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- [Lecture 53 - IoT System Architecture - Part 2](#)
- [Lecture 54 - Building with Arduino - Part 1](#)
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- [Lecture 58 - Geospatial Analysis - Part 1](#)
- [Lecture 59 - Geospatial Analysis - Part 2](#)
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NPTEL : NOC:Measures of Green Urbanism (Architecture)

Co-ordinators : Prof. Ankhi Banerjee

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Lecture 19 - Public Transit

Lecture 20 - Transit Oriented Development

Lecture 1 - Early Architecture

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Lecture 6 - Delhi Sultanate

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Lecture 16 - Princely States of India

Lecture 17 - Colonial Architecture In India

Lecture 18 - International, Art Deco, Modern

Lecture 19 - Architecture Today Commerce and Creativity

Lecture 20 - Week-4 Review

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Lecture 2 - Various Perspectives around Sustainability

Lecture 3 - Spheres of Energy Efficient/Green/Environmental/Sustainable Designs

Lecture 4 - Environmental Sustainability

Lecture 5 - Social Sustainability

Lecture 6 - Economic Sustainability

Lecture 7 - Climate Change Mitigation and the Way Forward

Lecture 8 - Future of Human Habitation Design

Lecture 9 - Relevance of Sustainable Design in Contemporary Context

Lecture 10 - Built Environment and Energy Consumption

Lecture 11 - Reliance and Dependence of Building Design on Energy

Lecture 12 - Current Scenario of Sustainable Design: Indian

Lecture 13 - Current Scenario of Sustainable Design: International

Lecture 14 - Designing Strategically for Preventing pollution: Air, Water, Soil, Noise, Light Radiation, etc

Lecture 15 - Low Environmental Impact

Lecture 16 - Thinking for Alternatives through Systemic Design

Lecture 17 - Consumption and Consumerist Lifestyle

Lecture 18 - Environmental impact Assessment

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Lecture 20 - Lifecycle Analysis - Part B

Lecture 21 - Growth and Development in Construction and Allied Sectors

Lecture 22 - Policy Push in Real Estate and Manufacturing Sectors

Lecture 23 - Policy Push for Development of the Low Economic Regions

Lecture 24 - Sustainable Building Materials

Lecture 25 - Reduce/Reuse/Recycle

Lecture 26 - National Building Code 2016 - Part 11 and Energy Conservation Building Code

Lecture 27 - Guidelines for Building Design by SA Methods: GRIHA

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Lecture 29 - LeNS Design Method and Tools such as SPSS, MSDS, DE

Lecture 30 - Vernacular Design Case Example

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[Lecture 33 - Design for Net-Zero Energy, Lighting, Ventilation, Views and Human Comfort](#)

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Lecture 2 - Strategies to reduce GHG in Building Industry

Lecture 3 - Policies, initiatives and future trends to reduce GHG in the Building Industry

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Lecture 8 - Basics of Embodied and Operational Carbon - Part 1

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Lecture 10 - Factors of Embodied energy calculation

Lecture 11 - Operational Energy and Operational Carbon - Part 1

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Lecture 17 - Orientation and Form for Passive cooling

Lecture 18 - Appropriate Planning for Passive Architecture

Lecture 19 - Appropriate fenestration for Passive Architecture

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Lecture 22 - Settlement planning principles for carbon neutrality - case studies

Lecture 23 - Appropriate Openings for reduced Operational Energy - Part 1

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[Lecture 33 - Renewable building materials and technologies](#)

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Lecture 8 - Binders

Lecture 9 - Strawbale

Lecture 10 - Laterite Quarry Waste

Lecture 11 - Alternate building materials

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Lecture 18 - Aerated Concrete

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Lecture 21 - Bioluminescent paints

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Lecture 26 - Mycelium

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- Lecture 2 - Strategies for Bioclimatic Architecture
- Lecture 3 - Simple Passive Strategies - Introduction
- Lecture 4 - Principles of Simple Passive Architecture
- Lecture 5 - Advanced Passive Strategies - Passive Heating Strategies
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- Lecture 7 - Classification of Climate
- Lecture 8 - Climate Zones of India
- Lecture 9 - Climate characteristics in India - warm-humid, hot dry
- Lecture 10 - Climate characteristic of composite climate
- Lecture 11 - Climate characteristics of temperate climate and cold climate
- Lecture 12 - Thermal Comfort and Thermal Comfort Models
- Lecture 13 - Mahoney's Tables
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- Lecture 15 - Simple Graphic tools to understand climate - Climate Consultant
- Lecture 16 - Orientation and form
- Lecture 17 - Openings - Size, Position, Shading device - Part 1
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- Lecture 19 - Urban Heat Island
- Lecture 20 - Earth Sheltering
- Lecture 21 - Solar Chimney
- Lecture 22 - Roof Pond System
- Lecture 23 - High Performance Glazing
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- Lecture 27 - Double skin green facade
- Lecture 28 - solar air collectors
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Lecture 2 - Significance of Resource Conservation - Water as a Resource

Lecture 3 - Carrying Capacity, Ecological Footprint, Resource conservation and its relevance to Eco Accessories

Lecture 4 - Significance of Ecosensitive Accessories - Part 1

Lecture 5 - Significance of Ecosensitive Accessories - Part 2

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Lecture 7 - Water Efficiency

Lecture 8 - Waste water - sources and generation

Lecture 9 - Efficient Water Management gadgets - Water Flow Regulator

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Lecture 13 - Low Flow Showers and Smart Showers

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Lecture 16 - Energy Management Methods - Part 1

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Lecture 20 - Energy Efficient Pumping and Cooling Systems

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[Lecture 46 - Eco Sensitive Accessories for Small Residences \(Holistic Application and Examples\) Part 1](#)

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NPTEL : NOC:Architectural Thesis (Architecture)

Co-ordinators : Prof. Vishal Chetty

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Lecture 2 - Understanding the Thesis Journey

Lecture 3 - Research Approaches in Architecture

Lecture 4 - Literature Review

Lecture 5 - Topic Selection

Lecture 6 - Preparing Thesis Framework

Lecture 7 - Defining the Problem Statement and Research Objectives

Lecture 8 - Detailing Research Methodology

Lecture 9 - Creating a Design Program

Lecture 10 - Structuring of Design Thesis

Lecture 11 - Data Collection Methods

Lecture 12 - Case Studies

Lecture 13 - Site Selection

Lecture 14 - Site Analysis Techniques

Lecture 15 - Synthesizing Findings for Design

Lecture 16 - Preparing Design Concept

Lecture 17 - Site Planning Principles and Zoning

Lecture 18 - Developing the Site Plan

Lecture 19 - Preparing Single Line Floor Plan

Lecture 20 - Preparing Double Line Floor Plan

Lecture 21 - Preparing Building Elevations

Lecture 22 - Preparing Building Sections

Lecture 23 - Preparing Site Elevations

Lecture 24 - Preparing Site Sections

Lecture 25 - Detailing, Working Drawing and Building Service Layout

Lecture 26 - Principles of Sheet Composition and Layout Design

Lecture 27 - Effective Use of Figures, Charts, and Text

Lecture 28 - Physical Models

Lecture 29 - 3D Views, Renders, and Digital Simulations

Lecture 30 - Walkthroughs and Final Visual Presentation

Lecture 31 - Structuring the Architectural Thesis Report

[Lecture 32 - Writing Key Sections of the Report - Part I](#)

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[Lecture 34 - Design Documentation and Supporting Content](#)

[Lecture 35 - Visual and Verbal Integration in Thesis](#)

[Lecture 36 - Time Management Strategies and Mental Health and Well being](#)

[Lecture 37 - Common Challenges in Architectural Thesis and Suggestions](#)

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Lecture 5 - Policy and Public intervention - 2

Lecture 6 - Urban Reform

Lecture 7 - Housing Policy

Lecture 8 - Legal and Institutional Framework for Housing

Lecture 9 - Land for Housing - 1

Lecture 10 - Land for Housing - 2

Lecture 11 - Affordability and Housing Finance

Lecture 12 - Technology Systems in Housing Delivery - 1

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Lecture 14 - Housing for All Mission (PMAY) and Technology Sub-mission

Lecture 15 - Summing up of Part-1 (Policy) and Introduction to Housing Planning

Lecture 16 - Urban and Regional Planning - 1

Lecture 17 - Urban and Regional Planning - 2

Lecture 18 - Development Controls

Lecture 19 - Housing Infrastructure and Services-1: Transport and Roads

Lecture 20 - Housing Infrastructure and Services-2: Drainage, Sanitation, Electricity and SWM

Lecture 21 - Housing Infrastructure and Services-3: Social Infrastructure and Facilities

Lecture 22 - Housing Strategy for City-1: An overview

Lecture 23 - Housing Strategy for City-2: Dealing with Core City Housing

Lecture 24 - Housing Strategy for City-3: Dealing with New Housing Areas

Lecture 25 - Planning for Plotted Housing

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Lecture 29 - Institutional and rental housing

Lecture 30 - Working Person's hostel and Serviced Apartments

Lecture 31 - Informal Housing Typologies

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[Lecture 33 - Urban Village and Unauthorized Construction](#)

[Lecture 34 - Pavement Dwellers and Night Shelters](#)

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Lecture 1 - Introduction to Visual Communication Design for Digital Media

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Lecture 6 - Types of digital media technology — an overview of the field

Lecture 7 - Typography - 1

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Lecture 11 - Visual perception

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Lecture 20 - Case Studies of Visual Design on Digital Paradigm

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Lecture 2 - Place and Identity

Lecture 3 - Habitus - A Sense of Place

Lecture 4 - A Home - Introduction to Vernacular Architecture

Lecture 5 - The New Vernacular

Lecture 6 - Understanding Vernacular - Towards Anthropology

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Lecture 8 - The Ecological and Sacred Dimension

Lecture 9 - Winter Landscape and Urbanism

Lecture 10 - Winter Cities: Design for 'ALL' Perspective

Lecture 11 - Power in Built Form

Lecture 12 - Spatial Analysis: Know-how power mediates in Built Form

Lecture 13 - The Forbidden Space

Lecture 14 - Religious Architecture: A Continuum of Meaning

Lecture 15 - Understanding Construction Workers' Housing

Lecture 16 - Culture and Disasters - Towards Method and Framework

Lecture 17 - Understanding Post Tsunami Response (Tamilnadu)

Lecture 18 - Cultural Heritage: Reassembled

Lecture 19 - Understanding the Cultural Context in Disasters and Development

Lecture 20 - Culture, Climate Change Adaptation And Disaster Risk Reduction

Lecture 21 - Conservation: Introduction

Lecture 22 - Conservation: Principles

Lecture 23 - Learning from Vernacular: Conservation Practices and Challenges

Lecture 24 - Protection of the World Cultural and Natural Heritage

Lecture 25 - Intangible Cultural Heritage

Lecture 26 - City HRIDAY Plan of Badami

Lecture 27 - Cultural planning Approaches

Lecture 28 - Urban Transformations in Doha

Lecture 29 - How The Other Half Builds?

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Lecture 2 - World Architecture and Design History

Lecture 3 - Industrial Revolution and Beginning of Modern Era

Lecture 4 - Post Industrial Revolution: For the Machine Movement

Lecture 5 - Post Industrial Revolution: Against the Machine Movement - Art and Craft Movement and Art Nouveau - Part 1

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Lecture 10 - Phases of Modern Architecture - De Stijl

Lecture 11 - Phases of Modern Architecture - Chicago School

Lecture 12 - Phases of Modern Architecture - Chicago and Prairie School

Lecture 13 - Phases of Modern Architecture - Prairie School

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Lecture 15 - Phases of Modern Architecture - Organic - Part 2

Lecture 16 - Phases of Modern Architecture - Art Deco - Part 1

Lecture 17 - Phases of Modern Architecture - Art Deco - Part 2

Lecture 18 - Phases of Modern Architecture - Internationalism - Part 1

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Lecture 2 - Craft: Definition and Understanding (Varied Perspectives on Art and Craft)

Lecture 3 - Interior-Architecture and Craft and Technology: Establishing Inter-Relationships

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Lecture 6 - Interior-Architecture: Documenting Knowledge and Skills

Lecture 7 - Traditional Knowledge Systems and the Ingenious skills of the communities

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Lecture 12 - Building Crafts: Definitions; Perspectives and Frameworks

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Lecture 28 - Municipal Accounts

Lecture 29 - Value Capture Financing

Lecture 30 - Public Private Partnership (PPP) in Urban Governance

Lecture 31 - Housing Strategy for Cities

Lecture 32 - Housing & Urban Poverty

Lecture 33 - Real Estate Regulation and Development

Lecture 34 - Urban Land Management

Lecture 35 - Urban Risk and Disaster Management

Lecture 36 - Managing Urban Environment - 1

Lecture 37 - Managing Urban Environment - 2 (Mandates for Blue and Green Infrastructures)

Lecture 38 - Traffic and Transportation Management - 1

Lecture 39 - Traffic and Transportation Management - 2

Lecture 40 - Designing Urban Public Spaces

Lecture 41 - Centrally Sponsored Programmes and Schemes

Lecture 42 - AMRUT

Lecture 43 - Smart City: Concept and Mission

Lecture 44 - Swachh Bharat Mission and HRIDAY

Lecture 45 - PMAY and NULM

Lecture 46 - Fundamentals of Project Planning

Lecture 47 - Formulation of Projects

Lecture 48 - Project Monitoring and Management

Lecture 49 - Essentials of Infrastructure and Engineering Design

Lecture 50 - Managing Trans-municipal and Large Projects

Lecture 51 - Enhancing City Image

Lecture 52 - Essential Competencies of City Managers

Lecture 53 - Problem Solving and Decision Making

Lecture 54 - Effective Negotiation

Lecture 55 - Communication Skills

Lecture 56 - Time Management

Lecture 57 - Stress Management

Lecture 58 - Best Practices in Urban Management

Lecture 59 - Reflective Learning and Excellence

Lecture 60 - Course Summary, Doubt Clearing and Further Reading

Lecture 1 - Introduction

Lecture 2 - User Interface Designer

Lecture 3 - Design methods - I

Lecture 4 - Design Methods - II

Lecture 5 - Human Factor in Interaction Design

Lecture 6 - User Research - I

Lecture 7 - User Research - II

Lecture 8 - Low Fidelity Design - I

Lecture 9 - Low Fidelity Design - II

Lecture 10 - High Fidelity Design

Lecture 11 - Visual Cognition

Lecture 12 - Contemporary Visual Language in Design - I

Lecture 13 - Contemporary Visual Language in Design - II

Lecture 14 - Usage of Typography in User Interface Design - I

Lecture 15 - Usage of Typography in User Interface Design - II

Lecture 16 - Design Semiotics and Visual Perception

Lecture 17 - Visual Communication Design

Lecture 18 - User Testing - I

Lecture 19 - User Testing - II

Lecture 20 - Contemporary Interface Design Technology

NPTEL : NOC:Disaster Recovery and Build Back Better (Architecture)

Co-ordinators : Prof. Subhojyothi Samaddar

Lecture 1 - Disaster risk: Hazards X Exposure X Vulnerability

Lecture 2 - Disaster Recovery and Build Back Better: Risk Perception and Disaster Risk Preparedness - Part 1

Lecture 3 - Risk Perception and Disaster Risk Preparedness - Part 2

Lecture 4 - Build Back Better - People's Perspectives

Lecture 5 - Architecture at Risk

Lecture 6 - Culture, climate change adaptation and disaster risk reduction

Lecture 7 - Ayutthaya at Risk

Lecture 8 - Disaster vulnerability

Lecture 9 - Cultural Heritage: Reassembled

Lecture 10 - Rock shelters at risk

Lecture 11 - The Built Environment Professions in Disaster Risk Reduction and Response

Lecture 12 - Gadri discussions: social dimension of risk, health and DRM

Lecture 13 - Community Participation in Disaster Risk Governance : Voices from Mumbai and Ghana

Lecture 14 - Community Participation in Disaster Risk Governance : Insights From Mumbai

Lecture 15 - Frameworks

Lecture 16 - Disaster Preparedness from Cognitive and Heuristic Perspectives

Lecture 17 - Information for Disaster Preparedness

Lecture 18 - The Role of Social Networks in Disaster Preparedness

Lecture 19 - Diffusion of Disaster Preparedness Technology : What Pioneers Contribute ?

Lecture 20 - Cities and Climate Change: Adaptation and Mitigation

Lecture 21 - Temporary Shelter Construction in India

Lecture 22 - Temporary shelter construction in Kenya

Lecture 23 - Build back better in Nepal recovery

Lecture 24 - Lessons from Peru

Lecture 25 - Progressive Housing in El Salvador

Lecture 26 - Decentralizing (re)construction in Colombia

Lecture 27 - Tsunami reconstruction in Tamilnadu - Part 1 (Approach)

Lecture 28 - Tsunami reconstruction in Tamilnadu - Part 2 (Findings)

Lecture 29 - Culture and (disaster)risk

Lecture 30 - Cultural theory of risk

Lecture 31 - Guidance to DRR

[Lecture 32 - Self-help housing in Turkey](#)

[Lecture 33 - The Production of refugee place in time: Case of Tibetan refugees](#)

[Lecture 34 - Assessments](#)

[Lecture 35 - Designing culturally responsive built environment in disaster context](#)

[Lecture 36 - Disaster Risk Communication](#)

[Lecture 37 - CAM and CBDRM](#)

[Lecture 38 - How to teach disaster recovery and built back better in-built environment education](#)

[Lecture 39 - Source, Message and Receiver in Disaster Risk Communication](#)

[Lecture 40 - Summary and Conclusion](#)

- Lecture 1 - Introduction to Sustainability
- Lecture 2 - Buildings, Needs and 'Sustainability'
- Lecture 3 - Sustainability and Sustainable Development
- Lecture 4 - Historic Origins of Sustainability
- Lecture 5 - Pioneers of Sustainable Development
- Lecture 6 - Environmental Impacts of Development: Impacts on Water
- Lecture 7 - Environmental Impacts of Development: Impacts on Land and Air
- Lecture 8 - Social and Economic Impacts of Development
- Lecture 9 - Agenda 21 and UN Goals
- Lecture 10 - Established needs for Sustainability in Building Sector
- Lecture 11 - Definition and Characteristics of Sustainability
- Lecture 12 - Flavors of Sustainable Architecture
- Lecture 13 - Indicators and Terminologies in Sustainable Architecture
- Lecture 14 - Process of Designing Green Buildings
- Lecture 15 - Green Building Ratings and Components
- Lecture 16 - Fundamentals of Thermal Comfort
- Lecture 17 - Climatic Considerations, Physiological Objectives of Design
- Lecture 18 - Fundamentals of Climate Responsive Buildings - I
- Lecture 19 - Fundamentals of Climate Responsive Buildings - II
- Lecture 20 - Visual and Acoustic Comfort
- Lecture 21 - Sustainable Sites - I
- Lecture 22 - Sustainable Sites - II
- Lecture 23 - Sustainable Sites - III
- Lecture 24 - Sustainable Sites - IV
- Lecture 25 - Sustainable Sites - V
- Lecture 26 - Water Conservation - I
- Lecture 27 - Water Conservation - II
- Lecture 28 - Water Conservation - III
- Lecture 29 - Water Conservation - IV
- Lecture 30 - Water Conservation - V
- Lecture 31 - Materials and Resources - I

[Lecture 32 - Materials and Resources - II](#)

[Lecture 33 - Materials and Resources - III](#)

[Lecture 34 - Materials and Resources - IV](#)

[Lecture 35 - Materials and Resources - V](#)

[Lecture 36 - Energy Efficiency - I](#)

[Lecture 37 - Energy Efficiency - II](#)

[Lecture 38 - Energy Efficiency - III](#)

[Lecture 39 - Energy Efficiency - IV](#)

[Lecture 40 - Energy Efficiency - V](#)

[Lecture 41 - Indoor Environmental Quality - I](#)

[Lecture 42 - Indoor Environmental Quality - II](#)

[Lecture 43 - Indoor Environmental Quality - III](#)

[Lecture 44 - Indoor Environmental Quality - IV](#)

[Lecture 45 - Indoor Environmental Quality - V](#)

[Lecture 46 - Vernacular Architecture - I](#)

[Lecture 47 - Vernacular Architecture - II](#)

[Lecture 48 - Codes and Standards](#)

[Lecture 49 - Introduction to Whole Building Simulation - I](#)

[Lecture 50 - Introduction to Whole Building Simulation - II](#)

[Lecture 51 - Whole Building Performance - I](#)

[Lecture 52 - Whole Building Performance - II](#)

[Lecture 53 - Whole Building Performance - III](#)

[Lecture 54 - Whole Building Performance - IV](#)

[Lecture 55 - Whole Building Performance - V](#)

[Lecture 56 - Whole Building Performance - VI](#)

[Lecture 57 - Whole Building Performance - VII](#)

[Lecture 58 - Whole Building Performance - VIII](#)

[Lecture 59 - Whole Building Performance - IX](#)

[Lecture 60 - Whole Building Performance - X](#)

Lecture 1 - Introduction to Structure, Form and Architecture

Lecture 2 - Relationship of Structure to Architectural Buildings - Part I

Lecture 3 - Relationship of Structure to Architectural Buildings - Part II

Lecture 4 - Loads on Structures

Lecture 5 - Synthesis of Architectural and Structural Form

Lecture 6 - Connecting Structure and Architecture - Part I

Lecture 7 - Connecting Structure and Architecture - Part II

Lecture 8 - Structural Transformation in Architectural History

Lecture 9 - Factors affecting the Structural Forms

Lecture 10 - Learning from Animal's Architecture

Lecture 11 - Basic Structural Properties

Lecture 12 - Structural Requirements

Lecture 13 - Structural Arrangement

Lecture 14 - Structural Forms and Shapes

Lecture 15 - Structural Materials

Lecture 16 - Structural Typology

Lecture 17 - Compressive Structures

Lecture 18 - Tensile Structures

Lecture 19 - Load Bearing Structures

Lecture 20 - Temporary Structures

Lecture 21 - Framed Structure

Lecture 22 - Arch Structures

Lecture 23 - Vault Structures

Lecture 24 - Dome Structures

Lecture 25 - Grid Structures

Lecture 26 - Shell Structures

Lecture 27 - Trusses and Space Frames

Lecture 28 - Folded Plate Structures

Lecture 29 - Membrane Structures

Lecture 30 - Pneumatic Structures

Lecture 31 - Structure and Architectural Forms in Windy Areas

[Lecture 32 - Structure and Architectural Forms in Seismic Prone Areas](#)

[Lecture 33 - Structure and Architectural Forms in Flood Prone Areas](#)

[Lecture 34 - Cost Effective Structure and Architecture](#)

[Lecture 35 - Structure and Light in Architecture](#)

[Lecture 36 - Evolution of Highrise Structural System](#)

[Lecture 37 - Highrise Structural Components - Part I](#)

[Lecture 38 - Highrise Structural Components - Part II](#)

[Lecture 39 - Mega Structure and Architecture-Case Studies](#)

[Lecture 40 - Architecture and Structure - Past, Present and Future](#)

Lecture 1 - Introduction to Engineering Graphics

Lecture 2 - Drawing Instruments

Lecture 3 - Sheet Layout and Fixing Sheet

Lecture 4 - Types of Lines and Graphic Symbols

Lecture 5 - Lettering

Lecture 6 - Dimensioning

Lecture 7 - Basic Geometrical Construction

Lecture 8 - Scales

Lecture 9 - Curves used in Engineering Practice: Conic Sections

Lecture 10 - Curves used in Engineering Practice: Cycloids, Trochoids and Involutives

Lecture 11 - Introduction to Orthographic Projection

Lecture 12 - Orthographic Projections - 1st Quadrant Vs 3rd Quadrant

Lecture 13 - Orthographic Projections - Projection of Points

Lecture 14 - Orthographic Projections - Introduction to Projection of Lines

Lecture 15 - Locus of Points

Lecture 16 - Projection of lines parallel to both the reference planes

Lecture 17 - Projection of line parallel to one and perpendicular to another plane

Lecture 18 - Projection of lines inclined to one plane

Lecture 19 - Projection of lines inclined to both the planes

Lecture 20 - Projection of a point and line on auxiliary plane

Lecture 21 - Projection of a plane perpendicular to both the reference planes

Lecture 22 - Projection of a plane perpendicular to one and parallel to another plane

Lecture 23 - Projection of a plane inclined to one and perpendicular to the other plane

Lecture 24 - Projection of a plane inclined to both the reference planes - I

Lecture 25 - Projection of a plane inclined to both the reference planes - II

Lecture 26 - Introduction to types of solids

Lecture 27 - Projection of solids in simple positions

Lecture 28 - Projection of solids with axis inclined to one of the reference planes and parallel to another

Lecture 29 - Projection of solids with axis inclined to both the reference planes

Lecture 30 - Projection of spheres

Lecture 31 - Orthographic Projections Introduction to Sections of Solids

[Lecture 32 - Orthographic Projections Sections of Prisms](#)

[Lecture 33 - Orthographic Projections Sections of Pyramids](#)

[Lecture 34 - Orthographic Projections Sections of Cylinders](#)

[Lecture 35 - Orthographic Projections Sections of Cones](#)

[Lecture 36 - Orthographic Projections Sections of Spheres](#)

[Lecture 37 - Development of Surfaces - I](#)

[Lecture 38 - Development of Surfaces - II](#)

[Lecture 39 - Intersection of Surfaces - I](#)

[Lecture 40 - Intersection of Surfaces - II](#)

- Lecture 1 - Conceptual Understanding of the Urban Areas
- Lecture 2 - Urbanization and Sustainable Development
- Lecture 3 - Urban Planning and 73-74 Constitution Amendment Acts
- Lecture 4 - Types and Level of Plans
- Lecture 5 - Regional Plan - I
- Lecture 6 - Regional Plan - II
- Lecture 7 - Development Plan - I
- Lecture 8 - Development Plan - II (Case Study- Draft Bhopal Development Plan 2031)
- Lecture 9 - Zonal Plan
- Lecture 10 - Town Planning Scheme
- Lecture 11 - Local Area Plan (Urban Redevelopment Plan)
- Lecture 12 - Special Purpose Plan (AMRUT)
- Lecture 13 - Special Purpose Plan (HRIDAY)
- Lecture 14 - Special Purpose Plan (Smart City)
- Lecture 15 - Perspective Plan (Agenda 2030 SDGs)
- Lecture 16 - Contextualizing Cities (Egyptian, Mesopotamian, and Indus Valley Civilization)
- Lecture 17 - Contextualizing Cities (Vedic Period)
- Lecture 18 - Contextualizing Cities (Greek and Roman)
- Lecture 19 - Contextualizing Cities (Industrial Revolution)
- Lecture 20 - Contextualizing Cities (1900-1939)
- Lecture 21 - Contextualizing Cities (1940-1979)
- Lecture 22 - Contextualizing Cities (1980-2021)
- Lecture 23 - Public Health and Urban Planning - I
- Lecture 24 - Public Health and Urban Planning - II
- Lecture 25 - Public Health and Urban Planning - III
- Lecture 26 - Public Health and Urban Planning - IV
- Lecture 27 - Housing Issues in India
- Lecture 28 - Culture and Planning of Cities
- Lecture 29 - Urbanization and Environmental Problems
- Lecture 30 - Urbanization and Slums
- Lecture 31 - Introduction to Planning Legislation

[Lecture 32 - Evolution and Growth of Planning Legislation - I](#)

[Lecture 33 - Evolution and Growth of Planning Legislation - II \(USA\)](#)

[Lecture 34 - Evolution and Growth of Planning Legislation - III \(India\)](#)

[Lecture 35 - Land Acquisition Act](#)

[Lecture 36 - Legal Requirements for Industrial Development](#)

[Lecture 37 - National Environmental Legal Requirements](#)

[Lecture 38 - Section I - Cantonment Act and Section II - Legal Requirement for Heritage Conservation](#)

[Lecture 39 - Zoning Regulation](#)

[Lecture 40 - Contemplating Learning Outcomes and Future Direction in Urban Planning](#)

- Lecture 1 - Introduction to isometric projection and isometric Scale
- Lecture 2 - Isometric projection of planar figures - quadrilaterals
- Lecture 3 - Isometric projection of planar figures - circles, semi circles and curves
- Lecture 4 - Isometric projection of straight prisms
- Lecture 5 - Isometric projection of straight pyramids
- Lecture 6 - Isometric projection of Straight Cylinders
- Lecture 7 - Isometric projection of Cones
- Lecture 8 - Isometric projection of Frustums of cones and pyramids
- Lecture 9 - Isometric projection of section of solids
- Lecture 10 - Isometric projection of spheres
- Lecture 11 - Isometric projection of combination of solids
- Lecture 12 - Isometric Projection of intersecting solids
- Lecture 13 - Converting orthographic views to isometric drawing - 1
- Lecture 14 - Converting orthographic views to isometric drawing - 2
- Lecture 15 - Converting Isometric drawing to orthographic views
- Lecture 16 - Introduction to axonometric projection
- Lecture 17 - Axonometric projection of planar figures- quadrilaterals, circles and curves
- Lecture 18 - Axonometric projection of prisms and pyramids
- Lecture 19 - Axonometric projection of Cylinders, cones and spheres
- Lecture 20 - Axonometric projection of intersecting solids and combination of solids

Lecture 1 - State of Global Environment (Air)

Lecture 2 - State of Global Environment (Biodiversity)

Lecture 3 - State of Global Environment (Oceans and Coasts)

Lecture 4 - State of Global Environment (Land and Soil)

Lecture 5 - State of Global Environment (Freshwater)

Lecture 6 - Definition, Process and Purpose of EIA

Lecture 7 - EIA Impact Areas, Current and Emerging - Part 1

Lecture 8 - EIA Impact Areas, Current and Emerging - Part II

Lecture 9 - EIA Origin in USA and World-Wide Development

Lecture 10 - EIA in India

Lecture 11 - World Sustainable Development Timeline (1970-1999)

Lecture 12 - World Sustainable Development Timeline (2000-2021)

Lecture 13 - EIA Law, Policy and Institutional arrangements for EIA systems - Part I

Lecture 14 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part II - Air

Lecture 15 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part III - Air

Lecture 16 - EIA Law, Policy and Institutional arrangements for EIA Systems - Part IV - Water and Geology

Lecture 17 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part V - Ecology

Lecture 18 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part VI - Coastal Ecology and Geomorphology

Lecture 19 - EIA Law, Policy and Institutional arrangements for EIA Systems - Part VII - Noise

Lecture 20 - EIA Law, Policy and Institutional arrangements for EIA Systems - Part VIII - Ecosystem Services

Lecture 21 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part IX - Cultural Heritage and Health

Lecture 22 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part X

Lecture 23 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part XI

Lecture 24 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part XII

Lecture 25 - EIA Law, Policy and Institutional Arrangements for EIA Systems - Part XIII

Lecture 26 - EIA Process - Starting and Initial Stage

Lecture 27 - EIA Process - Impact Prediction

Lecture 28 - EIA Process - Impact Evaluation, Mitigation and Enhancement

Lecture 29 - EIA Process - Participation, Presentation and Review

Lecture 30 - EIA Process - Follow-Up (Monitoring and Auditing)

Lecture 31 - EIA Methods - Air Assessment - Part I

- Lecture 32 - EIA Methods - Air Assessment - Part II
- Lecture 33 - EIA Methods - Water Assessment
- Lecture 34 - EIA Methods - Soil, Land and Geology
- Lecture 35 - EIA Methods - Climate and Climate Change - Part I
- Lecture 36 - EIA Methods - Climate and Climate Change - Part II
- Lecture 37 - EIA Methods for Ecology (Definitions and Concepts)
- Lecture 38 - EIA Methods for Ecology (Baseline Study)
- Lecture 39 - EIA Methods for Ecology (Impact Prediction and Evaluation)
- Lecture 40 - EIA Methods - Ecosystem Services - Part I
- Lecture 41 - EIA Methods - Ecosystem Services - Part II
- Lecture 42 - EIA Methods - Coastal Ecology and Geomorphology - Part I
- Lecture 43 - EIA Methods - Coastal Ecology and Geomorphology - Part II
- Lecture 44 - EIA Methods - Noise
- Lecture 45 - EIA Methods - Transport
- Lecture 46 - EIA Methods - Landscape and Visuals
- Lecture 47 - EIA Methods - Cultural Heritage
- Lecture 48 - EIA Methods - Health
- Lecture 49 - EIA Methods - Socio-Economic Impacts (SIA) - Part I
- Lecture 50 - EIA Methods - Socio-Economic Impacts (SIA) - Part II
- Lecture 51 - EIA Methods - Land Acquisition, Resettlement and Livelihoods
- Lecture 52 - EIA Methods - Resource Efficiency
- Lecture 53 - EIA Methods - Risk and Risk Assessment
- Lecture 54 - EIA Methods - Cumulative Effects
- Lecture 55 - EIA - Environmental Management Plans
- Lecture 56 - EIA - Widening the scope: Strategic Environmental Assessment
- Lecture 57 - EIA - Reporting and Review of EIA Quality
- Lecture 58 - EIA Case Study - Mumbai Metro Line 3, Colaba - Bandra - SEEPZ
- Lecture 59 - EIA Case Study - Development of Water Aerodrome, Andaman and Nicobar - Part - I
- Lecture 60 - EIA Case Study - Development of Water Aerodrome, Andaman and Nicobar - Part - II

Lecture 1 - Introduction - Part 1

Lecture 2 - Introduction - Part 2

Lecture 3 - Pre-Independence - Part 1: Indo-Saracenic Architecture

Lecture 4 - Pre-Independence - Part 2: Colonial Architecture and Art Deco

Lecture 5 - Pre-Independence to Independence - Part 1

Lecture 6 - Pre-Independence to Independence - Part 2

Lecture 7 - Revivalism

Lecture 8 - The First Generation (1945-1970) - Part 1

Lecture 9 - The First Generation (1945-1970) - Part 2

Lecture 10 - The First Generation (1945-1970) - Part 3

Lecture 11 - The First Generation (1945-1970) - Part 4

Lecture 12 - The First Generation (1945-1970) - Part 5

Lecture 13 - The First Generation (1945-1970) - Part 6

Lecture 14 - Impact of Western Architects: Le Corbusier - Part 1

Lecture 15 - Impact of Western Architects: Le Corbusier - Part 2

Lecture 16 - Impact of Western Architects: Le Corbusier - Part 3

Lecture 17 - Impact of Western Architects: Le Corbusier - Part 4

Lecture 18 - Impact of Western Architects: Le Corbusier - Part 5

Lecture 19 - Impact of Western Architects: Le Corbusier - Part 6

Lecture 20 - Impact of Western Architects: Walter Gropius - Part 1

Lecture 21 - Impact of Western Architects: Walter Gropius - Part 2

Lecture 22 - Impact of Western Architects: Louis I Kahn - Part 1

Lecture 23 - Impact of Western Architects: Louis I Kahn - Part 2

Lecture 24 - Impact of Western Architects: Louis I Kahn - Part 3

Lecture 25 - Impact of Western Architects: Louis I Kahn - Part 4

Lecture 26 - Introduction to Critical Regionalism - Part 1

Lecture 27 - Introduction to Critical Regionalism - Part 2

Lecture 28 - Critical Regionalism in Indian Architecture - Part 1

Lecture 29 - Critical Regionalism in Indian Architecture - Part 2

Lecture 30 - Critical Regionalism in Indian Architecture - Part 3

Lecture 31 - Critical Regionalism in Indian Architecture - Part 4

[Lecture 32 - Critical Regionalism in Indian Architecture - Part 5](#)

[Lecture 33 - Structure: The Works of Mahendra Raj](#)

[Lecture 34 - Point-Blocks and High Rises - Part 1](#)

[Lecture 35 - Point-Blocks and High Rises - Part 2](#)

[Lecture 36 - Search for a new Architecture - Part 1](#)

[Lecture 37 - Search for a new Architecture - Part 2](#)

[Lecture 38 - Search for a new Architecture - Part 3](#)

[Lecture 39 - Search for a new Architecture - Part 4](#)

[Lecture 40 - Search for a new Architecture - Part 5](#)

Lecture 1 - Culture, Identity and Built Environment

Lecture 2 - Space and Meaning in Balinese Vernacular Architecture

Lecture 3 - Adobe Construction and Religious Structures

Lecture 4 - Social System, Beliefs and its Architecture

Lecture 5 - Anthropology of Shelter-Conclusion

Lecture 6 - Stone as a Vernacular Resource Material

Lecture 7 - Earth as Vernacular Resource Material

Lecture 8 - Bamboo as Vernacular Resource Material

Lecture 9 - Timber as Vernacular Resource Material

Lecture 10 - Advanced Material Adaptations: The conclusion

Lecture 11 - Cultural Geography and Vernacular Architecture

Lecture 12 - Cultural Geography and Small-scale Features in the Landscape

Lecture 13 - Acculturation in Architecture

Lecture 14 - Tradition and Transmission

Lecture 15 - Transformation in Vernacular Context

Lecture 16 - Disasters Vulnerability and Traditions

Lecture 17 - Learning Disaster Mitigation from the Vernacular

Lecture 18 - The Second Birth: Lessons from Disaster Recovery

Lecture 19 - Climate Change and Traditions

Lecture 20 - Yonmenkaigi (Four square table system) Method for Collaborative Knowledge Development

Lecture 1 - Introduction to Interaction Design

Lecture 2 - Components of Interaction Design

Lecture 3 - Interaction Design Process

Lecture 4 - Understanding User

Lecture 5 - Conceptual Design - Part 1

Lecture 6 - Conceptual Design - Part 2

Lecture 7 - Role of Cognition

Lecture 8 - Role of Social Interaction

Lecture 9 - Designing for Emotional Interaction

Lecture 10 - Interactive Interfaces

Lecture 11 - Data Gathering

Lecture 12 - Data Analysis

Lecture 13 - Discovering Requirements

Lecture 14 - User Personas and Scenarios

Lecture 15 - Design and Prototyping - Part 1

Lecture 16 - Design and Prototyping - Part 2

Lecture 17 - Visual Interface Design

Lecture 18 - Elements of User Interface

Lecture 19 - Affordances and UI Transformations

Lecture 20 - Component-Based Design Systems

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

NPTEL : NOC:Understanding and Reducing Ghg Emissions - Focus on Scope 1 and 2 Emission Reduction through Building Design and Construction (Architecture)

Co-ordinators : Prof. Avlokita Agrawal

- Lecture 1 - Introduction, Sustainability, And Sustainable Development
- Lecture 2 - Sustainable Development And Sustainable Goals
- Lecture 3 - Sustainable Development Goals and Climate Change
- Lecture 4 - Climate Risk
- Lecture 5 - Impact of Development on Climate Natural Components
- Lecture 6 - UNFCCC
- Lecture 7 - Kyoto Protocol
- Lecture 8 - The Paris Agreement
- Lecture 9 - Green House Gases
- Lecture 10 - Carbon Footprint and Calculation
- Lecture 11 - The GHG Protocol
- Lecture 12 - ISO International Standards
- Lecture 13 - Identification and Determination of Scope 1,2 and 3 GHG Emissions
- Lecture 14 - Identification and Determination of Scope 1,2 and 3 GHG Emissions - Part II
- Lecture 15 - Identification and Determination of Scope 1,2 and 3 GHG Emissions - Part III
- Lecture 16 - India Specific GHG Programs - I
- Lecture 17 - India Specific GHG Programs - II
- Lecture 18 - Accounting Methods and Data Collection
- Lecture 19 - Tools for Calculation of GHG
- Lecture 20 - Understanding the Role of Buildings and Related Emissions
- Lecture 21 - Understanding Emissions of Airports
- Lecture 22 - Understanding Emissions of University Campuses
- Lecture 23 - Understanding Emissions of Fuel Supply Companies
- Lecture 24 - Understanding Emissions of IT Companies
- Lecture 25 - Understanding Emissions of Real Estate Companies
- Lecture 26 - Thermal Comfort in Building
- Lecture 27 - Passive Design Measures
- Lecture 28 - Advanced Passive Design Measures
- Lecture 29 - Natural and Mechanical Ventilation
- Lecture 30 - Daylighting and Lighting Design

DIGIMAT - The No.1 Learning Management Platform for Creative Learning

[Lecture 31 - Factors Affecting Material Selection in Building?](#)

[Lecture 32 - Material Selection for Emission Reduction](#)

[Lecture 33 - Reducing Emission from purchased Electricity](#)

[Lecture 34 - Strategies of Renovation and Retrofitting for Emission Reduction](#)

[Lecture 35 - Case studies of Various Efficient Building Design](#)

[Lecture 36 - Calculation of Emissions Reduction from HVAC System](#)

[Lecture 37 - Calculation of Emission Reduction from Fenestration](#)

[Lecture 38 - Calculation of Emission Reduction from Building Envelope](#)

[Lecture 39 - Calculation of Emission Reduction from Source of Energy](#)

[Lecture 40 - Course Summary](#)

Lecture 1 - Introduction

Lecture 2 - Types of Research

Lecture 3 - Qualitative vs. Quantitative Research

Lecture 4 - Research Methods vs Research Methodology

Lecture 5 - Issues and Challenges in Planning and Architectural Research

Lecture 6 - Research Process - I

Lecture 7 - Research Process - II

Lecture 8 - Research Process - III

Lecture 9 - Research Writing - I

Lecture 10 - Research Writing - II

Lecture 11 - Basics of Literature Review

Lecture 12 - Bibliometric Analysis

Lecture 13 - Systematic Literature Review

Lecture 14 - Meta Analysis

Lecture 15 - Referencing

Lecture 16 - Types of Data in Research

Lecture 17 - Measurement and Scaling Techniques - I

Lecture 18 - Measurement and Scaling Techniques - II

Lecture 19 - Types of Surveys - I

Lecture 20 - Types of Surveys - II

Lecture 21 - Determining the Sample Size

Lecture 22 - Sampling Techniques - I

Lecture 23 - Sampling Techniques - II

Lecture 24 - Sources of Data

Lecture 25 - Preparation of Survey Questionnaire

Lecture 26 - Methods of Data Collection - I

Lecture 27 - Methods of Data Collection - II

Lecture 28 - Methods of Data Collection - III

Lecture 29 - Ethics in Data Management and Use

Lecture 30 - Similarity vs. Plagiarism

Lecture 31 - Processing of Data and Database Management

[Lecture 32 - Interpreting Data](#)

[Lecture 33 - Descriptive Statistics](#)

[Lecture 34 - Representation of Data and Inferences - I](#)

[Lecture 35 - Representation of Data and Inferences - II](#)

[Lecture 36 - Hypothesis Testing](#)

[Lecture 37 - Parametric Tests](#)

[Lecture 38 - Non-parametric Tests](#)

[Lecture 39 - Quantitative Research Approach](#)

[Lecture 40 - Quantitative Research - Case Study - I](#)

[Lecture 41 - Quantitative Research - Case Study - II](#)

[Lecture 42 - Quantitative Research - Case Study - III](#)

[Lecture 43 - Quantitative Research - Case Study - IV](#)

[Lecture 44 - Quantitative Research - Case Study - V](#)

[Lecture 45 - Qualitative Research Approach](#)

[Lecture 46 - Qualitative Research - Case Study - I](#)

[Lecture 47 - Qualitative Research - Case Study - II](#)

[Lecture 48 - Qualitative Research - Case Study - III](#)

[Lecture 49 - Qualitative Research - Case Study - IV](#)

[Lecture 50 - Qualitative Research - Case Study - V](#)

[Lecture 51 - Mixed Method Research Approach](#)

[Lecture 52 - Mixed Method Research Approach - Case Study](#)

[Lecture 53 - Spatial Methods in Planning Research](#)

[Lecture 54 - Spatial Methods in Planning Research - Case Study](#)

[Lecture 55 - Research Methods for Behavioral Studies - The Basics](#)

[Lecture 56 - Simulation Based Studies in Planning and Architecture](#)

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