# LESSON PLAN

NAME OF THE FACULTY : SMT SEREBDEEP KAUR
DISIPLINE : ARCHITECTURAL ASSISTANTSHIP
YEAR : 1st YEAR
SUBJECT : **SKETCHING &MODEL MAKING**
LESSION PLAN DURATION : 15WEEKS
WORK LOAD PER WEEK : 08

| WEEK | PRACTICAL | |
|---|---|---|
| | LECTURE DAY | TOPIC |
| 1ST | 1 | Free-hand of different types of lines Horizontal lines Vertical lines |
| | 2 | Exercises of different types of lines: Diagonal lines, Grid lines |
| 2ND | 3 | Free hand sketching:<br>Two-dimensional geometrical figures Three-dimensional geometrical figures |
| | 4 | 3-Dimensional geometrical objects, Geometrical objects. (Cube, Cones, Prisms, Pyramids, Spheres<br>Cylinders etc.) |
| 3RD | 5 | Introduction to anthropometrics, Study of anthropometrics |
| | 6 | Freehand sketching of human figures, Trees, Furniture vehicles (One indoor exercise and one outdoor exercise), Vehicles |
| 4TH | 7 | Free hand sketching of small buildings with shade and shadow trees, Human figures, sky, clouds and birds, |
| 5TH | 8 | SESSIONAL-I |
| | 9 | Free hand sketching landscape elements, Using various mediums like pencil, ink and colours (water coloursand pencil colors etc.), Free hand sketches of Railway-station Free hand sketches of Railway-station |
| 6TH | 10 | Free hand sketches of parking places |
| | 11 | Free hand sketches of Bus stand, |
| | 12 | Free hand sketches of market scene, |
| | 13 | Free hand sketches of village scene |
| 7TH | 14 | Introduction of model making materials, techniques, Demonstration of model making materials, techniques techniques |
| | 15 | Block models of basic geometrical forms, Prisms, Pyramids, Cubes, Cylinders |
| 8TH | 16 | Using the following materials: Handmade sheet ivory sheet Thermocole |
| | 17 | Using the following materials: Mount Board / Sun Board/Balsa Wood Strips |
| | 18 | Composition of various geometrical shapes, different materials |

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| 9TH | 19 | SESSIONAL-II |
| | 20 | Sculpture Making Thermocole (Styropor) |
| 10TH | 21 | Mount Board/ sun board/ Balsa wood strips |
| | 22 | Clay modeling |
| 11TH | 23 | Making model /Sculpture materials such as copper wire, ceramics misc. materials like leather |
| | 24 | Brick Masonry, Laying of bricks in different bonds |
| 12TH | 25 | Painting and Polishing |
| | 26 | Introduction to painting tools, equipment |
| 13TH | 27 | Preparation of different colors |
| | 28 | Surface preparation before painting(steel), |
| 14TH | 29 | Painting Steel Items, Spray Painting metal items |
| | 30 | Surface preparation before painting(wood), Painting wooden, Spray Painting wooden |
| 15TH | 31 | Surface preparation before polishing (wood)Spray Painting wooden |
| | 32 | SESSIONAL-III |

# LESSON PLAN

NAME OF FACULTY : Smt. DIVYA RATHI

DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP

YEAR : 1ST YEAR

SUBJECT : **ARCHITECTURAL DRAWING – I**

LESSON PLAN DURATION : 15

WEEKSWORK LOAD PER WEEK : 08

| WEEK | PRACTICAL | |
|---|---|---|
| | LECTURE DAY | TOPIC |
| 1ST | 1 | Introduction and relevance<br>Need and Importance of the architectural drawing,<br>Basics of drafting instruments |
| | 2 | Basics of stationery (Pencils, sharpening, types of sheets, erasers, cutteretc.) , Demonstration by the teacher on holding pencils, fixing parallel bar and handling other tools and equipment used in Architectural Drawing<br><br>Basic line work, with different pencil thickness IntensitiesH,HB,2B,4B,6B |
| 2ND | 3 | Line Work: Horizontal lines , Vertical lines, Grid Line |
| | 4 | Diagonal lines , Composition , Pattern making in line work |
| 3RD | 5 | Lettering , Lettering Using different shades , Using different pencils & pens, stencils , Different styles, heights & intensities |
| | 6 | Introduction to Scale , Use of the modular scale, Metric system and FPS |
| 4TH | 7 | Geometric Shapes (Plan, elevation etc), Simple geometric(cubes, cylinder, consent ), Complex(fusion of the basic shapes), Incorporating the use of scale both feet & metric |
| | 8 | Orthographic Projections , Orthographic Projections & planes |
| 5TH | 9 | Dimensioning and its elements, methods, and arrangements of symbols for shape indication. |
| | 10 | **SESSIONAL-I** |
| | 11 | Introduction to Planes, Projections of Points. |

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| 6TH | 12 | Projections of lines |
| 7TH | 13 | Projection of solids, |
| | 14 | Section of Solids, Simple geometrical shapes |
| 8TH | 15 | Elementary building sections , Highlighting line, Intensities for sectional components, Elevational components for exp Parapet and Chajja |
| | 16 | Development of surface, Development with an aim to calculate areas |
| 9TH | 17 | **SESSIONAL-II** |
| | 18 | Isometric Views ($30^{o}$–$30^{o}$) |
| 10th | 19 | Isometric Views ($30^{o}$–$60^{o}$) |
| | 20 | 2D Geometrical shapes |
| 11th | 21 | 2D Geometrical shapes |
| | 22 | Conversion of 2D geometrical shapes into 3D isometric views, Conversion of 2D geometrical shapes into 3D isometric views |
| 12th | 23 | 3D isometric views |
| | 24 | Complex solid to basic building forms |
| 13th | 25 | Axonometric Views, 2D Geometrical shapes, Conversion of 2D Geometrical shapes |
| | 26 | 3D Axonometric views , Different angles ($45^{o}$–$45^{o}$) |
| 14th | 27 | Simple to complex solid to basic building forms, Isometric/axonometric use of any building form |
| | 28 | Base plan, Exterior components, Interior components |
| 15th | 29 | Exterior/interior components(with roads, landscape elements) |
| | 30 | **SESSIONAL-III** |

# LESSON PLAN

**NAME OF THE FACULTY : SMT DIVYA RATHI**

**DISIPLINE : ARCHITECTURAL ASSISTANTSHIP**

**SEMESTER : 3rd**

**SUBJECT : BUILDING SERVICES**

**LESSION PLAN DURATION : 15 WEEKS**

**WORK LOAD PER WEEK : 03 (L)**

| Week | THEORY | |
|---|---|---|
| | **LECTURE Day** | **Topic** |
| 1ST | 1 | Water Supply - Water as a natural resource, public health significance of water quality, demand of water for domestic, commercial, industrial and public utility purposes as per BIS standards. |
| | 2 | Per capita demand, leakage and wastage of water and its preventive measures |
| 2nd | 3 | System of water supply – continuous, intermittent, their advantages and disadvantages, Storage and Distribution of Water: Different methods of water distribution boosting water, gravity and pressure distribution by storage tanks of individual buildings |
| | 4 | Hot water supply for buildings including solar water heating, Service connections, types and sizes of pipes, water supply fixture and installations, Concept of Rain water harvesting. |
| 3rd | 5 | Drainage - Principles of drainage, surface drainage; combined and separate system of drainage, shape and sizes of drains and sewers, storm water over flow chambers, methods of laying and construction of sewers |
| | 6 | House drainage: traps – shapes, sizes, types, materials and function, Inspection chambers – sizes, and construction |
| 4th | 7 | Ventilation of house drainage – anti-siphonage and vent pipes, single stack and double stack system, |
| | 8 | Functions and working of sinks, wash basins, water closets, flushing cisterns, urinals, – sizes and types, Septic tanks, seepage and soak pits |
| 5th | 9 | Simple exercises on layout plans for toilet and kitchens for public and residential buildings including the placement, distances and fixing details |
| | 10 | SESSIONAL TEST-I |
| 6th | 11 | Lighting and Electrical Fittings - Electrical distribution-conduits for wiring |
| | 12 | Types of wiring, types of switches, various terms used in lighting-illumination, Lux, lumen etc. distribution panels |

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| 7th | 13 | MCB'S, ELCBS, Methods of lighting, quality of light of mercury lamps, incandescent types of lamps, fluorescent tubes |
| | 14 | CFL and other lamps, thumb rules for calculation of illuminating level, various systems of wiring and their sustainability |
| 8TH | 15 | Symbolic representation of electrical fittings for different work areas in residential building (e.g. bed room, living room, kitchen, study and toilet) |
| | 16 | Preparation of electrical layout of a simple residential building, Precautions to avoid electrical accidents |
| 9th | 17 | Heat, Ventilation and Air Conditioning (HVAC) - Behavior of heat propagation |
| | 18 | Thermal insulating materials and their co-efficient of thermal conductivity |
| 10th | 19 | General methods of thermal insulation |
| | 20 | SESSIONAL II |
| 11th | 21 | Thermal insulation of roofs, exposed walls, Ventilation |
| | 22 | Definition and necessity, System of ventilation (Mechanical) |
| 12th | 23 | Essentials of air-conditioning system, Fire Fighting Services - Causes of fire in Buildings |
| | 24 | Classification of building materials according to fire rating; fire alarm systems |
| 13th | 25 | Introduction to fire-fighting system, precaution and controlling devices (fire panels, door and windows automation, fire hydrants and sprinklers) |
| | 26 | Fire escape elements (staircases, ramps,), provisions in building from fire safety angle as per BIS |
| 14th | 27 | heat detectors, and fire detection system |
| | 28 | Vertical Transportation Systems - Classification and types of lifts |
| 15th | 29 | lift sizes, provision and installation, escalators, sizes, safety norms to be adopted |
| | | SESSIONAL III |

## LESSON PLAN

NAME OF THEFACULTY : Mrs. Serebdeep Kaur

DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP

SEMESTER : 3rd

SUBJECT : **HOA-I**

LESSON : 15 WEEKS

WORK LOAD PER WEEK : 04

| Week | Theory | |
|---|---|---|
| | **Lecture Day** | **Topic** |
| 1ST | 1 | Introduction to HISTORY OF ARCHITECTURE |
| | 2 | Importance of history to understand the Architecture |
| | 3 | Examples of Early shelters, Stone Age, Tumuli, etc. as expression of man's physical and spiritual needs. |
| | 4 | Examples of Early shelters, Stone Age, Tumuli, etc. as expression of man's physical and spiritual needs. |
| 2ND | 5 | Determinants of built form – geo physical, societal, technological etc. |
| | 6 | (Early caves, timber huts, stone houses etc). |
| | 7 | Western Civilization |
| | 8 | Egyptian Civilization Concept of the Royal Necropolis |
| 3RD | 9 | Locational context and architectural characteristics of public buildings |
| | 10 | e.g. Mastabas (master of sakara) and pyramids (rock – cut and structural) – one example of each type to be chosen |
| | 11 | Mesopotamian Civilization |
| | 12 | |
| 4TH | 13 | The urban context and architecture of public buildings (Ziggurats) - one example. |
| | 14 | Greek and Roman Civilizations |
| | 15 | Greek Civilization, Location and characteristics of typical civic spaces such as Agora, Acropolis,Stoa. |
| | 16 | Significant characteristics of Greek Architecture such as Materials, construction systems |

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| 5TH | 17 | System of proportioning, Greek orders, architecture of Greek temples – Parthenon, Athens. |
| | 18 | Roman Civilization- Significant characteristics of Roman Architecture. |
| | 19 | **SESSIONAL TEST- 1** |
| | 20 | Concept of monumentality, materials and construction systems, |
| 6TH | 21 | Roman orders, Colosseum |
| | 22 | Pantheon, Rome, their form, and constructional/structural systems. |
| | 23 | Indian Civilization and Buddhist Architecture in India |
| | 24 | |
| 7TH | 25 | Indus Valley Civilization: Form of the Harappan city, |
| | 26 | location and role of public buildings. |
| | 27 | Architecture of the typical (Harappan dwelling) |
| | 28 | |
| 8TH | 29 | Great Granary and Great Bath. |
| | 30 | The Vedic Village, |
| | 31 | Building typology and construction. |
| | 32 | Buddhist Architecture in India Building typology |
| 9TH | 33 | Stupas |
| | 34 | Chaitya Hall |
| | 35 | Vihara one example from each; construction methods and ornamentation |
| | 36 | Temple Architecture in India |
| 10TH | 37 | Evolution of temple and its various parts. |
| | 38 | Dravidian style (Southern) |
| | 39 | **SESSIONAL TEST- 2** |
| | 40 | Dravidian style (Southern) |
| 11TH | 41 | General characteristics, |
| | 42 | Construction methods and material |

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| | 43 | Construction methods and material |
| | 44 | (e.g. shore temple at Mahabalipuram,) |
| 12TH | 45 | architectural form, planning components, construction methods, materials, motifs |
| | 46 | Indo Aryan Temple (North Indian) |
| | 47 | Sun Temple Konark; |
| | 48 | Architectural form, |
| 13TH | 49 | Planning components, construction methods, materials, motifs |
| | 50 | Lingaraja Temple at Bhubhaneshwar |
| | 51 | Architectural form, planning components, |
| | 52 | Construction methods, materials, motifs |
| 14TH | 53 | Kandariya Mahadeo at Khajuraho |
| | 54 | architectural form, planning components, |
| | 55 | Construction methods, materials, motifs |
| | 56 | Jain temples in India |
| 15TH | 57 | Dilwara temple, Mt. Abu |
| | 58 | Architectural form, planning components, |
| | 59 | Construction methods, materials, motifs |
| | 60 | **SESSIONAL TEST- 3** |

# LESSON PLAN

**NAME OF THE FACULTY : SH. PARDEEP KUMAR MITTAL**
**DISIPLINE : ARCHITECTURAL ASSISTANTSHIP**
**SEMESTER : 3rd**
**SUBJECT : BUILDING MATERIALS AND CONTRUCTION TECHNOLOGY–I**
**LESSION PLAN DURATION : 15 WEEKS**
**WORK LOAD PER WEEK : 02(T) + 04 (P)**

| Week | Theory /practical | |
|---|---|---|
| | Lecture Day | Topic |
| 1ST | 1 | **Lime & Cement** : Uses and classification of lime**,** Setting action of fat lime and hydraulic lime and Storing of lime. |
| | 2 | Joinery (1 sheets) Doors frames – their fixing . |
| 2ND | 3 | Types of cement, their properties and uses Composition of portland cement Setting and hardening of cement and storage of cement |
| | 4 | Joinery (1sheets) windows frames – their fixing . |
| 3RD | 5 | Aggregates & Mortar Types and uses of Coarse Aggregates and Fine Aggregates Different types of sand and other Puzzolona material |
| | 6 | Panel Door . (1 sheet) |
| 4TH | 7 | Functions, uses of Mortar and its proportion for different building works Preparation of cement mortar, lime mortar. |
| | 8 | Flush Door. (1 sheet) |
| 5TH | 9 | Lime cement mortar and their uses . |
| | 10 | **SESSIONAL Ist** |
| 6TH | 11 | Definition of concrete, workability of concrete, Water - Cement Ratio. |
| | 12 | Casement Windows . (1 sheets) |
| 7TH | 13 | Compaction and Curing of concrete Properties & necessity of Reinforced cement concrete (RCC), M15, and M20 . |
| | 14 | Pivot Windows. (1 sheets) |
| 8TH | 15 | Characteristics and uses of common Indian timbers i.e. Sal, Deodar, Kali, Tali, Chir, and Teak etc. |
| | 16 | Building hardware (sizes, applications) (1sheet) : Tower bolts Hinges including concealed hinges, Door , Handles , Door springs , Latches . |

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| **9TH** | **17** | Characteristics of hard wood and soft wood. Characteristics of good timber. |
| | **18** | Building hardware (sizes, applications) (1sheet) : Floor door stopper/floor springs and magnetic types stoppers Fan light pivots, Mortice lock , Door closer – including hydraulic types, Ventilator chains, Wire gauze, Magnetic cupboard closers. |
| **10TH** | **19** | Defects in timber. |
| | **20** | **SESSIONAL-II** |
| **11TH** | **21** | Different methods of seasoning and preservation / preservative materials of timber. |
| | **22** | Plastering and pointing (1 Sheet) |
| **12TH** | **23** | Types of doors , Types of windows |
| | **24** | False Ceiling, (1 Sheets) |
| **13TH** | **25** | Types, thickness, uses, Availability and sizes of : Sheet glass Wired glass, Laminated safety glass , Plate glass, |
| | **26** | Paneling and Fibrous Board Finishes (1 Sheets) |
| **14TH** | **27** | Types, thickness, uses, Availability and sizes of : Insulating glass Tinted glass Heat absorbing glass , Glass blocks |
| | **28** | Market survey/collection of catalogues for study purpose. |
| **15TH** | **29** | Types, thickness, uses, Availability and sizes of : Toughened glass Structural glazing , Etched glass , Stained glass , Mirrors . |
| | **30** | SESSIONAL III |

# LESSON PLAN

**NAME OF THE FACULTY : SH. RAJESH KUMAR**
**DISIPLINE : ARCHITECTURAL ASSISTANTSHIP**
**SEMESTER : 3rd**
**SUBJECT : BASIC DESIGN AND VISUAL ARTS**
**LESSION PLAN DURATION : 15 WEEKS**
**WORK LOAD PER WEEK : 08 (P)**

| Week | Practical | |
|---|---|---|
| | Lecture Day | Topic |
| 1ST | 1 | Basic elements of Anthropometrics with respect to average measurements of human body of adult in different postures-its proportion and graphic representation. |
| | 2 | Basic elements of Anthropometrics with respect to average measurements of human body of children in different postures-its proportion and graphic representation. |
| 2ND | 3 | Human body (Anthropometrics), Various activities of human body , Proportion of Components of Human Body , The proportions of the different components of the human body; Examples from Le Corbusier Modular Man , Vastu Pursha Mandala. |
| | 4 | Human Activities : Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions. Activity space analysis related to form, function and expression of individual spaces like Bed room , Drawing room |
| 3RD | 5 | Human Activities : Basic human functions and their implications for spatial planning. Minimum and optimum areas for various functions. Activity space analysis related to form, function and expression of individual spaces like Kitchen, Bath room etc . |
| | 6 | Furniture standards (sizes of domestic and public furniture); Toilet - sizes and standards; |
| 4TH | 7 | Furniture standards (sizes of domestic and public furniture); Kitchen equipment - sizes and standards; |
| | 8 | windows - sizes, standards and locations. |
| 5TH | 9 | **SESSIONAL Ist** |
| | 10 | Doors - sizes, standards and locations. |
| 6TH | 11 | Standard Parking l a y o u t s s h o w i n g t u r n i n g r a d i i for two-wheelers. Parking layouts at various angles (parallel, 45 degrees, 90 degrees), Standard road width. |
| | 12 | Standard Parking l a y o u t s s h o w i n g t u r n i n g r a d i i for cars, buses, etc. Parking layouts at various angles (parallel, 45 degrees, 90 degrees), Standard road width. |
| 7TH | 13 | Street furniture : Standards for drinking fountains, waiting queues at bus stops, garden seats, waste bins, telephone booths, street lights, foot paths, public walkways, railing etc. |
| | 14 | |
| 8TH | 15 | Street furniture : Standards for drinking fountains, waiting queues at bus stops, |

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| | | garden seats, waste bins, telephone booths, street lights, foot paths, public walkways, railing etc. |
| | 16 | Street furniture : Standards for drinking fountains, waiting queues at bus stops, garden seats, waste bins, telephone booths, street lights, foot paths, public walkways, railing etc. |
| **9TH** | 17 | Street furniture : Standards for drinking fountains, waiting queues at bus stops, garden seats, waste bins, telephone booths, street lights, foot paths, public walkways, railing etc. |
| | 18 | Graphic Representation of plant material (ground cover, foliage, shrubs, trees ). |
| **10TH** | 19 | Graphic Representation of plant material ( human figures and vehicles). |
| | 20 | **SESSIONAL-II** |
| **11TH** | 21 | Introduction to AutoCAD (Latest version or AutoCAD2007) Input devices• Graphics• Starting AutoCAD• Inside the drawing editor• Commands in the menus (Tool bars)• Accessing Commands• Entity selection• Entering coordinate• |
| | **22** | • Accessing Commands• Entity selection• Entering coordinate• Folders for organizing drawings and files Exercise: Creating folders and sub folders |
| **12TH** | 23 | Creating and Saving a new Drawing Commands and options to create new drawings• Units• Limits• Snap• Grid• Ortho• Layer |
| | 24 | Application of layers• Open a new, existing drawing• Save, save as, quit, close, exit• |
| **13TH** | 25 | Customization of tool bars• Exercise: Setting up a new drawing with units, limits etc . |
| | 26 | Draw Commands Line• Poly line/Multi line.• Arc• Ellipse• Polygon• Rectangle• SP line• Circle• Sketch.• Hatch• Donuts• |
| **14TH** | 27 | Modifying an Existing Drawing Commands Undo Redo/Oops• Trim• Move• |
| | 28 | Offset• Rotate• Array• Stretch• Divide• Champher• Erase• Break• Copy, multiple copy• Mirror (Mirror test)• |
| **15TH** | **29** | Change (change properties)• Extend• Explode• Blip mode• Scale• Fillet• Design center. |
| | **30** | SESSIONAL III |

## LESSON PLAN

NAME OF THE FACULTY : SUNIL RAI
DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP
SEMESTER : 3rd
SUBJECT : **ARCHITECTURE DRAWING – III**
LESSON PLAN DURATION : 15 WEEKS
WORK LOAD PER WEEK : 04

| WEEK | PRACTICAL TOPIC |
|---|---|
| 1ST | **Basic of Perspective:** Introduction to basic terminology (picture plane. Vanishing point, Station point, cone of vision etc) Introduction to types of perspective - (One-point, Two-point, Bird's eye view, worm's eye view, normal eye view etc.) (vanishing point method) |
| 2ND | **Drawing of Two-Point Perceptive Views:** Geometrical shapes incorporating all views: planes, cones, cubes, cylinders, pyramid etc. Bird's eye view, Normal eye view, Worms eye view |
| 3RD | Geometrical shapes incorporating all views: planes, cones, cubes, cylinders, pyramid etc. Bird's eye view, Normal eye view, Worms eye view |
| 4TH | Two point perspective of simple building such as Guard room, kiosk etc |
| 5TH | **IST SESSIONAL TEST** |
| 6TH | Two point perspective of simple building such as Guard room, kiosk etc |
| 7TH | **Drawing of One-Point Perceptive Views:** Geometrical shapes incorporating all views: planes, cones, cubes, cylinders, pyramid etc. |
| 8TH | One point perspective of a given plan of kitchen and drawing room. |
| 9TH | **Introduction to Sciography-in Plans and Elevation**. Geometrical shapes such as: planes, cones, cubes, cylinders, pyramid etc. |
| 10TH | **2ND SESSIONAL TEST** |
| 11TH | Geometrical shapes such as: planes, cones, cubes, cylinders, pyramid etc. |
| 12TH | Sciography of simple building such as Guard room, kiosk etc. |
| 13TH | **Introduction to Rendering:** Demo from teacher in different mediums - colour pencils, crayon, Colourwash. Markers etc. Rendering Techniques in pen and ink, Different colour mediums. |
| 14TH | Rendering of a given perspectives |
| 15TH | **3RD SESSIONAL TEST** |

LESSON PLAN

NAME OF THE FACULTY : SUNIL RAI
DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP
SEMESTER : 3rd
SUBJECT : **CLIMATOLOGY**
LESSON PLAN DURATION : 15 WEEKS
WORK LOAD PER WEEK : 03

| WEEK | LECTURE DAY | THEORY<br>TOPIC |
|---|---|---|
| 1ST | 1. | **General Introduction :** Introduction to climatology |
| | 2. | Movement of earth around sun, |
| | 3. | Elements of climate (Wind, temp, humidity,). |
| 2ND | 4. | Elements of climate (precipitation, pressure). |
| | 5. | Different Climatic Zones. |
| | 6. | Orientation of building with respect to above mentioned elements of climate |
| 3RD | 7. | Effect of climate on man and shelter. |
| | 8. | **Relation of Climate and comfort:**<br>Macro-micro climatic effects |
| | 9. | Difference between Climate and comfort |
| 4TH | 10. | Difference between Macro-micro climatic effects |
| | 11. | Concept of comfort zone and bio-climatic chart |
| | 12. | Concept of comfort zone and bio-climatic chart |
| 5TH | 13. | Climatic evaluation by season |
| | 14. | Climatic evaluation by season |
| | 15. | IST SESSIONAL TEST |

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| 6TH | 16. | **Sun Control and shading devices (without calculations)** |
| | 17. | Solar Chart (sun path diagram) |
| | 18. | Orientation for sun |
| 7TH | 19. | Internal and external sun protection devices |
| | 20. | Internal and external sun protection devices |
| | 21. | Natural lighting |
| 8TH | 22. | Introduction of Solar Passive Design |
| | 23. | Objectives of Solar Passive Design |
| | 24. | Passive solar heating and cooling |
| 9TH | 25. | **Wind control:** Orientation with respect to wind |
| | 26. | Orientation with respect to wind |
| | 27. | Wind protection devices |
| 10TH | 28. | Use of building materials with respect to climate: Concrete, Brick, Glass |
| | 29. | Use of building materials with respect to climate: Plastics, Stone, Insulating material |
| | 30. | 2ND SESSIONAL TEST |
| 11TH | 31. | **Environment and Ecology:** |
| | 32. | Environment and Ecology |
| | 33. | Basic elements of ecology |
| 12TH | 34. | Concepts of natural cycles in Eco-system |
| | 35. | Source of noise and air pollution |
| | 36. | Noise and air pollution effects |

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| 13TH | 37. | Noise and air pollution controls |
| | 38. | Use of landscape elements |
| | 39. | Use of landscape elements for micro and macro climate control |
| 14TH | 40. | Use of landscape elements for micro and macro climate control |
| | 41. | Introduction to climate change |
| | 42. | Principle causes of climate change |
| 15TH | 43. | Climate change: effects- methods of mitigating climate change |
| | 44. | Climate change: effects- methods of mitigating climate change |
| | 45. | 3RD SESSIONAL TEST |

# LESSON PLAN

NAME OF THE FACULTY :Mrs. Serebdeep Kaur

DISIPLINE : ARCHITECTURAL ASSISTANTSHIP

SEMESTER : 5th

SUBJECT : **HISTORY OF ARCHITECTURE - III**

LESSION PLAN DURATION : 15 WEEKS

WORK LOAD PER WEEK : 03

| Week | Lecture Day | Theory Topic |
|---|---|---|
| | | |
| 1ST | 1 | Introduction of Islam in India. |
| | 2 | Islam in India - New building types, structural system. |
| | 3 | Islam in India - Structural system and ornamentation (Qutab Complex). |
| 2ND | 4 | Development of Indo-Islamic architectural style. |
| | 5 | Indo-Islamic architectural style - the sultanate period of Lodhi's & Tughlaqs. |
| | 6 | Indo-Islamic architectural style - the sultanate period of Tughlaqs. |
| 3RD | 7 | Indo-Islamic architectural style - General architectural vocabulary |
| | 8 | Indo-Islamic architectural style - Construction methods/materials of Lodhi Tomb. |
| | 9 | Indo-Islamic architectural style - Tomb of Ghiya-ud-din Tughlag. |
| 4TH | 10 | Provincial Styles- Jaunpur and Bijapur (Jama Masjid). |
| | 11 | Provincial Styles- Jaunpur and Bijapur ( Gol Gumbaz). |
| | 12 | Provincial Styles - Construction methods/materials of Lodhi Tomb. |
| 5TH | 13 | Mughal Architecture-General architectural characteristics to understand architectural vocabulary. |
| | 14 | Mughal Architecture-General architectural - construction methods in (Humayun Tomb. |
| | 15 | SESSIONAL TEST - 1 |
| 6TH | 16 | Mughal Architecture-General architectural - Red Fort) |
| | 17 | Mughal Architecture-General architectural - Fatehpur Sikri). |
| | 18 | Mughal Architecture-General architectural - Taj Mahal at Agra). |
| 7TH | 19 | Mughal Architecture-General architectural - Jama Masjid at Delhi). |
| | 20 | Mughal Architecture-General architectural - Taj Mahal , Jama Masjid). |
| | 21 | Industdrial revolution. |

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| 8TH | 22 | Industrial revolution and its impact on architecture. |
| | 23 | Industrial revolution - Influence of new construction materials. |
| | 24 | Industrial revolution - functional needs on Building types. |
| 9TH | 25 | Industrial revolution - architectural form. |
| | 26 | Industrial revolution – architectural bridges, exhibition halls. |
| | 27 | Modern Architecture in Europe and America |
| 10TH | 28 | Modern Architecture in America. |
| | 29 | Modern Architecture - Emergence of modern architecture in Europe. |
| | 30 | SESSIONAL TEST - 2 |
| 11TH | 31 | Modern Architecture - Emergence of modern architecture social & technological. |
| | 32 | Modern Architecture - aesthetic concerns of modern movement. |
| | 33 | Modern Architecture - New building materials (Concrete, steel and glass) and their architectural expression. |
| 12TH | 34 | Modern Architecture - Philosophy and key works of Louis Sullivan, |
| | 35 | Modern Architecture - Walter Gropius, Frank Lloyd Wright. |
| | 36 | Modern Architecture - Frank Lloyd Wright. |
| 13TH | 37 | SESSIONAL TEST - 2 |
| | 38 | Modern Architecture - Mies Van De Rohe, Le Corbusier. |
| | 39 | Modern Architecture - Le Corbusier. |
| 14TH | 40 | Contemporary/post Independence Architecture in India. |
| | 41 | Work of Le Corbusier in India, |
| | 42 | Work of Louis Kahn, Charles Correa |
| 15TH | 43 | Work of B.V. Doshi, Joseph Allen Stein and Raj Rewal. |
| | 44 | Work of Louis Kahn, Raj Rewal. |
| | 45 | SESSIONAL TEST - 3 |

# LESSON PLAN

NAME OF THE FACULTY : Sh. Gurdeep Malik

DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP

SEMESTER : 5th

SUBJECT : **REINFORCED CEMENT CONCRETE**

LESSON PLAN DURATION : 15 WEEKS

WORK LOAD PER WEEK : 06

| WEEK | LECTURE DAY | THEORY<br>TOPIC |
|---|---|---|
| 1ST | 1. | Introduction and Concept of Reinforced Cement Concrete (RCC) |
| | 2. | Reinforcement Materials: - Suitability of steel as reinforcing material<br>- Physical properties of mild steel and HYSD/TMT steel |
| 2ND | 3. | Loading on structures as per IS: 875 |
| | 4. | Introduction to following methods of RCC design |
| 3RD | 5. | Working stress method, Limit state method |
| | 6. | Shear and Development Length |
| 4TH | 7. | Shear as per IS:456-2000 by working stress method |
| | 8. | Shear strength of concrete without shear reinforcement |
| 5TH | 9. | Maximum shear stress, Shear reinforcement |
| | 10. | IST SESSIONAL TEST |
| 6TH | 11. | Basic assumptions of Singly Reinforced Beam (working stress method) |
| | 12. | Stress strain curve |
| 7TH | 13. | Neutral axis, balanced, under reinforcement and over reinforced beams, |
| | 14. | Moment of resistance for singly reinforced beam. |

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| 8TH | 15. | Design of singly reinforced beam including sketches showing reinforcement details |
| | 16. | Concept of Limit State Method (as per IS 456:2000) |
| 9TH | 17. | Definitions and assumptions made in limit state of collapse (flexure) |
| | 18. | Partial factor of safety for materials, Partial factor of safety for loads |
| 10TH | 19. | Design loads, Stress block diagram |
| | 20. | 2ND SESSIONAL TEST |
| 11TH | 21. | Theory and Design of singly reinforced beam by Limit State Method |
| | 22. | Doubly Reinforced Beams, Theory and design of simply supported doubly reinforced rectangular beam by Limit State Method |
| 12TH | 23. | Behaviour of T beam, inverted T beam, isolated T beam and 'L' beams (No Numericals) |
| | 24. | Theory and design of simply supported one way slab including sketches showing reinforcement details (plan and section) by Limit State Method. |
| 13TH | 25. | Theory and design of two-way simply supported slab with corners free to lift, no provisions for torsional reinforcement by Limit State Method including sketches showing reinforcement details (plan and two sections) |
| | 26. | Axially Loaded Column- Definition and classification of columns, Effective length of column, Specifications for longitudinal and lateral reinforcement |
| 14TH | 27. | Design of axially loaded square, rectangular and circular (with lateral ties only) short columns by Limit State Method including sketching of reinforcement (sectional elevation and plan) |
| | 28. | Concept of foundation: shallow and deep foundation, types and suitability of foundation (no numerical |
| 15TH | 29. | Concept of pre-stressed concrete, advantages and disadvantages, Methods of pre-stressing |
| | 30. | 3RD SESSIONAL TEST |

# LESSON PLAN

NAME OF THE FACULTY :Sh. Pardeep Kumar Mittal

DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP

SEMESTER : 5th

SUBJECT : **WORKING DRAWING - II**

LESSON PLAN DURATION : 15 WEEKS

WORK LOAD PER WEEK : 06

| WEEK | LECTURE DAY | PRACTICAL<br>TOPIC |
|---|---|---|
| 1ST | 1. | Preparation of working drawings in ink or on AutoCAD/computer of a two or three storeyed building already dealt with in the design project: |
| | 2. | Site Plan of a two or three storeyed building |
| 2ND | 3. | Foundation layout plan of a two or three storeyed building |
| | 4. | Foundation layout plan of a two or three storeyed building |
| 3RD | 5. | Foundation sectional details of a two or three storeyed building |
| | 6. | Ground Floor Plan of a two or three storeyed building |
| 4TH | 7. | Upper Floor Plans (one for each floor) |
| | 8. | Upper Floor Plans (2nd floor plan) |
| 5TH | 9. | Upper Floor Plans (3rd floor plan) |
| | 10. | IST SESSIONAL TEST |
| 6TH | 11. | Terrace Plan with rainwater drainage and disposal details |
| | 12. | Terrace Plan with proper dimensioning |
| 7TH | 13. | Terrace Plan with specifications so that it may be used for site execution specifications so that it may be used for site execution |
| | 14. | Built-in furniture e.g. side boards, wardrobes, cupboards, niches etc in plan. |

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| 8TH | 15. | Built-in furniture e.g. side boards, wardrobes, cupboards, niches etc in plan. |
| | 16. | Draw 2 elevations of a given plan. (front and side view) |
| 9TH | 17. | Draw 2 sections of a given plan. (front and side view) |
| | 18. | Entrance gate with proper details. |
| 10TH | 19. | Boundary wall with proper details. |
| | 20. | 2ND SESSIONAL TEST |
| 11TH | 21. | Railing with proper details. |
| | 22. | Electrical layout plan of an already handled design project |
| 12TH | 23. | Electrical layout plan of an already handled design project |
| | 24. | Specification of electrical symbols details |
| 13TH | 25. | Water supply layout plan of an already dealt design project. |
| | 26. | Sewage & drainage layout plan of an already dealt design project. |
| 14TH | 27. | Fire fighting layout plan of an already dealt design project. |
| | 28. | Water supply, sewage & drainage layout plan & fire fighting layout of an already dealt design project. |
| 15TH | 29. | Water supply, sewage & drainage layout plan & fire fighting layout of an already dealt design project. |
| | 30. | 3RD SESSIONAL TEST |

# LESSON PLAN

NAME OF THE FACULTY : Sh. Sunil Rai

DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP

SEMESTER : 5th

SUBJECT : **COMPUTER APPLICATIONS IN ARCHITECTURE - II**

LESSON PLAN DURATION : 15 WEEKS

WORK LOAD PER WEE : 06

| WEEK | LECTURE DAY | THEORY<br>TOPIC |
|---|---|---|
| 1ST | 1. | The design problem done in 4th semester as main project shall be taken up for preparing a complete set of drawings. These include all plans showing all interior layouts, joinery schedule, tree plantations, parking layout etc. |
| 2ND | 2. | The design problem done in 4th semester as main project shall be taken up for preparing a elevations (minimum 2) and sections (2 minimum) |
| 3RD | 3. | Fundamentals of 3-D Drafting , Basic Features such as box, wedge, cylinder, torus etc. |
| 4TH | 4. | Coordinate system, 3-D entities and surfaces such as boundary, resign (Converting simple geometric shapes into 3-D Objects) |
| 5TH | 5. | IST SESSIONAL TEST |
| 6TH | 6. | Making an existing 2-D plan drawing compatible to 3-D drafting (Commands and modifications to 2-D drawings, B. Poly, rectangle, elevation, extrude – requirements and applications) |
| 7TH | 7. | 3-D of exterior of blocks – preparation, modification of 2-D drawing 3-D of interiors of block – preparation, modification of 2-D drawings |
| 8TH | 8. | 3-D Modeling such as extrude, press pull, spline, subtract, unian etc. |
| 9TH | 9. | Visual style like 2D Wire frame, 3D Wire frame, surface 3D hidden wire frame etc. |

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| 10TH | 10. | 2ND SESSIONAL TEST |
| 11TH | 11. | 3-D solid modeling and Viewing 3-D models like front view, top view, side view and isometric views. |
| 12TH | 12. | Rendering, shading , hide commands, lights and Camera, Material representation, Importing, exporting library and printing 3-D |
| 13TH | 13. | Demonstration of 3D max, Corel Draw, Adobe Photoshop as rendering tool for 3D blocks/ walk through etc. |
| 14TH | 14. | Converting simple geometrical shapes into 3-D objects<br>2. Students will take their second year design proposals and convert them in 3-dimensional presentation models |
| 15TH | 15. | 3RD SESSIONAL TEST |

# LESSON PLAN

NAME OF THE FACULTY : Sh. Sunil Rai

DISCIPLINE : ARCHITECTURAL ASSISTANTSHIP

SEMESTER : 5th

SUBJECT : **BUILDING CONSTRUCTION-IV**

LESSION PLAN DURATION : 15 WEEKS

WORK LOAD PER WEEK : 06

| WEEK | LECTURE DAY | PRACTICAL<br>TOPIC |
|---|---|---|
| 1ST | 1. | Riveted Connections and Welded Joints |
| | 2. | Draw Riveted joint Connections |
| 2ND | 3. | Draw Welded Joints connections |
| | 4. | Steel Sections<br>- Draw Steel doors using standard rolled sections ( plan, section and elevation) |
| 3RD | 5. | Steel Sections<br>- Draw Steel windows using standard rolled sections ( plan, section and elevation) |
| | 6. | Steel Sections<br>- Draw Rolling structure ( plan, section and elevation) |
| 4TH | 7. | Steel Sections<br>- Draw collapsible structure ( plan, section and elevation) |
| | 8. | Technical terms of Steel Sections |
| 5TH | 9. | Steel Roofs |
| | 10. | IST SESSIONAL TEST |
| | 11. | Technical terms of Steel Roofs |

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| 6TH | 12. | Line diagram of steel roofs for various spans |
| 7TH | 13. | Draw the Line diagram of steel roofs for various spans |
| | 14. | Construction details of steel roofs |
| 8TH | 15. | Draw the Construction details of steel roofs |
| | 16. | Roof covering: AC, GI sheets |
| 9TH | 17. | Draw the Roof covering: AC, GI sheets |
| | 18. | North light truss |
| 10TH | 19. | North light truss |
| | 20. | 2ND SESSIONAL TEST |
| 11TH | 21. | Frame and Sealed Connections Built Up Steel Columns and Beams |
| | 22. | Draw Frame and Sealed Connections Built Up Steel Columns |
| 12TH | 23. | Draw Frame and Sealed Connections Built Up Steel Beams |
| | 24. | Beam to beam framed connection |
| 13TH | 25. | Beam to column framed connection |
| | 26. | Beam to column seated connection |
| 14TH | 27. | Draw Beam to beam framed connection |
| | 28. | Draw Beam to column framed connection |
| 15TH | 29. | Draw Beam to column seated connection |
| | 30. | 3RD SESSIONAL TEST |

# LESSON PLAN

NAME OF THE FACULTY : Smt.Serebdeep kaur

DISCIPLINE :ARCHITECTURAL ASSISTANTSHIP

SEMESTER :5th

SUBJECT :**ARCHITECTURAL DESIGN - IV**

LESSON PLAN DURATION :15 WEEKS

WORK LOAD PER WEEK 06

| WEEK | LECTURE DAY | THEORY<br>TOPIC |
|---|---|---|
| 1ST | 1. | Introduction<br>Two exercises of upto 3-storied buildings of 8 weeks duration each to be done<br>individually. The exercise could be any of the following: |
| | 2. | a) Small housing complex.<br>Preparation of site plan for small housing complex<br>Special Emphasis to be laid on site planning. Services, Parking. Note:<br>1. Case study and library study must be done for each exercise. Note:<br>2 Site Visits and related case studies to be carried out |
| 2ND | 3. | Drawing ground floor plan of small housing complex. |
| | 4. | Drawing 1st , 2nd and terrace floor plan of small housing complex. |
| 3RD | 5. | Preparation of two elevations of small housing complex |
| | 6. | Preparation of two sections of small housing complex. |
| 4TH | 7. | b) Museum, exhibition centre.<br>Preparation of site plan for Museum, exhibition centre |
| | 8. | Drawing ground floor plan of Museum, exhibition centre. |
| 5TH | 9. | Drawing 1st , 2nd and terrace floor plan of Museum, exhibition centre. |
| | 10. | IST SESSIONAL TEST |
| 6TH | 11. | Preparation of two elevations of Museum, exhibition centre |
| | 12. | Preparation of two sections of Museum, exhibition centre |

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| 7TH | 13. | c) Motel<br>Preparation of site plan for Motel. |
| | 14. | Drawing ground floor plan of Motel. |
| 8TH | 15. | Drawing 1st , 2nd and terrace floor plan of Museum, exhibition centre. |
| | 16. | Preparation of two elevations of Museum, exhibition centre. |
| 9TH | 17. | Preparation of two sections of Museum, exhibition centre. |
| | 18. | d) Shopping centre<br>Preparation of site plan for Shopping centre |
| 10TH | 19. | Drawing ground floor plan of Shopping centre |
| | 20. | 2ND SESSIONAL TEST |
| 11TH | 21. | Drawing 1st , 2nd and terrace floor plan of Shopping centre. |
| | 22. | Preparation of two elevations of Shopping centre. |
| 12TH | 23. | Preparation of two sections of Shopping centre. |
| | 24. | e) High school<br>Preparation of site plan for High school |
| 13TH | 25. | Drawing ground floor plan of High school. |
| | 26. | Drawing 1st, 2nd and terrace floor plan of High school |
| 14TH | 27. | Preparation of two elevations of High school |
| | 28. | Preparation of two sections of High school |
| 15TH | 29. | Preparation of two sections of High school |
| | 30. | 3RD SESSIONAL TEST |