

SUBJECT CODE : 113421		BASIC DESIGN I - SV	
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	1	Paper	Nil
Studio Periods	5	Sessional + Viva-voce Term I	150
Total Contact Period (Per Week)	6	Sessional + Viva-voce Term II	150
		Total Marks	300

## Term I :

### COURSE OBJECTIVES :

To help the students grasp the fundamentals of design as a basic creative activity.  
The help the students learn about the basic elements of design such as the point, line, planes, volumes and masses, colour, texture etc. through exercises aimed at experimentation.

### COURSE OUTLINE :

The course should contain exercises that will cover the following topics:

1. Study of lines and forms : Lines (Their Visual Qualities), Composition of two Dimensional Forms, Forms in Nature (Animate and Inanimate).
2. Material and Texture, Colour, Light.
3. Anthropometry.
4. Study of spaces: Positive and Negative Spaces, Activation of spaces through Stables / Mobiles.
5. Design of an object in everyday use.

### SESSIONAL WORK :

Sufficient number of projects to cover the topics mentioned above should be worked in class. Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional sketches and models, rather than words.

### REFERENCE BOOKS

Ching Francis D. K.	Architecture : Form Space & Order
Pramar V. S.	Fundamentals in Architecture
Walter Groups	Total Architecture

## Term II :

### COURSE OBJECTIVES :

To help the students grasp the fundamentals of Architectural aesthetics.  
To help the students learn about the basic elements of visual aesthetics through exercises aimed at experimentation.  
The final exercise will culminate in application of all the knowledge and skill gained during the term.

### COURSE OUTLINE :

The course should contain exercises that will cover the following topics:

1. Understanding Architectural Aesthetics.
2. Elements of Visual Aesthetics.
3. Attributes of Form and Space.
4. Platonic Forms. (Derivatives forms and transformation).
5. Scale, Proportion, Contrast.
6. Alignment, Repetition, Pattern, Rhythm
7. Principles of Organization of Form & Space
8. Study of building by application of principles of Aesthetic Appraisal.

## SESSIONAL WORK

Sufficient number of projects to cover the topics mentioned above should be worked upon in class. Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional sketches and models, rather than words.

## REFERENCE BOOKS

Ching Francis D. K.

Architecture : Form Space & Order

Pramar V. S.

Fundamentals in Architecture

Walter Groups

Total Architecture

SUBJECT CODE : 113422		ARCHITECTURAL DESIGN I - SS	
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	1	Paper	nil
Studio Periods	5	Sessional Term I	150
Total Contact Period (Per Week)	6	Sessional Term II	150
		Viva-voce	nil
		Total Marks	300

## Term I :

### COURSE OBJECTIVES :

Introduction to the design process as a synthesis of a variety of factors, analyzed and studied. Develop a perception of space and a sense of visualization with the help of tools like sketches, drawings, models, computer animation etc.

### COURSE OUTLINE :

- Analyzing single activity, single space structures its context of form, construction, anthropometrical data, space layout, relationship with surrounding environment etc.
- Analyzing relationship of more than one activity in a building of simple nature and understand the same in context to form, construction, anthropometrical data, space ad furniture layout etc.
- Designing single activity, single spaces e.g. gate cabins, entrance gates, bus shelters, monuments, kiosks, children play areas etc.
- Designing progressively complex spaces and buildings eg. Snack bars, exhibition stalls, weekend cottages, bandstand etc.

### SESSIONAL WORK :

Sufficient number of projects to cover the topic.

Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional drawings / sketches and models, rather than words.

### REFERENCE MATERIAL

- Elements of Architecture – Meiss Pieree Von
- A pattern Language by Alexander Christopher
- Structure in Architecture – Heller Robert and Salvadori Mario
- Total Architecture Walter Gropius
- Structure in Nature – Strategy for Design – Peter Pearce
- Patterns in Nature – Peter Streens
- Visual Thinking – Am heim Rudolf
- Architecture : Form, Space and order – Francis D. K. Ching
- A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fairweather
- Architectural Graphic standards editor – Boaz Joseph
- Planning – the Architect's handbook by E and O.E.

- Dernst Neufert's Architect's data
- Time saver standards for Architectural Design Data, Editor, John Callender
- Time saver standards for building types, editor Joseph D. C. and John Callender.

## Term II :

### COURSE OBJECTIVES :

Elaborating the design process as a synthesis of a variety of factors, analyzed and studied. Develop a perception of space and a sense of visualization with the help of tools like sketches, drawings, models, computer animation etc.

### COURSE OUTLINE :

- Study of settlement environment – visit to nearby settlement to study spaces in the cluster environment.
- Study of life style, climate and social structure.
- Study of houses, their relationship with common spaces, public buildings of the settlement with residential clusters etc.
- Study of various categories of open spaces of the settlement and their inter relationship with each other as well as built spaces around.
- Study of the road and transportation network within the settlement and connectivity with surrounding areas.
- Design project should be related to settlement study carried out.

### SESSIONAL WORK :

Sufficient number of projects to cover the topic.

Stress should be given on three-dimensional study and communicating the design / study through effective two and three-dimensional drawings / sketches and models, rather than words.

### REFERENCE MATERIAL

- Elements of Architecture – Meiss Pieree Von
- A pattern Language by Alexander Christopher
- Structure in Architecture – Heller Robert and Salvadori Mario
- Total Architecture Walter Gropius.
- Structure in Nature – Strategy for Design – Peter Pearce.
- Patterns in Nature – Peter Streens
- Visual Thinking – Am heim Rudolf
- Architecture : Form, Space and order – Francis D. K. Ching
- A.J. Metric Handbook, editors, Jan Bilwa and Leslie Fairweather
- Architectural Graphic standards editor – Boaz Joseph
- Planning – the Architect's handbook by E and O.E.
- Neufert's Architect's data
- Time saver standards for Architectural Design Data, Editor, John Callender
- Time saver standards for building types, editor Joseph D. C. and John Callender.

SUBJECT CODE : 113423 ARCHITECTURAL DRAWING AND GRAPHICS I - SS			
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	1	Paper	nil
Studio Periods	5	Sessional Term I	100 marks
Total Contact Period (Per Week)	6	Sessional Term II	100 marks
		Viva-voce	nil
		Total Marks ( Sessional)	200

## Term I :

### COURSE OBJECTIVES :

1. To develop students to understand Graphic Language for Communication.

2. To develop student in acquiring skills to express more complex objects through graphic presentation.

## **COURSE OUTLINE :**

### **Scale Drawing**

- (a) Introduction to drawing instruments and drawing materials and their use.
- (b) Drafting techniques : Basis for Architectural Drawing - LINE, essence of line-continuity. Quality of line sharpness, clarity blockness (Tone) weight, (Thickness) Types of lines continuous thin, continuous thick, dotted, dash and dotted, horizontal, vertical inclined lines.  
Application of all types of lines in architectural drawing..
- (c) Scale : Architectural Metric scale. Introduction of various proportions of scales, necessity of scaled drawing, selection of proportions of scales while preparing architectural drawing.  
Method of construction of Graphics Scale i.e. dividing a given length of line into equal parts..
- (d) Building Elements : Techniques of representing building elements such as doors, windows, steps, chajja, porch, canopy, balcony, roofs, difference of levels, furniture fittings such as wash hand basins, WC pans, traps etc. on drawings.
- (e) Lettering : Introduction to architectural lettering, its proportion to scale drawing simplicity of lettering.
- (f) Annotations : Use of annotations on drawings titles and uses in presentations drawings.
- (g) Material Indications : Symbolic representation of building materials with colour code as specified Indian Standard Code of practice.
- (h) Measuring and drawing to different scale : existing ground floor building maximum of 100.0 sq. mtrs. Plinth area, in plan elevations and WC fittings, symbolic representation of materials used. Ground Floor Plan along with plot boundaries, four side elevations, two sections, block plan, site plan, north point. In addition to this drawings shall be prepared based on examples of buildings by giving a sketch design. Plinth area of such design will be maximum of 100.0 sq. mts.

### **Solid Geometry :**

1. Introduction to solid geometrical forms projection methods of representing on drawings such as orthographic on vertical and horizontal planes. Isometric views – Plan, elevations and sections of solids.
2. Composite solid geometrical objects in plan, elevation, section and isometric. Application of such forms in buildings, Penetration of solid geometrical objects into each other vertically, horizontally and inclined its representation in plan, elevations and sections. True shapes of sections of solid geometrical objects.

**Free Hand Sketching** : Importance of free hand sketching in architectural drawing / practice.  
Principles of free hand sketching such as proportions.  
Indoor sketching of three dimensional solid forms, buildings and parts of building.

## **SESSIONAL WORK :**

Sessional Work' to be done as per the 'Course outline' above.

## **REFERENCE MATERIAL**

1. Architectural Graphics by Ching Frank.
2. Geometrical & Building Drawing by Kelsey W.E.
3. Architectural Graphics by Martin C. Leslie.
4. A. J. Metric Hand Book.
5. Architectural Graphic Standards.
6. Architectural Drawing ISI Publication.
7. Essential of Drafting by B. James.

8. Practical Plane and Solid Geometry by H. Joseph and Morris.
9. Rendering with Pen and Ink.
10. Architectural De-lineation by Burden Ernest.
11. Architectural Presentation Techniques.
12. Architectural Rendering.
13. Rendering with pen and ink by Gill Robert.
14. Applied perspective, Holmes John M.
15. Perspective for the Architect- Themes and Hadson.
16. Professional perspective Drawing for Architects and Engineers – Friedrich W. Capelle.
17. Interior perspective in Architectural Design-Graphic Sha Publishing Col. Ltd. Japan.
18. Modern Architectural Rendering best 180, Japan Publishing Co.
19. Perspective Drawings of Modern Architecture, Japan Publishing Co.
20. Air brushing in rendering, Japan Publishing Co.

## **Term II :**

### **COURSE OBJECTIVES :**

To acquaint student in various techniques of presentation of Building Designs.

To acquaint students in various techniques of Architectural Photography.

To acquaint students to the use of Computer aided Drafting.

### **COURSE OUTLINE :**

#### **Perspective Drawing :**

- (a) Principles of perspective drawings and understanding of all relevant terms like Picture Plane, Central Visual Ray, Vanishing Parallel, Eye Level, Height Lines, Vanishing Points, Cone of Vision etc.
- (b) Drawing Perspective Views by – Projection Methods with different combination of variable like picture plane, station point/viewer, eye level etc. for One Point and Two Point perspective.
- (c) Alternative Methods of Perspective :
  - Drawing perspective by Approximate Method.
  - Drawing Perspective by Measuring Point Method.
  - Drawing Perspective view of Interior Designs by Projection / Measuring Point Method.

#### **Sociography :**

- (a) Principles of Shades and shadows. & Shades & Shadows of typical building on Plan & Elevation.
- (b) Techniques of drawing shades and shadows of lines, planes, solids and Architectural Building Elements.
- (c) Colouring of shades and shadows using transparent colours.
- (d) Study of drawing shadows in isometrics.
- (e) Shades and Shadows in perspective.

#### **Photography :** Introduction to Architectural Photography.

- (a) Techniques of Recording Building and surrounding on a film with respect to position of viewer and angle, light and shades, foreground and background, scale, colour, texture, mood, time etc.
- (b) Techniques of Photography for documentation :
- (c) Photographs of drawings, models, features of buildings and surroundings to be elaborated.
- (d) Close up Photographs.

#### **Computer:**

- (a) Introduction to Computer Hardware, Software.
- (b) Introduction to Operating systems. (DOS-Optional, Windows-Compulsory).

- (c) Use of computer as a tool for architectural draughting using appropriate software eg. Autocad, Archigram, etc.

**Presentation Techniques :**

- a) Techniques of representing elements graphically such as trees, lawns, shrubs, paving, pathways, flowerbed, water pools, human figures, vehicles.  
 b) Colours theory and use of colours in presentation. Medium of presentation - pencil, pastel colours, and transparent water colours.  
 c) Advanced Presentation Techniques.

**SESSIONAL WORK :**

'Sessional Work' to be done as stipulated in the 'Course outline' above.

**REFERENCE MATERIAL**

1. Architectural Graphics by Ching Frank.
2. Geometrical & Building Drawing by Kelsey W.E.
3. Architectural Graphics by Martin C. Leslie.
4. A.J. Metric Hand Book.
5. Architectural Graphic Standards.
6. Architectural Drawing ISI Publication.
7. Essential of Drafting by B. James.
8. Practical Plane and Solid Geometry by H. Joseph and Morris.
9. Rendering with Pen and Ink.
10. Architectural De-lineation by Burden Ernest.
11. Architectural Presentation Techniques.
12. Architectural Rendering.
13. Rendering with pen and ink by Gill Robert.
14. Applied perspective Holmes John M.
15. Perspective for the Architect- Themes and Hadson.
16. Step by step perspective drawing for Architects Draftsman and Engineering – Claudius Coulin.
17. Professional perspective Drawing for Architects and Engineers – Friendrich W. Capelle.
18. Interior perspective in Architectural Design-Graphic Sha Publishing Col. Ltd. Japan.
19. Modern Architectural Rendering best 180, Japan Publishing Co.
20. Perspective Drawings of Modern Architecture, Japan Publishing Co.
21. Air brushing in rendering, Japan Publishing Co.
22. Perspective & Sociography- by Shankar Mulik.
23. As mentioned for Architectural Drawing and Graphics – III.
24. The Step by Guide to Photography by Michael Langford.
25. Architectural Photography by Joseph W. Molitor.
26. Computer and common sense by Roger Hunt.

SUBJECT CODE : 113424		<b>BUILDING TECHNOLOGY AND MATERIALS I - SV</b>	
SUBJECT CODE : 113425		<b>BUILDING TECHNOLOGY AND MATERIALS I - Theory</b>	
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	2	Theory Paper on contents of both terms at the end of term II	100 marks
Studio Periods	4	Sessional + Viva-voce Term I	150 marks
Total Contact Periods (Per Week)	6	Sessional Term II+ Viva-voce	150 marks
		Total Marks (Sessional + Viva-voce)	300

## **Term I :**

### **COURSE OBJECTIVES :**

To help students understand the basic building elements, their function and behavior under various conditions with specific reference to 'Load bearing Construction' and simple non RCC frame structure.

To help students to develop a clear understanding of the basic principles of construction and materials suitable for Indian conditions.

To help students develop an analytical and logical sequence in thinking.

To encourage students to study both in classroom and also outside at work sites in order to get the practical exposure.

### **COURSE OUTLINE :**

1. Introduction to various elements of building from foundation to roof.
2. Introduction to various building materials, which are commonly used in load bearing construction.
3. Introduction to various tools and equipment commonly used in  
(a) Excavation (b) Masonry Construction (c) Carpentry work
4. Study of following building materials with their characteristics, available market forms, preservation, appropriate use and common tests.
  - Stone, Brick, Cement concrete blocks, Stabilized Mud blocks.
  - Lime and Lime Mortar.
5. Following standard constructions shall be covered  
Foundations :
  - Strip foundation suitable for load bearing structure in stone and brick up to plinth level including plinth formation, P.C.C. coping (reinforced and un-reinforced) to act as damp proof course.
  - Foundation for brick pillars, plasters, entrance, steps etc.
6. Superstructure
  - Load bearing / non load bearing masonry construction using materials such as stone, bricks, cement concrete blocks, stabilized mud blocks shall be studied.
7. Spanning of Openings
  - Introduction to evolution of arches, terminology of arch construction and load transfer in arches.
  - Spanning of openings using brick and stone in the form of Flat arch, Segmental arch, Semi circular arch, Corbelled arch.
  - Form Work for Arches

### **SESSSIONAL WORK :**

Sufficient number of projects to cover the topics mentioned above should be worked in class. Stress should be given on self study and site visits to understand the basics of construction technology together with drawings.

### **REFERENCE READING**

- a. To understand basic fundamental principles in construction following books are recommended
  1. Elements of structure by Morgan
  2. Structure in Architecture by Salvadori
- b. Studying standard building construction
  1. Building construction by Mckay W. B., Vol. 1 to 4
  2. Construction of Building by Barry, Vol. I to V
  3. Construction Technology by Chudley R. Vol. I to IV
  4. Building Construction Illustrated – Ching Francis D. K.

5. Elementary Building Construction by Michell
- c. To study building materials
1. Engineering Material – Chaudhary
  2. Building Construction Materials – M. V. Naik
  3. Civil Engineer's Hand Book – Khanna
  4. Vastu Rachana – Shri Sane
  5. National Building code and ISI specifications

## **Term II :**

### **OBJECTIVES :**

To help students understand the basic building elements, their function and behavior under various conditions with specific reference to Timber Construction.

To help students to develop a clear understanding of the basic principles of construction and materials suitable for Indian conditions.

To help students develop an analytical and logical sequence in thinking.

To encourage students to study both in classroom and also outside at work sites in order to get the practical exposure.

### **COURSE OUTLINE :**

1. Introduction to various tools and equipment commonly used in carpentry work.
2. Study of following building materials with their characteristics, available market forms, preservation, appropriate use and common tests.
  - Timber, bamboo, thatch
  - Roofing tiles.
3. Following standard timber constructions shall be covered including simple timber joinery required.
  - Doors – Frameless, ledged, braced, battened, paneled, glazed, solid and hollow core flush and their combinations.
  - Windows – frameless, ledged, battened, glazed etc.
  - Staircases – terminology and construction
  - Roofs : sloping, lean to, coupled, collar, etc Fixing of clay tiles for roofs.
  - Floors : single and double floors, framed construction, Introduction to steel girder and T joist floors with stone tile fillers and concrete topping with IPS finish .
  - Balconies.
4. Study of Earthquake resistant structures and Disaster Management.
  - Introduction to the concept of disaster and significance of the subject to the overall building design
  - Introduction to earthquake, its magnitude and its effects to underline the need to safe design of buildings.
  - Introduction to types of earthquakes and its brief history.

### **SESSIONAL WORK :**

Sufficient number of projects to cover the topics mentioned above should be worked in class.

Stress should be given on self study and site visits to understand the basics of construction technology together with drawings.

### **REFERENCE READING**

To understand basic fundamental principles in construction following books are recommended

- Elements of structure by Morgan
- Structure in Architecture by Salvadori

Studying standard building construction

- Building construction by Mckay W. B., Vol. 1 to 4



- Construction of Building by Barry, Vol. I to V
- Construction Technology by Chudley R. Vol. I to IV

To study building materials

- Engineering Material – Chaudhary
- Building Construction Materials – M. V. Naik
- Civil Engineer's Hand Book – Khanna
- Vastu Rachana – Shri Sane
- National Building code and ISI specifications.

SUBJECT CODE : 113426 <b>THEORY OF STRUCTURES I - SS</b>			
SUBJECT CODE : 113427 <b>THEORY OF STRUCTURES I - Theory</b>			
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	2	Theory Paper on contents of both terms at the end of term II	100 marks
Studio Periods	2	Sessional Term I	50 marks
Total Contact Period (Per Week)	4	Sessional Term II	50 marks
		Viva-voce	nil
		Total Marks (Sessional)	100

### Term I :

#### COURSE OBJECTIVES :

To help students, understand the basic principles of structural behavior and requirements of buildings with emphasis laid more on expositions of principles involved rather than situational intricacies and computational rigour.

#### COURSE OUTLINE :

1. Statics : System of coplanar forces and conditions of equilibrium analytical and graphical treatment .
2. Reactions for simple statically determinate beams with simple loads and their combination analytical treatments.
3. Bending moment and shear force diagrams for simple beams with simple loading.
4. Centre of gravity and moment of inertia of geometrical figures and structural sections, analytical treatments.
5. Graphical analytical solutions of frames.

#### SESSIONAL WORK :

'Sessional Work' to be done as stipulated below:

Bending moment and shear force diagrams for simple beams.

Graphical solution to at least two types of perfect frames.

Minimum two tutorials based on problems set on topics under course outline.

#### RECOMMENDED READINGS.

1. Strength of Material by Khurmi R. S.
2. Applied Mechanics and Strength of Materials by Khurmi R. S.
3. Text-Book of Applied Mechanics by Khurmi R. S.

### Term II :

#### COURSE OBJECTIVES :

To help students, understand the basic principles of structural behavior and requirements of buildings with emphasis laid more on expositions of principles involved rather than situational intricacies and computational rigour.

**COURSE OUTLINE :**

1. Stress, strain, elastic constants, elastic behaviour of material, Hook's law and yield point, stress strain diagrams for steel, timber and concrete.
2. Compressive, tensile and shear stresses and strains
3. Theory of simple bending, bending moment and moment of resistance, section modulus.
4. Bending and shear stress distribution in simple sections.
5. Direct and bending stresses in compression members.
6. Deflection in simply supported beams and cantilevers. Double integration method (Problems of full, uniformly distributed load and point load only).
7. Concept of statically indeterminate structures. Degree of indeterminacy.
8. Propped cantilevers : Standard loadings

**SESSIONAL WORK :**

'Sessional Work' to be done as stipulated below:

Minimum four tutorials based on topics under course outline.

**RECOMMENDED READINGS.**

1. Strength of Material by Khurmi R. S.
2. Applied Mechanics and Strength of Materials by Khurmi R. S.
3. Text-Book of Applied Mechanics by Khurmi R. S.

SUBJECTCODE : 113428 <b>HISTORY OF ARCHITECTURE AND HUMAN SETTLEMENT I - SS</b>			
SUBJECTCODE : 113429 <b>HISTORY OF ARCHITECTURE AND HUMAN SETTLEMENT I - Theory</b>			
<b>TEACHING SCHEME</b>		<b>EXAMINATION SCHEME</b>	
Lecture Periods	3	Theory Paper on contents of both terms at the end of term II	100 marks
Studio Periods	-	Sessional Term I	50 marks
Total Contact Period (Per Week)	3	Sessional Term II	50 marks
		Viva-voce	nil
		Total Marks (Sessional)	100

**Term I :****COURSE OBJECTIVES :**

Broad study of periodic history of culture, architecture and human settlements of specified western civilizations with reference to formative influence and salient architectural contributions in terms of structural technology, planning and form of significant building types. (Stress to be laid on comparative and critical studies so as to develop among students habits of reading and research as well as sympathetic awareness of architectural heritage in the environment bearing significance to periodic history under study.

**COURSE OUTLINE :**

Broad study of the following periods and representatives examples of architectural history of concerned Western civilizations / countries in keeping with the aforesaid objectives.

1. **Pre – historic Period :**  
Housing forms in the initial phase-Cave shelters , Known dwellings and settlements, community structures, Tombs, menhir, temple, stone henge, dolmen
2. **Egyptian Period**
  - 1) Influence of socio-political system and climate
  - 2) Architectural Character
  - 3) Major building types Tombs, Temples

- 4) Elements of special attributes like column, styles, gateways, pillars, statues, hieroglyphic, & frescoes.

### **3. West Asiatic Civilizations**

- 1) Architectural Character of Sumerian Assyrian, & Persian Architecture
- 2) Building Types- Temples: Ziggurat  
Gateway: Ishtar gate  
Palaces of Persepolis & Palace of Steliphon
- 3) Elements of Special Attribute  
Statues of winged bull  
Bas Relief works in ceramics  
Column Style

### **4. Greek & Aegean, Mycenaean, Cretan Civilizations**

- 1) General Architectural Character of Aegean, Cretan, & Mycenaean Architecture
- 2) Socio Political & geo climatic status for Greek civilization
- 3) Architectural Character of Greek Architecture and Civilisation
- 4) Major building types  
Temples, Theatres, Agora, Stoa, Open air theatres, Council halls  
Civic structures, Hippodrome
- 5) Elements of Special Attributes  
Column Orders, Optical Correction,  
Construction Techniques.

### **Sessional Work**

The 'Sessional Work' shall comprise of the following.

- (i) A hand written journal with notes and manual sketches of representative examples (10 marks)
- (ii) A graphically presented or a written report with illustration of Any One of the topics to be individually elected and completed under the periodic supervision and guidance of the subject teacher. (20 marks)
  - (a) Scaled manual documentation of field studies of precincts, streets, building or parts thereof and artifacts bearing significance to the periodic history under study (not more than two half imperial sized sheets A2 – 420 x 594 mm each)  
OR
  - (b) Graphically illustrated and annotated manual presentation on 'Style identification' of Building or parts thereof bearing significance to periodic history under study (not more than two half imperial sized sheets (42 – 420 x 594 mm each).  
OR
  - (c) A hand written illustrated report of not more than 1000 words on comparative study of architectural features, motifs, design themes and typological planning evolutions in the periodic history under study. (20 marks)

### **Term II :**

#### **1) Roman Civilisation**

- 1) General Architectural Character
- 2) Major Building Types  
Tombs Temples, Amphitheatre,  
Hippodrome, Circus, Palaces,  
Arches, Bridges, Aqueduct, Thermae,
- 3) Elements of Special Attribute  
Roman Column Orders, Roman Construction Technology,  
Masonry Types

#### **2) Mayan, Inca, Mexican Civilisation**

- 1) General Architectural Character with description

## 2) Elements of Special Attributes

### 3) Chinese Civilisation

1) General Architectural Character with description of elements of special Attributes

#### Sessional Work -

The 'Sessional Work' shall comprise of the following.

- (i) A hand written journal with notes and manual sketches of representative examples (10marks)
- (ii) A graphically presented or a written report with illustration of Any One of the topics to be individually elected and completed under the periodic supervision and guidance of the subject teacher. (20 marks)
  - (a) Scaled manual documentation of field studies of precincts streets, building or parts thereof and artifacts bearing significance to the periodic history under study (not more than two half imperial sized sheets A2 – 420 x 594 mm each)  
OR
  - (b) Graphically illustrated and annotated manual presentation on 'Style identification' of Building or parts thereof bearing significance to periodic history under study (not more than two half imperial sized sheets (42 – 420 x 594 mm each).  
OR
  - (c) A hand written illustrated report of not more than 1000 words on comparative study of architectural features, motifs, design themes and typological planning evolutions in the periodic history under study. (20marks)

#### Recommended Readings

A. B. Gallion : Urban Pattern.  
Pt. Jawaharlal Nehru, 'Glimpses of world history"  
Geoffrey and Susan Jellicoe: Landscape of Man  
Sir Bannister Fletcher, The History of Architecture  
J.E. Swain: History of World Civilisation  
H.G. Wells: A short History of the World  
Sybil Moholy Nagy : The Matrix of Man  
Dora Crouch: History of Architecture  
Arnold Toynbee: A study of Architecture  
Dora Crouch: Traditions in Architecture  
J.Bronowski: The Ascent of Man  
Spiro Kostof: History of Architecture  
Gerald Burke : Towns in the Making.

SUBJECT CODE : 113430		<b>DESIGN FUNDAMENTALS IN ARCHITECTURE I - SS</b>	
SUBJECT CODE : 113431		<b>DESIGN FUNDAMENTALS IN ARCHITECTURE I - Theory</b>	
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	2	Theory Paper on contents of both terms at the end of term II	100 marks
Studio Periods	-	Sessional Term I	50 marks
Total Contact Period (Per Week)	2	Sessional Term II	50 marks
		Viva-voce	nil
		Total Marks (Sessional)	100

#### Term I :

#### COURSE OBJECTIVES :

Introduce students to Architectural Design as core subject of architecture studies.

Understand the relationship of Design Fundamentals of Architecture with other subjects of study.

Progressively introduce the design process as a synthesis of variety of factors analyzed and studied.

**COURSE OUTLINE :**

1. Introduction to Architectural design as a core subject and its relationship with other studies and subjects
2. Scope and study of Architecture in relation to Art and Technology
3. Scope and study of Building and climate
4. Passive Design policies for Indian climate
5. Scope and study of Building and site
6. Scope and study of orientation of internal spaces of buildings
7. Scope and study of circulation.

**SESSIONAL WORK :**

Sufficient number of projects to cover the above topics. ( 30 marks)

Additionally Sessional Work shall consist of minimum four tutorials based on the above topics. (20 marks)

**RECOMMENDED READINGS :**

1. Structure in Architecture – Heller Robert and Salvadori Mario
2. Design Fundamentals in Architecture – Prammar
3. Architecture : Form, Space and order – Francis D. K. Ching

**Term II :**

**COURSE OBJECTIVES :**

Introduce the design process as a synthesis of a variety of factors, analyzed and studied.

Develop a perception of space and a sense of visualization with the help of tools like sketches, drawings, models, computer animation etc.

**COURSE OUTLINE :**

- Conceptual outline of scope of Architectural structures, consideration of climate, site and circulation in designing efficient activity spaces.
- Brief outline of Basic components of Architectural structure
- Structural efficiencies of materials, Loads and Stress – Situations.
- Principal determinants of 'Form'
- Performance analysis of conventional material, structural efficiencies.
- 'Formal' characteristics of 'Supporting' and 'Supported' elements of conventional structural materials.
- Conceptual comparison of various structural systems.
- Process of Architectural Designing, underlining its implicit need to match the emphasis on technical and aesthetical components. Guidelines on proto-type approaches.

**SESSIONAL WORK :**

Sufficient number of projects to cover the topic. ( 30 marks)

Minimum four tutorials based on above topics. (20 marks)

**RECOMMENDED READINGS :**

1. Structure in Architecture – Heller Robert and Salvadori Mario
2. Design Fundamentals in Architecture – Prammar
3. Architecture : Form, Space and order – Francis D. K. Ching
- 4.

SUBJECT CODE : 113432		WORKSHOP AND MODEL MAKING - SS	
TEACHING SCHEME		EXAMINATION SCHEME	
Lecture Periods	-	Paper	nil
Studio Periods	3	Sessional Term I	50 marks
Total Contact Periods (Per Week)	3	Sessional Term II	50 marks
		Viva-voce	nil
		Total Marks (Sessional)	100

### **COURSE OBJECTIVES :**

To elaborate upon the importance of model making.

To acquire the skill in constructing three dimensional forms using different model making materials and equipment, using different scale.

To develop dexterity of hand in manipulation of different materials.

Introduction to materials used for model making.

Use of instruments and adhesives required for model making.

### **COURSE OUTLINE:**

#### **TERM-I**

- Introduction to various materials used for model making.
- Use of various instruments required for model making.
- Use of various adhesives and joining techniques.
- Importance of appropriate use of colors in model making and methods of coloring the models.
- Experiments with various materials and equipment in terms of preparation of basic forms / geometrical forms with appropriate scale and dimensions.
- Introduction to various types of models such as site model, study model, block model and finished presentation models.
- Importance of various types of models to appropriate stages of Architectural Design.
- Use of appropriate scales, suitable to various types of models.

#### **TERM-II**

- Study and preparation of model of a complete built structure.
- Elementary joinery in wood and plywood.
- Working with metal sheets, wires, etc.
- Tools used for stone and brick masonry and surface covering.
- Models of Interior Spaces.

It is recommended that the similar assignments of model making as required in Subjects of Architectural Design, Building Construction & Materials, Basic Design may be coordinated as a part of Workshop Studio instead of repeating models on the same topics.

### **SESSIONAL WORK:**

Sufficient number of projects to cover the topics mentioned above should be worked in class.

### **RECOMMENDED READINGS**

- New Origami Arts.
- Model building for Architects & Engineers by John Taylor.
- Architectural Models by Rolf Janke.