evolution of Tombs, later period - Eg. Siddisayad mosque, Shah Alam Rauza, Adalaj - step well, Rani Rupavatis Mosque; Outline idea of Bijapur style; Mughal architecture: Babur Eg. Humayuns Tomb – Delhi, Akbar - Eg. Agra fort, Fatehpursikri - site planning, Jodhabais palace, Birbal palace, Diwan-e- khas, Salim Chisti’s Tomb & Buland Darwaza; Jahangir - Eg. Akbar’s mausoleum at Sikandra, Shah - Jahan - Eg. Red fort, Jami Masjid at Delhi, Taj - Mahal - Agra.

REFERENCES
AR106 MECHANICS OF SOLIDS

Elasticity - stress & strain - Types of stresses - elastic limit - Hookes law - modulus of elasticity (Young's modulus) - deformation of a body due to force acting on it - stresses in composite bars - relation between elastic constants. Introduction to strain energy.

Centroid - center of gravity of simple figures - C.G. by geometrical considerations - solid bodies - C.G. with cut out holes - moment of inertia - theorems of M.I. of parallel & perpendicular axes - M.I. of a circular section, hollow section - M.I. of composite sections - modulus of section.

Beams & support conditions - types of supports, shear force and bending moment diagrams for simply supported beams, cantilevers, and overhanging beams with concentrated, uniformly distributed and uniformly varying loads.

Theory of simple bending - stress distribution at a cross section due to bending moment and shear force moment of resistance - bending stresses in sections.

Statically determinate plane trusses, perfect and Imperfect frames - Deficient & Redundant frames - analytical methods for finding out the forces - method of joints.

REFERENCES

AR108 ARCHITECTURAL GRAPHICS –II

Exercises to draw axonometric views. Introduction to Sciography, Shadow of points, lines and shapes. Shades and shadows of simple 2D – Planes. Shades and shadows of cube, pyramid, prism, cone, cylindrical forms and combination of these forms. Shades and Shadows of Complex built forms, Building Plans and Elevations. Use of Sciography in Site Plans with real examples.
Perspective projection concepts, Types of Perspective views, Picture plane, vanishing points, station point, horizon, cone of vision, line of vision, etc. Perspective Projection of simple & complex geometrical forms.

Perspective projection of interior views of buildings using two point and one point perspective views. Shades and shadows on the perspective view of interior of buildings.

Perspective projection of exterior views of buildings using two point and one point perspective views. Perspective Construction using the short cut technique/approximate method. Shades and shadows on the perspective view of exterior of buildings.

Rendering of building exterior & interior perspective views using various techniques and medium.

REFERENCES

AR110 BUILDING CONSTRUCTION & MATERIALS - I

The properties and uses of materials for simple construction such as mud, bamboo, timber, brick, stone, cement, lime, mortars, thatch tiles, asbestos, galvanised, iron and reinforced concrete.

Principles of construction of simple foundation for load bearing wall in stone and brick. Plinth fillings, steps.

Standard terms in brick and stone masonry. English, Flemish and Rat trap bond, types of stone walls, Composite wall and piers.

Principles of construction of various types of arches, lintels and brick jollies.
Paneled door in timber, flush doors, Joints in frame, styles, rails, panels, fixture and fastenings.

REFERENCES

AR112 ARCHITECTURAL DESIGN – II
Exercises to understand the relationship between form and function. Study and analysis of a few common household articles and utility sculptures.

Exercises on the study and application of anthropometrics information. Detail study of a single room with activity space analysis, circulation pattern and furniture layout.

Detail study of a small building with activity space analysis, circulation pattern and furniture layout

Reorganization of an existing space / room for a given activity (which is different from the existing use).

Design of spaces meant for single or multiple function. Developing designs for designs for simple buildings.

REFERENCES

AR114 VISUAL ARTS - II
Hue, Intensity & Value - other qualities of colours - Primary, Secondary & Complementary colours. Shades & Tints - Warm & Cool Colours.

The various functions of colour in creating Designs. Use of various colour harmonies in Design / Art.
Water colours - Transparent, Opaque (Tempera/Poster Colours), Pastels, Colour Pencils and Oils and their uses in expression of a composition / design.

All exercises to be conducted so as to develop observation and skill of expressing graphically - for understanding objects three dimensionally and to have effective visual thinking.

Rendering - Rendering techniques for architectural drawings - building perspectives, interior & exteriors in various mediums like pencil, ink, pastels, water colours - opaque and transparent. Various graphical media presentations like photography

REFERENCES
SEMESTER- III
AR201 COMPUTER APPLICATIONS IN ARCHITECTURE –II

Introduction to Architectural Views & Drafting Views, 3D modeling with AutoCAD (Surfaces, Solids) 3D Modeling with SketchUp, Understanding 3D coordinate system - Using View ports – 3D drawing & Editing commands – Interactive Viewing in 3D.

Introduction to rendering in 3D – Rendering process – Enhancing digital images from CAD application using Adobe Photoshop, Paint Shop Pro & other graphic programs

In-depth work with SketchUp: Massing models, editing tools, texturing/ Import/export, creating animations, working with Google Earth and 3D Warehouse/ Design to fabrication with SketchUp (3D printing, CNC,…).

3D BIM modeling with Parametric Software- ArchiCAD/Revit: Walls, floors, doors, windows, stairs etc./ Revit families: Using components, creating new types and new families

How to work with BIM content: Plans, interactive models (3D for the web), schedules, materials Using Revit and SketchUp models for analysis: Spatial analysis, Solar analysis, energy performance etc.

REFERENCES


AR203 HISTORY OF ARCHITECTURE – III


REFERENCES

AR205 STRUCTURAL ANALYSIS

Slope, curvature of the bending beam - relation between slope, deflection & radius of curvatures, simple problems to find out slope and deflection for different loads on beams - Double integration method, macaulay's method, moment area method, Conjugate beam method.

Propped cantilever beams - Reaction of prop. - Propped cantilever beams with different types of loads - sinking of the prop. Fixed beams - bending moment diagram for fixed beams - continuous beams - moment distribution method - sinking of the supports.
Moving loads and influence lines for statically determinate structures - Types of loads - combination of loads - Influence lines – Introduction.


Theory of columns - Types of end conditions of columns - Equivalent length of a column - Axial loads, combined bending & axial loads, Indian Standard Code recommendations - Euler’s formula for long columns - Rankine’s formula - Practical applications.

REFERENCES

AR207 BUILDING CONSTRUCTION AND MATERIALS - II

Study the properties and characteristics of different materials used for roof of coverings R.C.C. and composite roof slab flooring materials timber and glass.

Joinery and detailing of various types of wooden doors fully glazed, partially glazed, sliding and folding door, etc. fully glazed window in timber fixing of glass, fixtures and fastenings.

Developmental reference to traditional trusses, different forms, lean-to, double lean-to collar, couple roof, fixing of Mangalore tiles, A.C. & G.I. sheets and gutters.

Flat roof construction in R.C.C. and composite materials, steels trusses and details of roof coverings and gutters.

Principles of flooring and terracing – floors – brick, stone, concrete and timber floors with timber floors with floor finishes.

REFERENCES
AR209 SURVEYING & SITE PLANNING


Lie of the land, contours, watershed, surface drainage, ayacuts and irrigation lands.

Water, vegetation, soils, climate, land forms. Sewage disposal, irrigation systems and ecology. Preparation of maps of matrix analysis, composite analysis, locality plans, topographical analysis.

Man-made structures, sensuous qualities, cultural data, images and data correlation. Vegetation, plant associations, types and distribution. Preparation of ecological profile of an area.

Note: Practical sessions shall be conducted on surveying.

REFERENCES


AR211 ARCHITECTURAL DESIGN – III

Developing designs for simple buildings like a small residence and medium sized buildings like community hall, health centre etc., in rural setting using locally available materials and appropriate construction techniques.

The designs should reflect the application of knowledge gained from courses on materials, structures & building construction and Theory of Architecture. Students should be able to communicate their ideas and design effectively with appropriate medium.

REFERENCES

AR213 MODEL MAKING

Materials for Model Making: Paper, Handmade paper / Handmade board, Cardboard, Mount boards, Balsa wood, soft wood, Plywood, cork sheets, plaster of paris, Perspex sheets, expanded polystyrene (Thermacole), Plastic sheets, etc.

Exercises in straight and curved cutting and preparation of simple geometrical objects. Exercises in preparing block models of groups of buildings including roads and landscaped open spaces.

Exercises in preparing detailed models of buildings from given set of drawings.

The subject teacher shall co-ordinate with the Architectural Design Studio in-charge while working out / Setting out the various exercises in model making.


Air flow/wind movement around and through buildings. Natural ventilation. Mahoney Tables and their application. Climatic design recommendations for various climatic zones in India.


REFERENCES

AR204 CONCRETE TECHNOLOGY


REFERENCES

AR206 CONTEMPORARY ARCHITECTURE


Rapid Urban growth in Europe and USA. The emergence of International style of architecture. Principles and works of Frank Lloyd Wright.
Principles and works of Mies Van der Rohe, Louis Khan, Paul Rudolf and KenzoTange. The factors that contributed to their style of Architecture and their impact. Brutalism, Archigram, Metabolism in architecture, Deconstruction in architecture and the emergence of rationalistic architecture.

The styles and trends of architecture brought by Britishers to India and their evolution. The impact of Hindu and Indo-Sarsanic style on the British architecture in India. The characteristics of British colonial architecture with examples from the works of Edwin Lutyen. The impact of International style of architecture in India, Early public buildings such as vigyan Bhawan Supreme Court building etc. The works of Le corbusier and Louis Kahn in India with examples. Their impact on architecture of fifties and sixties. The trend in Indian architecture after 1970 Principles and works of the following architects: Balakrishna Doshi, Charles Correa, Anant Raje and Laurie Baker with suitable examples.


REFERENCES


**AR208 WATER SUPPLY AND DRAINAGE**

Surface and underground sources of water supply, rate of demand, water requirement for various buildings, suitability of water for domestic and trade purposes, methods of distribution systems of supply of water, methods of layout of distribution pipes.

House service connections, systems of supply, storage tanks, water services to multistory buildings, design of pipelines, Materials etc., systems of hot water supply.

Sanitary appliances, Basic requirements of Drainage and Sanitation, Selection and Installation of Sanitary Appliances, Sanitary pipe work within the premises, Drainage system for multi storied buildings.

Individual disposal systems- cess pool, Septic tank etc., Public Drainage system – Types of system, Materials, details of Construction etc., Refuse disposal:- Refuse bins, Refuse chutes etc.

Storm water drainage: Roof drainage – Pitched roofs, flat roofs, Surface Water drainage, storm water drains. Rain water harvesting:- Rainwater harvesting techniques, methods of recharging ground water, construction details.
REFERENCES


AR210 BUILDING CONSTRUCTION AND MATERIALS –III

The use and properties of glass, timber products, laminates, paints, terracotta, terrazzo, ceramic and glazed tiles. Use of alternative details and specifications pertaining to the application/fixing of the same under various circumstances.


Definition of partition and the role of partitions in buildings. Different types of partitions, and their properties. Joinery details and constructional techniques involved in timber partitions, single and double skinned partitions, partially glazed partitions.

Wall finishes - external facing and veneers - stone facing, wall facing, wall tiling, and cement concrete facing - methods of construction and details pertaining to the same. Introduction to fixing devices in walls, ceilings and floors of solid construction.

REFERENCES


AR212 ARCHITECTURAL DESIGN – IV

Projects – Developing designs and details for buildings, which are multi-room, single use, small span, and multiple bay such as market, clinic, elementary school, art gallery and bank.

In addition to the design of a single or a small group of buildings, the students should be able to take into consideration the context in which the buildings are located and design the outdoor spaces appropriately.

Understanding design forces, significance of various factors like privacy, convenience, comfort, circulation pattern, furniture arrangement, texture, colour etc. in the built environment.

The design should reflect the application of knowledge gained from courses on materials, structures, construction and theory of architecture.

REFERENCES


AR214 STRENGTH OF MATERIALS LAB.

Laboratory exercises to be carried out by the students include:

Tension test on steel using UTM - Compression tests on concrete using slump cone.
Tests on aggregates for bulking and crushing strength, fineness tests - Tests on bricks and blocks crushing strength and water absorption quality - Deflection tests on beams - Water purity tests
SEMESTER V

AR301 ARCHITECTURAL ACOUSTICS


Acoustical design of Auditoriums - adequate loudness, uniform distribution of sound energy, optimum reverberation time & elimination of acoustical defects. Methods of raking the auditorium floor and the balcony. Acoustical Design of seminar rooms, Conference halls, Cinema Theatres etc.


Sources of outdoor noise - Traffic noise - air traffic, rail traffic, road traffic and sea shore & inland water traffic. Planning & Design against Outdoor Noise - for air traffic, road traffic and rail traffic.

REFERENCES


AR303 DESIGN OF R.C.C. STRUCTURES

Permissible stresses - limit states - characteristic strength and load - partial safety factor - deflection - modification factors.
Design principles of limit state methods - design of singly reinforced, doubly reinforced, T & L beams by LSD method with IS code specifications - design for shear.

One way and two way slabs for different edge conditions - continuous slabs - IS code specifications.

Columns - reduction factors - compression members and slender columns - Design of columns - columns with helical reinforcement IS code specifications. Staircases - types - design as per IS code specifications.

Footings - design of isolated footings - square, rectangular and circular footings - strip footings - combined footings.

REFERENCES

AR305 LIGHTING AND ELECTRICAL SERVICES


The sky as a source of light, Daylight factor, Lighting - Windows, Room proportions and other building elements, Daylight penetration, Calculation of daylight factor.


Principles of electrical installation in buildings. Distribution, Circuits and elements of building wiring systems. Safety methods and measures to be adopted, study of relevant I.S. Codes.
Electrical load estimation, branch circuit design and electrical wiring design for different types of buildings.

REFERENCES


AR307 BUILDING CONSTRUCTION & MATERIALS - IV

Understanding the concepts of foundations, its principles & construction of different types of foundations, materials of construction & details of R.C.C. Footings, Raft foundations, Pile foundations.

Purpose and functions of joints in Building construction, types of joints that occur in Buildings. Expansion joints in Brick walls and R.C.C. framed structures and its construction details and materials involved in the construction. Study of relevant IS codes.

Principles of temporary works such as shuttering, centering and scaffolding, Form work, Centering and scaffolding materials used for these temporary structures - timber & steel, literature survey on temporary structures.

Study of casement windows, steel casement windows side hung, its components, study of relevant IS codes specifications, steel ventilators - Top hung - Staggered.

Methods of fixing the steel window, Ventilator frames to walls, fixing of glass, fixtures & fastenings study of different types of putty & glass.

REFERENCES

**AR309 INTERIOR DESIGN**

Designing the size and form of interior spaces using user-activity analysis and anthropometrics. The effect of enclosure, fenestration, colour and lighting on perception of space. Application of scale, proportion to enhance the quality of space. Psychological effect of space.

Design for comfort - climatic comfort, natural and artificial lighting, air conditioning and acoustics, Services - air conditioning ducts, electrical wiring, water supply and removal of waste water. Elements of furnishing and surface treatment their need and scope.


Role of furniture, evolution of furniture style, economic factors of furniture design and materials - its characteristics and application. Functional classification of space. Barrier free design.

Decorative materials for ceiling, walls, floors. Drapery and upholstery for openings and furniture respectively and matching them with overall colour scheme and composition. Sources and collection of information. Elements of Indoor plants and Interior Landscape and use of water.

**REFERENCES**


**AR311 ARCHITECTURAL DESIGN – V**

Projects emphasizing detailed studies and drawings of one or more of the following aspects - space analysis, climatic consideration, services and environmental issues, and site planning.

Analytical work on various issues specific to the project introduced will be carried out
for the development of link / connection between studio work and lecture courses. A high standard of graphical representation and verbal skills are expected from the students to present their design ideas.

Projects to include buildings with single or multi-use, multi-span & multiple activities such as Library, Institutional buildings (eg. High School), Shopping Center, Nursing Home & Apartments etc.

Display of competence in the application of knowledge gained from the following will be an essential requirement for all the design projects:


REFERENCES
SEMESTER – VI

AR302 AIR CONDITIONING AND MECHANICAL SERVICES


Unit type equipment: (i) room A.C. & (ii) split A.C.: Package Units: (i) fully self-contained (factory made) & (ii) split type units: Central DX Plants and Central Chilled Water Plants. Schematic details of various systems. Comparison of various systems. Space data of A.C. equipment rooms.


Causes of fire, Mechanism of fire spread in buildings, classification of fire. Grades of fire hazard – Personal hazard, internal hazard & exposure hazard classification of building based on occupancy. High temperature effects and combustibility of building materials and structure. Fire resistance of buildings.

Passive and Active fire precautions: Site planning, Heat sensitive detectors, Fire alarm system, and means of escape. Firefighting installations: hose reel, internal hydrant system, CO₂ system, wet risers, etc.

REFERENCES


AR304 ESTIMATION & SPECIFICATION

Introduction, Main items of work, Importance of specification, Types of specifications - General and detailed specifications - Method of preparation of specifications.
Introduction, Types of Estimate, Detailed Estimate - Units of Measurements, Details of measurement and calculation of quantities of various items of work, Methods of Building Estimate - separate or individual wall method, Centre line method.

Analysis of rates for main items of work in buildings, considering current market rates for building materials, labour wages, plants and tools, transportation, handling, storage and contractor’s profit.

Preparation of Detailed estimate (Details of Measurements and Calculation of quantities & abstract of -Estimated cost) for different types of buildings including R.C.C. framed buildings.

REFERENCES

AR306 LANDSCAPE ARCHITECTURE

Introduction to Landscape Architecture. Introduction to major and minor landscape elements, natural and man-made elements. Land – as heritage, as resource, Land use implications. Water – Planning approach, as Resource, as Feature, Water related site design, Plants – in nature, Introduced plantations, Planned & planted landscape.

Structures – Composition, Structures in landscape, Defined open space. Habitations – Dwelling-nature relationships, Human needs & habitat.

Community – The group imperative, Form order, New Directions City – Cityscape, Possibilities, New urbanity.

Landscape design – Visual arts as ordering mechanism, Circulation as ordering mechanism, spatial development, Architecture & site development.

Study of modern gardens & landscapes. Modification of site topography, Grading & drainage.

Mughal gardens: History, influences, typical features and elements of Mughal gardens.

REFERENCES


AR308 BUILDING CONSTRUCTION & MATERIALS - V

Properties of aluminium and its uses in buildings, aluminium extrusions, aluminium doors and windows fixing details using extruded sections. Fixing details of neoprene rubber beading, glass panels, fixtures and fastenings.

Study of various types of Aluminum partitions, its extrusions & details of components for partitions, Different types of aluminum panels for partitions, cladding component for various structures, aluminum grill modules, roofing of industrial buildings.

Suspended ceilings and false ceiling using aluminum sections, construction details for providing thermal insulation and insulation of cold storages and study of insulation materials like glass wool, insulating boards, gypsum boards, plaster of paris, and various kinds of perforated boards.

Concrete shell roofs of various types and folded plates construction techniques, - its strength and durability. Study on different forms & shapes of shell structures - its construction details and materials.

Fixing details of sound absorbing materials, its properties and uses, Study of relevant IS codes, Study of damp - proofing materials like Bitumen felts, etc. Relevant construction chemicals for W.P.C. & O.P.C. Study of construction chemical products.
REFERENCES


AR310 ARCHITECTURAL DESIGN – VI
Projects – Projects will emphasis on physical context and the exploration of an architectural vocabulary for given situations.

Technology to be integrated in the design process. To consider aspects such as external detailing, interior design, use of materials and arrive at a coherent language for the building. Special study offers an opportunity to students to research, organise and produce an extended piece of written and graphical work.

Projects to include buildings or building complexes with single or multi-use public activities, Multistoreyed type in sub-urban/urban settlement such as Courts, College, commercial complex, Hospitals etc.

Display of competence in the application of knowledge gained from the following will be an essential requirement for all the design projects:


REFERENCES


AR312 ARCHITECTURAL WORKING DRAWINGS
Preparation of working drawings (plans, elevations, sections and other detailed drawings) to suitable scales.

Atleast two working drawing sets preferably one for a small residential building and one for multistoried building, based on the design done by students shall be prepared.
The list of detailed drawings to be prepared shall include Centre line plan, Foundation plan, Structural grid plan (in case of framed structures), Basement floor plan, Ground floor plan, Typical floor plan, All elevations, All sections, Terrace floor plan, Toilet Layout and Sanitation drawings showing fixtures etc., Electrical layout plan, Typical wall profiles sections, Doors and windows details, Detailed drawings of special rooms like kitchens, toilets, staircase etc.

REFERENCES:


SEMESTER – VII

AR401 BUILDING STRUCTURAL SYSTEMS

Bulk active structures - beams, columns and slabs; Vector active structures - plane trusses and space trusses; Form active structures - cable structures (tensile structures) & arches (compression structures); Surface active structures - shells, domes and vaults and Vertical structure systems - systems for vertical load transmission (Bay System, Free Span System, Cantilever System &Composite System) and systems for lateral load transmission (Shear Wall, Coupled Shear Wall, Interconnected Shear Wall, Core Wall, Framed Tube &Tube in Tube)

REFERENCES:

AR403 ENERGY EFFICIENT BUILDINGS


Natural ventilation in buildings as a low energy cooling strategy. Classification and functions of ventilation. Factors to be considered for integrating Natural Ventilation in Building Design. Wind speed-technique of terrain and height correction. Calculation of Air Flow through Openings (due to Wind Pressure) and calculation of probable wind speed indoors as recommended by Bureau of Indian Standards. Wind speeds and thermal comfort

Factors that affect energy use in buildings - functional factors, environmental factors, envelope factors, air-conditioning systems factors, energy source factors and electrical systems factors. Introduction to the Energy Conservation Building Code (ECBC)


Modification of microclimate through landscape elements for energy conservation. Energy conservation through site selection, siting & orientation. Energy conservation through integration of building and site, site planning & site design.

REFERENCES

AR405 DISASTER RESISTANT BUILDING DESIGN & MANAGEMENT

Hazard, Disaster, Risk, Vulnerability. Disaster – an over view; Disaster – the Indian Perspective; Typology of disasters and increased understanding.

Natural hazards and Disasters -Earthquake, cyclone, floods, droughts, landslides, lightning. -Causes, hazardous effects, mitigation measures. Man induced hazards & disasters:- soil erosion-causes, conservation measures; nuclear explosion-environmental problems, corrective measures; fire mitigation measures; terrorism.

Preparedness and mitigation - Preparing hazard zone maps, Predictability/ forecasting &warning, Community preparedness, design against the disasters, retrofitting. Population reduction in vulnerable areas, Awareness, Capacity building.

Disaster Management; Community health and casualty management; Disaster Management – role of various agencies; Relief measures; Post disaster- Recovery, Reconstruction and Rehabilitation. Remote- sensing and GIS applications in real time disaster monitoring.
References

1. Goel.S.L, 'Encyclopaedia of Disaster Management'

2. Government of India, (2004), 'Disaster Management in India’ – A Status Report, Ministry of Home Affairs (Disaster Management Division), New Delhi.


AR407 URBAN DESIGN

Need for urban design. The scope and objectives of urban design. The relationship between Architecture, Urban Design and City Planning. Brief history of urban design.

Urban land use population density and transportation and their relationship between urban build and urban environment. The causes and consequences of chaotic and disorderly urban environment of today with special emphasise to CBD.

Visualisation of image of the city and its elements. Perception of urban environment: Kevin Lynch’s Principles.

Understanding the organisation and articulation of urban spaces. Urban spaces and urban activities. Elements of townscape.

Techniques of urban design. Urban renewal - the scope, need and procedure. Urban conservation.
REFERENCES

AR409 BUILDING CONSTRUCTION & MATERIALS - VI

Modular Co-ordination Module - basic module - multimodules - horizontal & vertical multi modules and submodules. Modular space grid, Modular dimensioning and modular drawing.


Space structures. Skeleton frame works (space frames) - single layer grids (two way, three way & four way) and double layer grids (lattice grids & true space grids). Offset grids and differential grids.


REFERENCES

AR411 ARCHITECTURAL DESIGN - VII

Projects introduced should provide opportunities to understand and learn how to solve the built environmental needs for multi-faceted public activities in an urban context. Examples of projects include air port, bus terminal, railway station, cinema complex, exhibition hall, indoor sports complex and campus planning. Design
problems involving high density and/or large scale housing.

Complete set of Working Drawings are to be prepared for one of the Architectural Design Projects.

Display of competence in the application of knowledge gained from the following will be an essential requirement for all the design projects:


REFERENCES

SEMESTER – VIII

AR402 PROFESSIONAL TRAINING

The students are required to undergo Practical Training in a qualified, registered and competent Architect’s Office. Students will be trained in the various practical aspects of Architecture, Construction & Professional practice.

Maintenance of personal diary, recording important observations, architectural detail, technical data, site visit particulars, presentation of drawings and reports done during the training period are the essential submission requirements. Marks will be awarded on the basis of student’s monthly progress reports, work diary, drawings & reports done during the training period and the Architect’s certificate.
SEMESTER – IX

AR501 BUILDING BYE-LAWS AND CODES OF PRACTICE

Meaning and significance of key terms with appropriate examples: Act, Rules, Regulations and Bye-laws. Overview of Bureau on Indian Standards (BIS) and its role in publishing standards relevant to architecture and construction in terms of specifications, codes of practice and handbooks.

National Building Code (NBC) of India 2005 and its significance. Salient features of the various parts of NBC - integrated approach, definitions, administration, development control rules and general building requirements.

Features of NBC covering fire & life safety, building materials, structural design, constructional practices & safety, building services, plumbing services and landscaping, signs & outdoor display structures.

Building Bye - Laws & Regulations. Examples of building bye-laws covering aspects such as setbacks, plot coverage, floor area ratio (FAR), height restrictions, parking norms and minimum standards for habitable spaces. Exposure to the contents of the various forms an architect is required to submit to the statutory authorities.


References
1. National Building Code of India 2005
3. Summaries of Indian Standards for building materials
4. Handbook on Functional Requirements of Buildings (Other than Industrial Buildings)
5. Handbook on Functional requirements of Industrial Buildings (Lighting & Ventilation)
Introduction to the discipline environmental psychology, its importance in the field of architecture, understanding the principles of psychology, the roots and Edges of environmental psychology- Theories and approaches in Environmental Psychology.

Process of creativity, Visual and creative thinking. Types of thinking. Memory and built environment- theories on different types of memories, articulation of masses and spaces, sense and sensation modalities- language of architecture and its role in creativity.


Concept of personal spaces, personal space and human behavior. Personal space and environmental design. Concept of territoriality, territoriality and human behavior & territoriality and environmental design.


REFERENCES:

Urban Areas – characteristics, categories of a town, Classification of settlement based on form, use, scale etc., densities of a town.

Planning process. Various stages of the planning process with relevant examples. Surveys in planning, Physical characteristics, utilities, population, employment and industry, Housing, commercial and transportation, land use.
Plans: Regional plan, Master plan, Zonal development plan, Structure plan and Transportation plan. Regional plan types and delineation of regions. Land use plan, local development plans and their components.

Contemporary Concepts in Town Planning: Role and contribution of the following towards contemporary town planning thought - Patrick Geddes, Patric Abercrombie, Daniel Burnham, Soria Y Mata, Frederick Olmstead, Henry Wright, Ebenezer Howard, Clarence Perry, Clearance stein, CA Doxiadis, Le Corbusier, Frank Lloyd Wright.


REFERENCES
5. N.V.Modak, V.N.Ambedkar, Town and country planning and Housing, orient longman, 1971

AR507 ARCHITECTURAL DESIGN –VIII

Design problems at urban or metropolitan scales and environment, multi-use complexes including functions such as residential, public services, industrial, commercial, transportation, cultural and civic.

The focus should essentially be on an urban design exercise with emphasis on design to suit the surrounding environment in relation to both traffic and planning control.

Application in design: The design output should clearly indicate the application of theory of architecture, materials & structural systems, environmental sciences and behavioural sciences.
REFERENCES

AR509 DISSERTATION – I (Seminar)

Dissertation is seen as a culmination of the development of the student’s knowledge, attitudes and skills over the course of studies of Architecture.

Student is expected to develop a subject of his or her own choice and to demonstrate the ability to use effectively the tools of independent investigations and judgement to evolve design criteria. The application of these may be original design or research oriented work.

In Dissertation - I the initial project proposal and the literature review of the project chosen for Dissertation shall be carried out. Students can choose the topic of special study relevant for the chosen project. Independent detailed study and documentation of chosen topic shall be carried out. Submission of report with oral and visual presentation.
SEMESTER – X

AR502 BUILDING ECONOMICS & CONSTRUCTION MANAGEMENT

Cost price and value. Factors controlling the cost of urban real properties, Valuation, Depreciation, Rent and its implications. Economic life of buildings.

Project management functions, planning process. Project work breakdown, Modelling and analyzing networks and work scheduling process. Bar charts and Milestone charts.


Updating the network based on the project progress. Computer applications in construction management – using MS Projects software for project planning, scheduling and control.

REFERENCES:


AR504 PROFESSIONAL PRACTICE


Comprehensive Architectural services. Conditions of Agreement. Scope of work and schedule of services - as per the Council of Architecture. Standard Terms for Urban Design work – Scope of work, Schedule of services – Preliminary evaluation stage, Concept design stage, detailed design stage and Implementation stage.


REFERENCES:
1. Documents published by the Council of Architecture in their website http://www.coa.gov.in

AR506 DISSERTATION -II

Dissertation is seen as a culmination of the development of the student’s knowledge, attitudes and skills over the course of studies of Architecture.
Student is expected to develop a subject of his or her own choice and to demonstrate the ability to use effectively the tools of independent investigations and judgment to evolve design criteria. The application of these may be original design or research oriented work.

In Dissertation – II, the candidate shall carry out the detailed Architectural design of the project incorporating structural concept, services and application of chosen special study. The final submission shall include detailed architectural presentation drawings including rendered 3D views, physical models and report with copies of drawings.
ELECTIVES

AR351 ADVANCED COMPUTER APPLICATIONS

Introduction to 3Dstudio Max / Max user interface / Modeling / Applying Materials to geometry / Creating lights / Photo realistic Rendering / Simple Animations / Exporting files from Auto CAD to 3D studio Max

Introduction to Rhino / Precision Modelling / Draw with absolute, relative rectangular, and polar co-ordinates / Distance and angle constraints / Viewports and construction planes / Model in 3-D space / Elevator mode / Rectangle command and its options

Point selection with object snaps / Analysis commands: length, distance, angle, radius / Draw circles and arcs / Draw ellipses and polygon curves / Rhino render and render colour / Model free-form curves / Create helix and spiral curves

Intermediate Edit and Surfacing Commands / Introduction to NURBS modelling concepts and terminology / Free-form curves / Control point editing of curves and surfaces / Rebuild curves and surfaces / Use the nudge modelling aid / Create deformable shapes / Blend between two surfaces / Symmetry Tool / Lighting and rendering / Make 2D drawings from 3D Objects / Page Layouts

Advanced Surfacing and Solids Model with solids and solid text. Use Boolean tools to shape your model. Extrude, loft, and revolve curves into surfaces. Use sweeps to create additional surfaces. Use advanced surfacing techniques like blend, match, and surface from network of curves. Create model primitives and solid text / Model with pipe and extrude / Extrude and loft surfaces / Revolve curves into surfaces

REFERENCES


**AR353 GRAPHIC DESIGN**


Designing for printing. Lettering & Typography. Design of books, posters, promotional materials, stationery etc.

Developing trade marks & Corporate logos. Evolving a comprehensive corporate identity program; Developing environmental graphics / signage; Brand promotion – including packaging design & ad-making for both the print & electronic media. Multimedia design - E books / interactive CD Roms; animation design; Web design.

**REFERENCES**


**AR355 PHOTOGRAPHY, ART AND VISUAL COMMUNICATION**

Pencil and charcoal sketching, mixed media rendering, water color compositions and primary use of acrylic / oil colours; alternative media work such as glass painting, earthen pot painting.

Advanced aspects of visual cognition, psychological responses of humans; Art, design, architecture and cinema appreciation; Image doctoring and manipulation using computer software for graphics and animation (Photoshop and Flash).
Study of the fundamentals of still photography and the camera – Lens types, Aperture and exposure, shutter speed, depth of field, focus, light conditions, light compensation; Comparative assessment of traditional SLR and digital photography.

Basic movie camera shooting, traditional analog and digital methods, conversion of analog to digital, memory manipulation and software compatibility exercises; Elementary film editing – video and audio clips, merging, morphing, transitions (with Adobe Premiere).

REFERENCES


AR357 SEMINAR ON CONTEMPORARY ARCHITECTURE

Prerequisite: Students should have successfully completed the theory subject on Contemporary Architecture. In this subject it is envisaged that greater theoretical understanding is obtained about the professional works on Contemporary Architects. In this subject students are encouraged

a) To study the works of contemporary architects through an evaluative and/or theoretical framework,

b) To understand the works of contemporary architects in contemporary vocabulary used by well-known writers of Architecture projects,

c) To describe and interpret the works through a written essay thereby invoking the students’ abilities in critical/analytical reading, writing of essays, and carryout basic research about contemporary architecture,
d) To present their understanding through seminars and discussions.

The faculty are expected to encourage/help the students discover their innate abilities and inculcate reading, writing, discussion, debate and presentation skills about contemporary architectural practice.

AR352 VERNACULAR ARCHITECTURE

Vernacular architecture - introduction - factors contributed to its evolution with examples. The advantages of studying it and possible application today.

Vernacular architecture – around the world -factors that contributed to their evolution. Few examples

Vernacular architecture in India - Factors that contributed to its evolution. Few examples

Vernacular architecture of Tamil Nadu - factors that contributed to its evolution. Few examples; Settlement planning strategies, Regional and occupation wise variation.

Influence on modern architecture, examples from the works of Frank Lloyd Wright, Green Broken & Hasan Fathy, Geoffery Bawa. Possible applications of vernacular architectural techniques today.

REFERENCES


AR354 BARRIER FREE ENVIRONMENT

Barrier Free Design – need & concerns; Definition and dimensions of Barrier – physical, psychological and social. Types of Disability; Approaches towards Disability a Medical Model and Social Model.

Universal Design - principles and aspects; Study of Human - environment interaction system.
History of development of barrier free initiatives taken across the globe. Norms and standards for barrier free design.

Design elements within buildings, site planning, parking, approach to plinth levels, corridors, entrance and exit, windows, stairways, lifts, toilets, signage, guiding and warning systems, floor materials.

Design elements outside the building – kerb at footpath, road crossing, public toilet, bust stop, toilet booth, and signage.

Provision in residential building, auditorium, parks, restaurants, railway station. Constitutional and statutory provisions to implement barrier free design; barrier free transportation; barrier free tourism; access audit and design solution to one building.

REFERENCES
2. Bednar M. J., Barrier free Environments.
3. Harkness S., Building without Barriers for the Disable.
4. Manual on Barrier free Environment, CPWD.

AR356 FACILITIES PLANNING

Flexibility and facilities planning; Optimal space planning and cost minimization through facility layout; Knowledge based facility planning and decision support system; Application of artificial intelligence; Graph theoretic approach to multi-floor building design; Facility layout algorithm using graphics; Simulation in facility planning and efficiency analysis; Computerized space management; Computer methods in facility layout; Computer graphics and facility layout generation; Database management systems for multifunctional building project; Integrated approach to specialized building design; Multi-criteria approach in building design; Project engineering management of specialized or large scale buildings.
AR451 PRODUCT DESIGN


Design of Household elements, tools and devices, Design of furniture, Design of Industrial Products. Element design for the physically and mentally disabled people.

REFERENCES

1. Time Saver Standards for Interior Design
4. An invitation to Design, Helen Marie Evans.

AR453 ENVIRONMENTAL CONTROL AND DESIGN WORKSHOP

To consolidate the theoretical inputs of subjects Climatically Responsive Architecture and Architectural Acoustics through application of the principles learnt from the subjects.

To expose the students to the Climatic, Lighting and Acoustic problems and issues in the Built Environment.
To effectively link the above mentioned subjects to the prevailing Climatic, Lighting and Acoustic issues in the Practice of Architectural Design.

The course intends to take up a small hypothetical or live project and attempts to work out solutions to the same. It may involve one or two project/s from Climatic or Lighting or Acoustic issues from the field.

The projects may also take up previous design problems of the students and consciously apply climatic principles to improve the quality of design.

**AR455 LANDSCAPE DESIGN**

Design exercise where outdoor spaces will be designed and details of various elements & components of the design will be worked out.

Study oriented work will be given which will involve study of the use of outdoor spaces by different user groups, landscape elements, street furniture, etc.

**REFERENCE**


**AR551 SUSTAINABLE ARCHITECTURE**

Concepts of sustainability: Energy and Global environment, Energy use and Climate change – Its impact, Types of Energy systems, Concept of Sustainability - Principles of conservation -synergy with nature, Bioregionalism - community basis shelter technology within bioregional patterns and scales, Ethical- environmental degradation.

Sustainable planning & Design: Sustainable Development -Sustainable approach to site planning and design - site inventories- relationships between site factors - development impacts from one area of the site on the other areas - Model ecosystem of the site, environmental monitoring and testing during construction- phasing of
development - limits of change - Design facility within social and environmental thresholds.

Sustainable Building Materials and Construction: Properties, Uses and Examples of - Primary, secondary and Tertiary Sustainable Materials, Principles to improve the energy efficiency - siting and vernacular design, shade, ventilation, earth shelter, thermal inertia and air lock entrances. Techniques of sustainable construction - technologies, methods of effectiveness, and design synthesis – alternative materials and construction methods: solar water heating panels; photovoltaic electricity generation; use of local materials and on site growth of food, fuel and building materials.


Green architecture and various international and national rating systems for sustainability- EAM (UK), CASBEE (Japan), LEED (US), Green Star (Australia), etc. – Indian systems – TERI GRIHA rating, LEED India rating, IGBC

REFERENCES


**AR553 COST EFFICIENT CONSTRUCTION TECHNIQUES**

Cost effective techniques: Need, Planning aspects, construction aspects, maintenance and longevity aspects.

Choice of materials in Indian conditions, indigenous building materials, organic and inorganic building materials, alternative building materials, use of industrial and agricultural wastes - Survey of such materials development by research organizations like CBRI, SERC etc.

Significance of construction technology: Relevance of improving of traditional technology, relevance of innovative technology/alternate technology, survey of such technologies by various research institutes.

Critical analysis (in terms of initial investment, maintenance cost and longevity of buildings) of the local adaptation of the innovative technologies by various agencies.

**REFERENCES**

1. G.C. Mathew, ‘Low cost housing in development countries’

2. Publication of CBRI, SERC, RRL, NBO, COSTFORD.

**AR555 INDUSTRIAL ARCHITECTURE**

Role of architects in the design of modern industrial buildings. A basic knowledge of industries in respect of type and category. Planning considerations in the development of master plan including site selection and site layout. Design for loading / unloading area.
Design considerations in development of industrial buildings considering: Flexibility; Adaptability; Structural selection; Integration of structure and services; Industrial lighting, Internal circulation and material handling.

Working environment for industrial workers - Work space and ergonomics; Use of color; Illumination; Light and Glare; Noise and vibration; Temperature, Humidity and Ventilation; Visual environment and landscaping.

Health, welfare and childcare in Industrial Premises. Safety security and warning controls.

Consideration facilities like Rest room, Locker room, Sanitary, Changing room, Cafeteria, Recreational etc.

REFERENCES

AR557 BUILDING AUTOMATION AND MANAGEMENT SYSTEMS

Concept and application of automation and management system; design issues related building automation and its effect on functional efficiency; components of building automation system; HVAC electrical, lighting security, fire-fighting, communication etc.; integrated approach in design, maintenance and management system; current trend and innovation in building automation systems; impact of information technology; concept of artificial intelligence; knowledge base
and decision support systems and building automation and management system; application of expert system in building automation; stages in development of expert system, expert system application in architecture; computerizing building management information.

REFERENCES

AR559 CONSTRUCTION TECHNOLOGY
Planning - pre-stressed, concrete constructions pre-cast concrete and pre-fabrication system - Modular coordination.

Modern Construction Materials - Manufacture, storage, transportation and erection of pre-cast component forms, moulds and scaffoldings in construction - safety in erection and dismantling of constructions.

Construction equipment’s: Tractors, bulldozers, shovels draglines, cableways and belt conveyors, batching plants - Transit mixers and agitator trucks used for ready mix concrete pumps, Guniting equipment’s - Air compressors - welding equipment - cranes and other lifting devices Choice of construction equipment for different types of works.

Planning and scheduling for high rise building: Scheduling- Simulation – Typical Floor Construction Cycle – Appropriate working schedule.

Overview of construction management topics including estimating, cost control, quality control, safety, productivity, value engineering, claims, and legal issues.
AR561 ENVIRONMENTAL PLANNING

Resources: Man, biosphere, ecosystems, resource identification and its implications for development - soil, water, land, plants, animals, renewable energy and nonrenewable energy. Preparation and analysis of resource inventories.

Environmental Impact Assessment: Methodologies and techniques


Planning Techniques: Essence of good planning, integration of environmental assessment and planning options, Priorities and strategies for development on urban, coastal and hilly ecosystems.

Evaluation Techniques: Cost benefit analysis, planning balance sheet and goal achievement matrix.

REFERENCES

AR552 HOUSING

Qualitative and quantitative needs in the field of housing at the global level. Problem in the field of housing in developing countries (Third world countries) with special emphasis to India.

The peculiarities of urban housing land for urban housing - problems and possible solutions. The relationship between place of work and home.

Assessing the housing deficit of a region projecting the number of houses to be constructed therein, the future plan period, in order to remove deficit. Public sector and private sector housing, the need for housing policy and the role of HUDCO and State Housing Boards.

Slums - Definitions, Causes and consequences. Attempts made to solve the problem of slums.

Low - cost housing: Ways and means of controlling the cost of houses. A few low cost construction techniques and material tried out in India and in developing countries. Current income and economically weaker sections.

REFERENCES


AR554 ARCHITECTURAL CONSERVATION


Museum conservation – monument conservation and the role of Archeological Survey of India – role of INTACH – Central and state government policies and legislations – inventories and projects- select case studies of sites such as Hampi, Golconda, Mahabalipuram - craft Issues of conservation.
Listing of monuments- documentation of historic structures- assessing architectural character – historic structure report- guidelines for preservation, rehabilitation and adaptive re-use of historic structures- Case studies of Palaces in Rajasthan, Chettinad and Swamimalai dwellings, seismic retrofit and disabled access/ services additions to historic buildings-heritage site management.

Over view of urban history of India and Tamil Nadu, understanding the character and issues of historic cities, historic districts and heritage precincts.

Conservation as a planning tool, financial incentives and planning tools such as Transferable Development Right (TDR), urban conservation and heritage tourism, case studies of sites like for Cochin, Pondicherry French town, conservation project management.

REFERENCES


AR556 ARCHITECTURAL JOURNALISM

Introduction to journalism, key concepts and objectives of Journalism – Specialized journalism: with emphasis on architectural journalism - Journalism skills: research, reporting, writing, editing, photography, columnists, public relationships, criticism.

Interviewing techniques, Argument and debate as a technique in the investigation of social problems; evidence, proof, refutation, persuasion; training in argumentative speaking.

Introduction to software needed in journalism and photography, video coverage,
walk-through of buildings, production of contemporary architectural journalism. Understanding the individual demands in the context of newspapers, radio, film, and television.

Role of the Editor - Editing of Articles, Features and other stories - Editing for online newspaper and magazines - Text preparation, Mode of presentation, Standards and Guidelines for documentation, Code of ethics, Basic knowledge on Press laws, Press Council of India, Multimedia/online journalism and digital developments.

Regional, National and International discussion forums, Discussions on topics needed in an architectural journal and current issues - types of journals, works of key architectural journalists. Analysis of recent historical and contemporary examples of written and journalistic criticism of architecture, including selected writings by Indian and overseas critics; discursive techniques, analysis of major critical themes, thematic categories in architectural writing.

REFERENCES


