

SOLAPUR UNIVERSITY, SOLAPUR
Scheme of teaching and examinations of IIIrd Semester B.Arch.
(w.e.f. June-2010)

Subject Code	Title of Subject	Teaching Scheme period per week (each period 50 minutes)			Examination Scheme				
		Lecture	Studio	Total	Duration In Hrs.	Theory Marks	Sessional Work		Total
							Internal	External	
AR3-01	Architectural Design –III	2	6	8	6	100	150	150	400
AR3-02	Architectural Graphics- III	2	4	6	3	50	50		100
AR3-03	Bldg. Construction & Material – III	1	4	5	3	50	100	100	250
AR3-04	Theory of Structure- III	3		3	3	100	50	50	*200
AR3-05	History of Architecture – III	3		3	3	100	50		*150
AR3-06	Climatology & Env. - I	2		2	2	50	50		100
AR3-07	Surveying & Levelling - I	2	1	3	-	-	50		50
AR3-08	Building Services - I	2		2	2	50	50		100
AR3-09	Computer Technology and Architecture III	1	1	2	-	-	50	-	50
AR3-10	Vernacular Architecture	2		2	-		50		50
				36		550			1450

Note : (*) Indicates combined passing.

SOLAPUR UNIVERSITY, SOLAPUR
Scheme of teaching and examinations of IVth Semester B.Arch.

Subject Code	Title of Subject	Teaching Scheme period per week (each period 50 minutes)			Examination Scheme				
		Lecture	Studio	Total	Duration In Hrs.	Theory Marks	Sessional Work		Total
							Internal	External	
AR4-01	Architectural Design –IV Theory of Design (Intro. To Landscape)	2	6	8			150	150	300
AR4-02	Architectural Graphics- IV		6	6	3	50	50		100
AR4-03	Bldg. Construction & Material – IV	1	4	5	3	50	100	100	250
AR4-04	Theory of Structure- IV	3		3	3	100	50	50	*200
AR4-05	History of Architecture – IV	3		3	3	100	50		*150
AR4- 06	Climatology & Env. – II	2		2		50	50		100
AR3-07	Surveying & Levelling – II	2	1	3	-	-	50		50
AR4-08	Building Services II	3		3	3	50	50		100
AR4-09	Computer Technology in Architecture - IV	3		3			50	50	100
AR4 -10	Environmental Studies	3		3	3	70	30		100
				39		520			1400

Note : (*) Indicates combined passing.

DESIGN

AR3-01 ARCHITECTURAL DESIGN - III

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 150
Studio – 6	Duration – 6 hrs	External Marks – 150
Total – 8		Theory - 100
		Total – 400

Objectives :

The study of the subject is a continuation of the syllabus of second semester.

* The subject leads to a detailed study of process of design with knowledge of construction, structure, materials, and processes and basic principles of design.

- Scope of Design, considering methods of construction, structure, site conditions socio-economics factors, form, function and their relationship
- Study of planes, mass, forms and shapes.
- Study of groups of objects forms, masses with basic geometric forms, their composition for two and three dimensional study.
- Data collection and analysis including circulation.
- Design problems of medium complex function, low rise buildings with more than four functions.
- Building scope 150 to 250 sqm
- Metrological labs, pre school, play group, college canteens, small community center, health yoga centers, small music schools, crèches, fast food joints cottage and handicrafts, small production center, sales outlets etc.
- One time bound problem compulsory – 100 to 150 m²

What to expect :

1. Case studies and methodology
2. circulation and site analysis Programme and requirement analysis.
3. Conceptual plans and study models
4. Floor plans, elevations, sections, views and models

Marking :

Site climate analysis and concept	25
Floor plans	25
Sections + elevation	15+15
Views + Presentatiaon	20

DESIGN
AR4-01 ARCHITECTURAL DESIGN - IV

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - Nil	Internal Marks – 150
Studio – 6	Duration – Nil	External Marks – 150
Total – 8		Theory -
		Total – 300

Objectives :

- The subject leads to a detailed study of process of design with knowledge of construction, structure, materials, and processes and basic principles of design.
- Scope of Design, considering methods of construction, structure, site conditions socio-economics factors, form, function and their relationship
- Study of planes, mass, forms and shapes.
- Study of groups of objects forms, masses with basic geometric forms, their composition for two and three dimensional study.
- Data collection and analysis including circulation.

Scope of the project

- Build up area : 200 to 250 s.q.m.
- Plot areas can vary from 1000 to 2500 sq.m. / 750 to 1500 sq.m.
- Types of buildings residences, Nursery Schools , small club houses, village library/ vegetable market sheds/ polyclinics, public toilet complex.
- One time bound problem compulsory 100 to 200 m²
- Introduction of climatology, different types of climates and applications.
- Climate selection as per groups.

What to expect :

- Case studies and methodology
- circulation and site analysis Programme and requirement analysis.
- Conceptual plans and study models
- Actual plans and climatological details
- Floor plans, elevations, sections, views and models

Marking :

Site climate analysis and concept	25
Floor plans	25
Sections + elevation	15+15
Views + Presentatiaon	20

ARCHITECTURAL GRAPHICS III AR3 – 02 GRAPHICS

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio – 4	Duration – 3 hrs	External Marks –
Total – 6		Theory - 50
		Total - 100

Objectives :

- Introduction to Perspective drawing
- Principles of one plus two project and three project perspective of simple grammatic objects.
- Perspective of interior and exteriors and building parts etc.
- Sciography, Study of shade and shadows.

ARCHITECTURAL GRAPHICS IV AR4-02 GRAPHICS

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 150
Studio – 4	Duration – 3 hrs	External Marks – 150
Total – 6		Theory -
		Total - 300

Objectives :

- Perspective – Sciography of simple and combination geometrical object.
- Sciography of building in plan, elevation and in perspective.
- Introduction of photography, use of tale wide and normal lenses.
- Advance photographic technic.

BUILDING TECHNOLOGY - III

AR3- 03 Building Construction and Material

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 1	Paper - 1	Internal Marks – 100
Studio – 4	Duration – 3 Hrs.	External Marks – 100
Total – 5		Theory - 50
		Total - 250

Objectives :

MATERIALS :

1. CEMENT :

* Manufacturing process of cement initial & final setting period, testing of cement ISI standards porrolona and other materials for cement. Grade of Cement.

2. MORTAR :

* Lime, Cement Mortar, Properties-proportion- mixing application. Introduction of mud and swatch Mortar.

3. FLOORING :

*Natural stones and processed florrings, Artifical flooring materials. Bitumen and waterproofing materials, Asphalt, various types of asphalt, use of bitumen unit felt. Other waterproofing systems for roofs, walls, plaster, etc.

CONSTRUCTION :

1. BUILDING STRUCTURES :

- Framed structures, composite structures, comparison with load bearing sutures, Choice between the two.

- **FLOORINGS :**

- Specialized mortars for laying, repairing flooring, waterproofing, flooring for toilets blocks and terraces.

- **STAIRCASES :**

- Tread, riser, single double flight, dog leggeed, open wall quarter turn, triple flight, Ramps, ladder, parapet, railings stone staircase, R.C.C. staircase.

BUILDING TECHNOLOGY - IV

AR4- 03 Building Construction and Material

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 1	Paper - 1	Internal Marks – 100
Studio – 4	Duration – 3 Hrs.	External Marks – 100
Total – 5		Theory - 50
		Total - 250

Material

Objectives :

1. **CONCRETE** : Lime, Cement Concrete, Properties- Proportion mixing application, different sizes of aggregates, water cement ratio, strength of concrete. Ready mix, manufacturing-transporting depositing, shuttering and centering – curing etc.
Introduction to reinforcement used in RCC constructions.
2. **TIMBER** : Building timber of various types and their properties, Methods of felling trees, Methods of seasoning , sawing , planing , carpentry, joinery, carpenters tools, I.S.I. standards of building timbers, different uses in construction.
Processed woods kiln seasoning, termite proofing processing for fire resistance, plywood and synthetic boards, Alternative to wood for different building components.

Construction :

Objectives :

- **FOUNDATION** :
 - Excavation in various types of soils. Footings for R.C.C. columns, plinth beams, eccentric footing , strap beam, continuous strip footing, in R.C.C. retaining walls. Support for floating column (foundations in hard strata)
- **SUPER STRUCTURE** :
 - Timber and steel frame, introductory continuous R.C.C. frame details of columns, beams fixed end cantilever beams, slabs, cantilever, one way, two way, lintel chajja, fascia , fins, R.C.C. walls, cornice, canopies, details of reinforcement, thumb rules for sizes, formwork in detail, R.C.C. cills etc. Formwork for L/C/T columns. Cavity walls, rattrap bond, Hollow concrete block walls.
 - Exp. Joints in R.C.C. framed structures.
 - Methods of concreting, equipments.
 - Brick Jack arch flooring, filler slabs, ribbed slabs etc. Compound wall in R.C.C. / precast concrete.
- **DOORS AND WINDOWS**
 - All types of heavy T.W. doors and windows, ventilators, details of joinery , steel windows, for residences and industrial purpose, methods of fixing, ISI standard, sections, sizes etc. Ironmongery, and fixtures of doors, windows, materials, types and functions.
- **ROOFING** :

- Pitched and flat roofing. Trusses in timber, king post queen post and others, timber floors, single, double framed.
- This subject should be dealt with , keeping in mind the fact that construction is a process and understanding the process should be given importance.
- Site visits should be conducted for better understanding of construction process. The different situations all for different construction methods, techniques there methods have certain limitations and advantages.

Theory of Structures - III

AR3-04 Theory of Structures

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 3	Paper - 1	Internal Marks – 50
Studio –	Duration – 3 Hrs	External Marks – 50
Total – 3		Theory - 100
		Total - 200

Objectives :

In this study, the student learns relationship between stress and strain, designs simple beams, columns, and walls and understands concept of friction.

- Theory of simple bending :

$$E/Y = M/I = E/R$$
- Equation, moment of resistance, their meaning and application to timber and steel design of floor with timber and steel joints and beams, asymmetrical sections like inverted tee and mild steel angles used as floor joints and purlins, distribution of bending and shear stress in standard sections viz. rectangular, circular and I – section
- Deflection of sample beams, deflection limits as per ISI code.
- Determination of principle stresses and principle planes by Mohr's circle method and principle stresses
- Design of simple compression and tension members in timber and steel design of fletched beams
- Design of shear.

Theory of Structures – IV
AR4 -04

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 3	Paper - 1	Internal Marks – 50
Studio –	Duration – 3 Hrs	External Marks –50
Total – 3		Theory - 100
		Total - 200

Objectives :

Columns and struts :

- Short and long columns, Eulers and Rankine’s formula, slenderness ratio (buckling factor), fixity conditions and effective lengths, ISI tables of stresses for mild steel for various values of slenderness ratio, design and timber, cast iron and steel columns. Design of struts in a frame limiting values of slenderness ratio in case of floor columns and with main struts, trusses. Design of subsidiary struts, wind bracings.
- Design of brick, stone masonry and concrete walls, design of wall footing. (for bldg. only) column footing and bearing capacity.
- Concept of soil mechanics and its importance, granular and cohesive soils, definitions of void ratio, porosity, bulk density, dry density, moisture content degree of saturation, liquid limit, plastic limit, plasticity index, classification of soils, silt, clay, cohesion and friction, conceptual idea of friction. Rankine’s formula for earth pressure. Design of simple load bearing wall foundation.
- Masonary Retaining walls for water and earth pressures with or without surcharge, Tankines formula, conditions of stability, maximum and minimum pressures at base, conditions of no tension, factors of safely against sliding conceptual effect of water logging.

HISTORY OF ARCHITECTURE - III

AR3 – 05 HISTORY OF ARCHITECTURE

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio – 1	Duration – 3 Hrs	External Marks – Nil
Total – 3		Theory - 100
		Total - 150
		Combined passing

Objectives :

- Critical appraisal of particular style with respect to various influences like geographical, social, economical, religious, political, cultural, Arts & Crafts, Science and Technology.
- Study of Architectural Characters in general. Space and form structural system, building materials and constructions, solids and voids, color and texture overall architectural composition with reference to selected example in particular.
- Critical appreciation with sketches and notes. Exercise – solution of objective and descriptive questions with sketches as sessional work with internal assessment in addition to theory paper
- Indian Architecture – Eighth century to twelfth century.
- Hindu Temple Architecture : Indo-Aryan, Dravidian, Hoysala phases of architecture.
- Examples Lingraj Temple at Bhuvaneshwar, Khanderaya Mahadeva Temple at Khajuraho, Brihadeshwar Temple at Tanjore, Minakshi Sundaram Temple at Madhurai, Channekesha Temple at Belur.
- Jain Architecture – Choumuk Temple of Adinath at Ranakpur,
- Western Architecture : Gothic renaissance architecture in Europe examples West Minster abbey London, Basilican Church of Saint Peter Rome,

HISTORY OF ARCHITECTURE - IV

AR4-05 HISTORY OF ARCHITECTURE

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio – 1	Duration – 3 Hrs	External Marks –
Total – 3		Theory - 100
		Total - 150
		Combined passing

Objectives :

- Critical appraisal of particular style with respect to various influences like geographical, social, economical, religious, political, cultural, Arts & Crafts, Science and Technology.
- Study of Architectural Characters in general. Space and form structure system, building materials and constructions solids and voids, color and texture overall architectural composition with reference to selected example in particular.
- Critical appreciation with sketches and notes exercise – solution of objective and decriptive questions with sketches as sessional work with internal assessment in addition to theory paper
- Topics
 - Indian Architecture
 - Islamic Architecture in India
 - From 12th Century to 17th Century Imperial style at Delhi, provincial style – Deccan, Moughal,
 - Examples 1) Quwt-ul, Islam – Mosque, Complex at Delhi, Mosque at Gulbarga, Ibrahim Rouza at Bijapur, Fatehapur Shikri Buland Darwaja, Chisthi stoom , Panchamahar, Tajmahal at agra
 - Colonial Architecture Under British Rule
 - Example Victoria Terminus Station at Mumbai, Rashtrapati Bhavan, Parliament House, Rajpat New Delhi.

Climatology and Environment - I AR3-06

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio –	Duration – 2 Hrs	External Marks –
Total – 2		Theory - 50
		Total - 100

1. Introduction to Climate
2. Global Climate
3. Elements of Climate
4. Classification of tropical climates
5. Site climate (micro, macro)
6. Thermal comfort factors
7. Effective temperature

Climatology and Environment - II AR4-06

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio –	Duration – 2 Hrs	External Marks –
Total – 2		Theory - 50
		Total - 100

1. Thermal design (Principles)
 - Thermal quantities
 - Heat Exchange of buildings
 - Periodic heat flow
2. Thermal control
 - Mechanical controls
 - Structural controls
 - Ventilation and air movements
3. Light
 - Principles
 - Day lighting and techniques.

SURVEYING AND LEVELLING - I
AR3-07

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - Nil	Internal Marks – 50
Studio – 1	Duration – Nil	External Marks –
Total – 3		Theory -
		Total - 50

Objectives :

- Introduction- Aim, Object and importance of subject, scope of subject for Architects.
- Brief history of land surveys executed by Government Departments with particular reference to land record surveys, Index Map and N. S. sheets.
- Chain survey and Triangulation.
- Study of instruments used for chain survey viz. : I) Chains II) Ranging Roads III) Tapes IV) Optical square V) Octagonal Cross Staff VI) Cylindrical Cross staff.
- Chain Line Ranging, Measurement of offsets, overcoming obstacles.
- Recording of chain survey measurements in field book.
- Plotting of chain survey, scales used in plotting
- Calculation of Area by method of tringles, by simpson Rule, using graph, paper and by planimeter, Hacter and Acre.
- Instruments used Viz.- Prismatic compass, Dumpy level, Theodolite and their temporary adjustments, principles behind working of the instruments only are required.
- Recording measurements of a Prismatic compass survey, Magnetic Meridian, Back fore and reduced bearing; local attraction and its correction for exact orientation.
- Various uses of Theodolite, finding out heights of distant or inaccessible points, lining out of large factory type buildings and roads, advantages over prismatic compass.

SURVEYING AND LEVELLING - II

AR4-07

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio – 1	Duration – 2 Hrs	External Marks –
Total – 3		Theory -
		Total - 50

Objectives :

- Plain Table surveying, Advantages and scope
- Instruments use for plane table surveying viz. (i) Plane Table (ii) Alidada (iii) Plumb work (iv) Trough compass.
- Methods of plane table surveying viz. (i) Radiation (ii) Inter Section (iii) Resection (iv) Travers
- Levelling and its principles.
- Level line and horizontal line, line of collimation, Bench Mark (Temporary and permanent), Datum, Reduced level.
- Instrument used for leveling, Dumpy level, Levelling staff, etc.
- Reading of levels, Back, intermediate and Foresight.
- Recoding of leveling survey, Finding reduced levels by Rise and Fall and also collimation. Methods, their advantages and disadvantages.
- Contours, Definition and purpose, Properties and behaviour of Contours in case gentle and steep slope, ridges and Valleys, Hill and pond, vertical and overhanging Cliff.
- Methods of contouring-direct and indirect; Radial and square system.
- Plotting of contours. Interpolation, their use in architecture.
- Sessional work based on above.
- External assesment of sessional work shall consist of
- Assessment of internal sessional work
- Seting of dumpy level, taking and recording back inter and fore readings and recording and calculating reduced levels. To rad a contour map, to draw on contour line based on grid readings.
- Chain survey about one straight length of 200 mts setting out the line and measuring offsets of natural and artificial features and directed and recording in a field book.
- Taking reading of any object from a fixed point by prismatic compass and recording it.

Location of any point in relation to a fixed base line by method of triangulation.

Building Services – I AR3 - 08

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio – 1	Duration – 2 Hrs	External Marks –
Total – 3		Theory - 50
		Total - 100

Sanitation

- Introduction to building sanitation its importance and basic approach.
- Planning and layout of sanitary fittings and drainage for a single and multistory buildings and factors to be considered for locations of sanitary units in a house or building at the planning stage. Relavant I.S.I. std. site visits.
 - Systems of sanitation –
 - Methods of collection
 - Sewerage systems
 - Patterns of collection systems
 - Drains and Sewers sections, material used
 - Sewer joints – Types of various joints and methods for making joints.
 - Sewer opportunities-
 - Manhole, Drop manhole, Lamp hole, Street inlets, flushing tank, catch basins, Sand, grease and oil traps, Inverted siphon, Storm water relief works, function work.
- Ventilation of sewer – Methods of ventilation construction and maintenance of sewers.
 - Laying of the sewer line
 - Testing of the sewer lines
 - Maintenance of sewers – causes , precautions to be taken, Tools and implement used for cleaning and flushing of sewer lines explosion in sewers.
- Pumping of Sewage – Necessity of Pumping, sewer pumping station.
- House drainage -
 - Meaning and principles of house drainage sys.
 - Traps - Inspection chamber.Pipes and fitting, Antisiphonage pipe ventilation of house drainage systems. Systems of plumbing, plumbing practice and plumbing operations.
 - SANitary fittings (Ablution fixtures and Soil fixtures)
 - Wash basin, Sinks, Bath tub, Flushing cistern, water closet – Indian type, European type and Angloindian type.
 - Urinals – Bowl type, Stall type. Squatting plate urinals.
 - Slop sink, Bidet

- Ventilation of fittings, connections to sewage/ salvage pipes, Materials for these fittings, Testing of fittings and there connections and installation.
- Connetion to public system – Intercepting and other types of chambers
 - Sewage disposal- Disposal of sewage in unsewered areas diff types of privy's.
 - Septic tank - Designing of septic tanks – Planning and layout fro single storey and multistory bldg.
- Layout for public toilet blocks
 - Public toi - Mallaprapha toi (Pay and Use)
 - Sulabha shawchalaya (Pit latrines)
 - Tretement of sewage (introductory only)

Building Services - II
AR4 - 08

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – 50
Studio – 1	Duration – 3 Hrs	External Marks –
Total – 3		Theory - 50
		Total – 100

Objectives :

- Introduction to building water supply its importance and basic approach.
- Factors to be considered for water supply at the planning stage.
- Planning and layout for water distribution and storage of multistory building.
- Connection of water to sanitary fittings. Introduction – imp and Necessity of water supply sources of water – Surface water, scheme Ground water.
- Collection and conveyance – Intakes types of Intake water supply pipes – types, pipe joints.
 - Laying and joining of pipes.
 - Quality of water –
 - Wholesome water, Impurities in water std. of water quality.
 - Water treatment process –
 - Basic principles of water purification system.
- Objects of treatment
- Treatment process – layout for treatment plant Sedimentation - plain sedimentation – principles types of tanks.
 - Sedimentation with coagulation – Process, necessity Flocculation, Clarifiers
 - Filtration – Theory of filtration, types of filters Disinfection of water – Methods of Disinfection.
 - Water softening – Necessity
 - Miscellaneous water treatments (Intro) Method
- Distribution system
- Distribution Reservoirs
- Design of water tank
- Valves and fittings, Hydrants, meters
- Water pollution control
- Heating of water (Introductory only)
- Boilers, pressure boilers.

SUBJECT : COMPUTER TECHNOLOGY AND ARCHITECTURE – III
AR 3 - 09

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper -	Internal Marks – 50
Studio – 1	Duration –	External Marks –
Total – 3		Theory -
		Total – 50

Objectives :

- Introduction to windows use and importance
- **CAD AND ITS ADVANCE APPLICATIONS**
 - Creating and organizing 2-D drawings
 - All 2 Dimensional drawing commands.
 - All 2 Dimensional edit commands.
 - Inquiry commands
 - Setting for drawing.
 - Concept of layers, line types,
 - Dimensions
 - Introduction to block and its applications
 - Text and fonts
 - Out put of the drawing through printers or plotters. (Print : Plot)
 - Different setting of drawing, snap mode etc.
 - Hatch its patterns.
 - Isometric drawings.
 - Minimum one drawing showing plan, elev. Section of a project a submitted as sessional work.

SUBJECT : COMPUTER TECHNOLOGY AND ARCHITECTURE – IV
AR4 - 09

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper -	Internal Marks – 50
Studio – 1	Duration –	External Marks – 50
Total – 3		Theory -
		Total – 100

Objectives :

- Auto CAD AND ITS ADVANCE COMMANDS
 - Application of blocks and concept of symbols library
 - Drawing at different scale
 - Dimension styles and variable
 - Attributes
 - Data extraction
 - All display command

Concept of 3d work and UCS

- 3 dimensional drawings – primitives, mesh, surfaces, etc.
- Viewing commands and view points.
- Slides.
- Introduction to shading and rendering
- Introduction to AME
- Data extraction in the format of dxf., dxb.
- Introduction and application of Auto LISP – Preliminary commands.

Introduction of other drafting and presentation software's like auto Architect.

- 3d- studio, auto SHADE, 3dhome, Revit, Archicad, Google Sketchup and their applications.

3D-presentation drawings with the use of above software's shall b e done as a sessional work.

VERNACULAR ARCHITECTURE AR3 - 10

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 1	Paper - Nil	Internal Marks – 50
Studio – 1	Duration – Nil	External Marks – Nil
Total – 2		Theory -
		Total – 50

Objectives :

Orientation of Study is diverted towards local Architecture of specific geographical region i.e. tropics (Hot and Humid) Architecture of the hot and dry arid hot & dry regions etc.

Emphasis shall be given for measure drawings of old structure (minimum 50 years old) or settlement within the region.

ENVIRONMENTAL STUDIES

AR4 - 10

Teaching Scheme – Per week	Examination Scheme –	
Lectures – 2	Paper - 1	Internal Marks – Project Marks - 30
Studio – Nil	Duration – 3 Hrs	
Total – 2		Theory - 70
		Total – 100

Objectives :

1. Nature of Environmental Studies
2. Natural Resources and Associated Problems
 - a) Forest resources:
 - b) Water Resources :
 - c) Mineral resources
 - d) Food resources :
 - e) Energy Resources :
 - f) Land resources :
3. Eco System
4. Bio Diversity and its conservation
5. Environmental Pollution
6. Social issues and the Environment
7. Environmental Protection
8. Field Work