MANIPAL SCHOOL
OF ARCHITECTURE AND PLANNING
MANIPAL
(A constituent unit of MAHE, Manipal)

Glimpses of studio works

KALEIDOSCOPE

2024-25

MSAP ARCHITECTURE Yearbook

MANIPAL SCHOOL
OF ARCHITECTURE AND PLANNING
MANIPAL
(A constituent unit of MAHE, Manipal)

Our Vision

- Excellence in design education, enabling sustainable endeavors for societal well-being.

Our Mission

- Develop core competencies of design and professionalism to address societal and environmental concerns.
- Enable experiential learning and community engagement to encourage inclusive and sustainable design.
- Provide an international platform for interdisciplinary learning and collaborative research.

Recognitions

- Council of Architecture (CoA), New Delhi

Certifications

- ISO 9001:2008 ISO 4001:2004 certified.

Membership

- Institutional Member, Indian National Trust for Art and Cultural Heritage (INTACH), New Delhi.
- CII-IGBC Student chapter

Accreditations

- National Assessment and Accreditation Council (NAAC), MAHE Grade A++

Glimpses of studio works

KALEIDOSCOPE

2024-25

MSAP

Architecture and Department of Design

"Kaleidoscope" is a curated overview of select studio projects from the students of various programs offered at the Manipal School of Architecture and Planning. This compilation, meticulously assembled by the Repository team, encompasses several works from both the Odd and Even Semesters of the 2024-25 academic year showcases the different hues from Architecture and Design.

MANIPAL SCHOOL
OF ARCHITECTURE AND PLANNING
MANIPAL
(A constituent unit of MAHE, Manipal)

Message

DIRECTOR

DR. KALYAN KUMAR MUKHERJEE

The teaching pedagogy at MSAP, MAHE involves learning beyond classrooms as a principal mode of training the professional of the future. the architecture and design students are taken through a path of discovering the elements and principles of the curriculum through an array of activities that includes case studies, study tours, material exhibitions, model building and peer interactions besides the regular schedule of studio crits and examinations. training in environmental and social sensitivity brings in the inclusive approach and raises awareness in issues of gender equity. With newly developed opportunities, the domain of design, construction and architecture would require specially abled professionals who would be working towards environment friendly solutions and an inclusive approach in planning exercises.

JOINT DIRECTOR

DR. PRADEEP KINI

Architectural education plays a key role in shaping the future of our built environment and contribute towards sustainable development. With its unique blend of Aesthetic creativity, technical knowledge, social and economic considerations, MSAP equips aspiring architects and designers with the necessary skills towards academic and research excellence. A well-rounded faculty with diverse expertise along with the vision of the MAHE leadership facilitates this process by fostering critical thinking and innovation amongst its student community.

HEAD OF DEPARTMENT, DOD

DR.VEENA RAO

At the Department of Design, Manipal Academy of Higher Education, we aim for the holistic development of designers who can think, feel, and act towards designing a sustainable future. Design education has become increasingly vital in today's global economy, which relies on creativity like never before contributing to national economic output and job creation. At the Department of Design, we foster design experiences through innovative methods such as Outcome Based Learning, Integrated and Applied Knowledge Systems, Professional Response, and Participatory Education. The graduates are well-equipped to seize the numerous opportunities in this timeless field and leave a legacy of significant achievements.

CONTENTS:




BACHELOR OF ARCHITECTURE

YEAR 1

Semester 1
Architectural Design & Detailing - I
Architectural Graphics
Building Materials and Construction Systems - I
Visual Arts & Model Making Studio

Semester 2
Building Materials and Construction Systems - II
Climate Responsive Design
Site Planning & Landscape Design Studio

YEAR 2

Semester 3
Architectural Design & Detailing - III
Architectural Representation - III
Building Construction & Materials - III
Building Services - I
Landscape and Lab

Semester 4
Architectural Design & Detailing - IV
History Theory & Criticism - III

YEAR 3

Semester 5
Architectural Design & Detailing - V
Measured Drawing

Semester 6
Working Drawing
Construction & Materials - VI
History Theory & Criticism - IV

YEAR 4

Semester 7
Architectural Design & Detailing - VII
Settlement Studies
Research Techniques
History Theory & Criticism - V

YEAR 5

Thesis

MSAP

CONTENTS:




MASTERS IN ARCHITECTURE (URBAN DESIGN AND DEVELOPMENT)

YEAR 1

Semester 1
Urban Design Development Lab - I

Semester 2
Urban Design Development Lab - I
Fundamentals of Transport Planning

YEAR 2

Semester 3
Urban Design Studio

Semester 4
Thesis

MSAP

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

1

Architecture

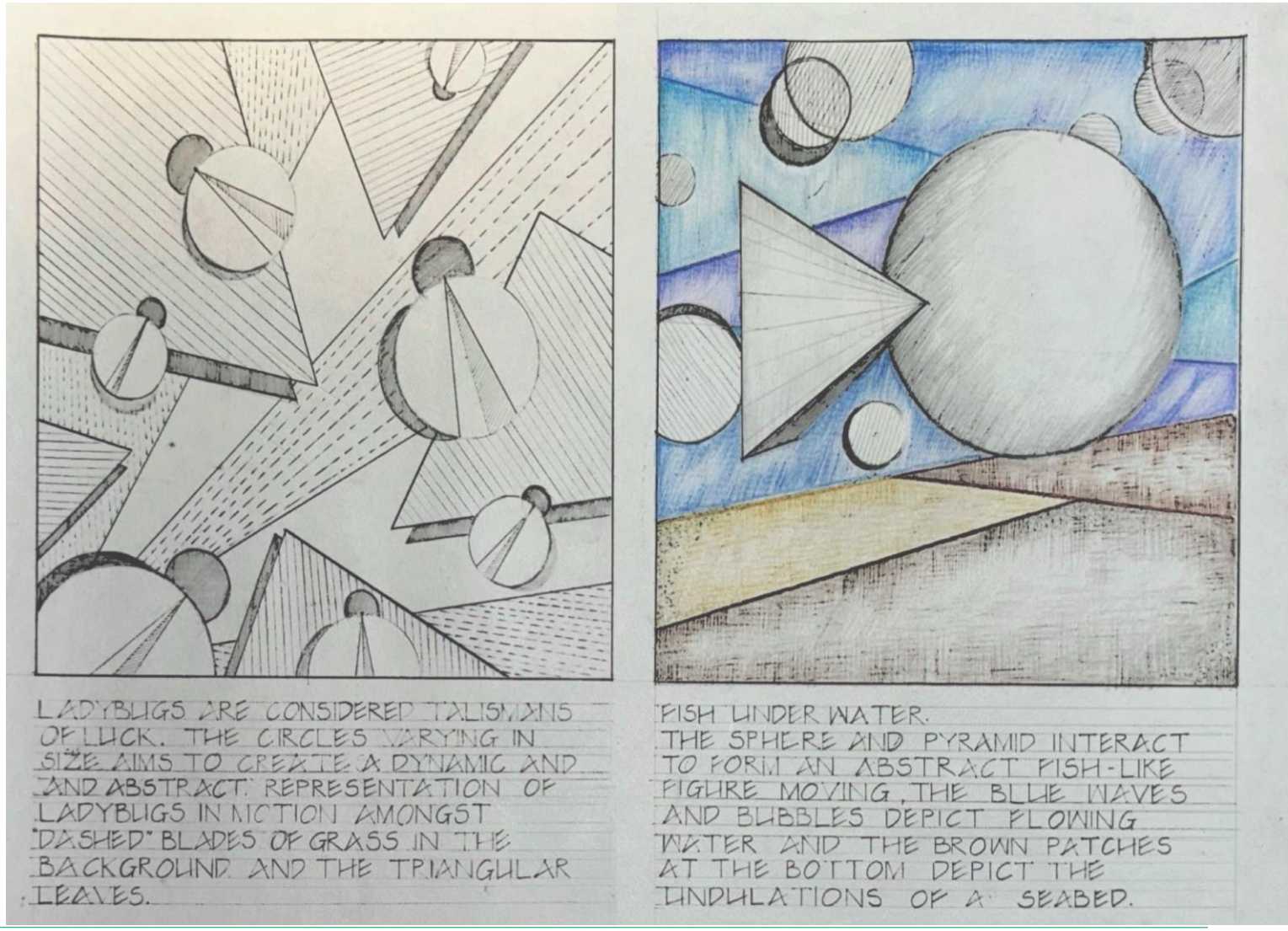
ARC 4501 ARCHITECTURAL DESIGN AND DETAILING - I

COURSE OBJECTIVES:

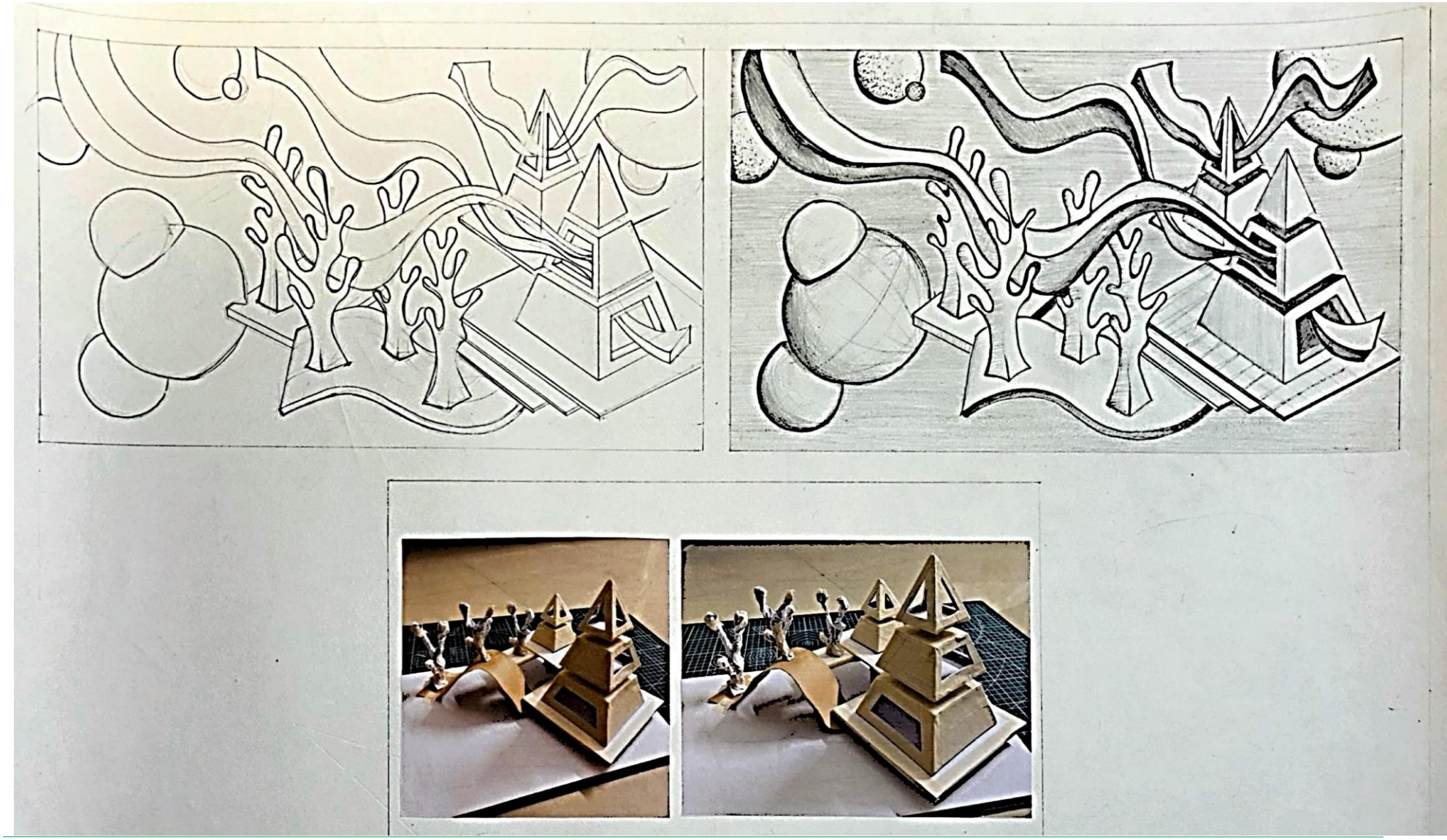
To **demonstrate** the use of freehand drawing and lettering for design communication.
To **apply** the elements of design in a composition.
To **analyze** the principles of design in a composition.
To **appraise** an object/product/space from a design perspective.
To **design** a space based on the understanding of the design study process.

PROJECT BRIEF:

To design a Kiosk on one of the sites identified, addressing principles of design, form development, principles of special composition, anthropometrics and universal design, context, functionality, aesthetics, circulation and materiality.

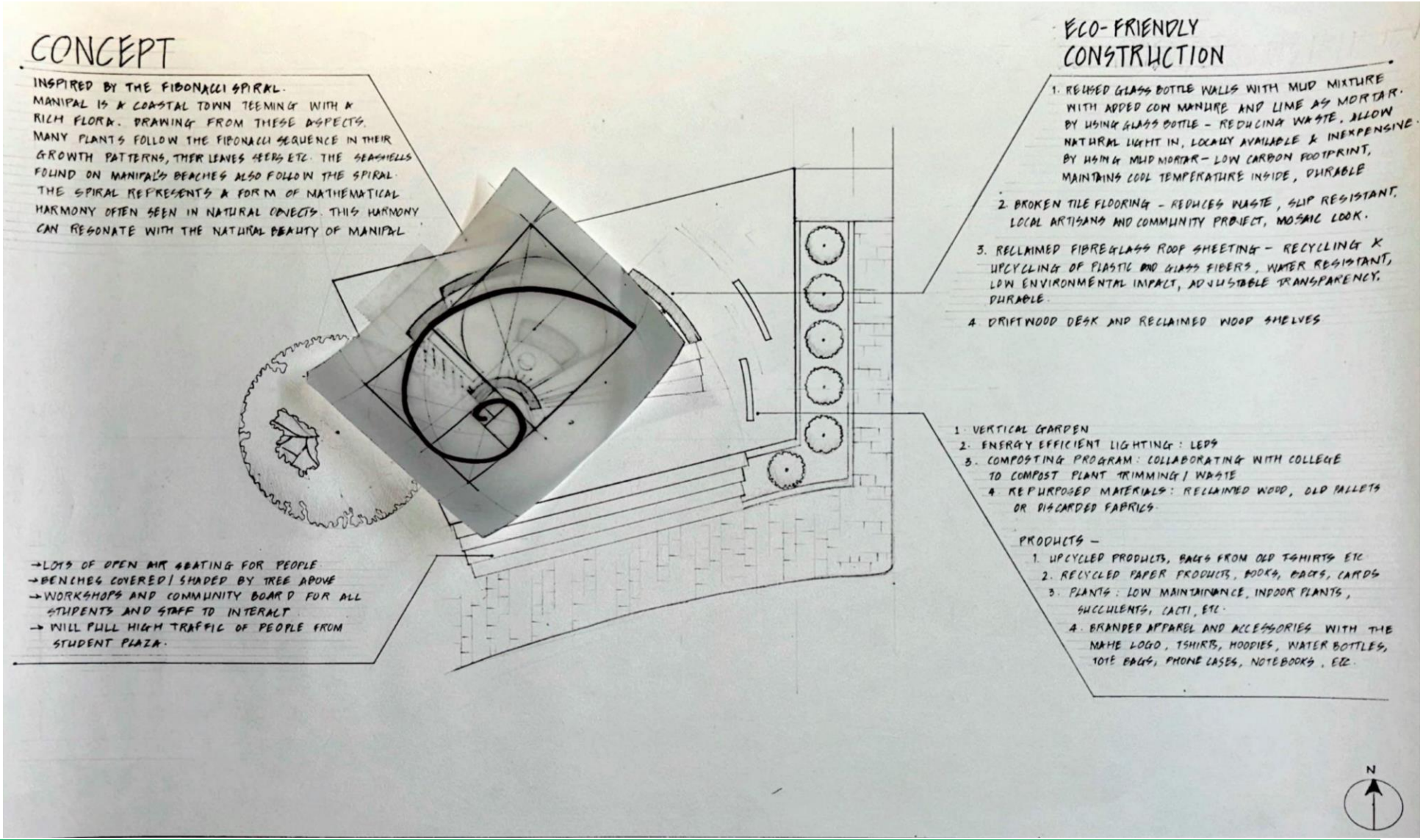


ELEMENTS OF DESIGN



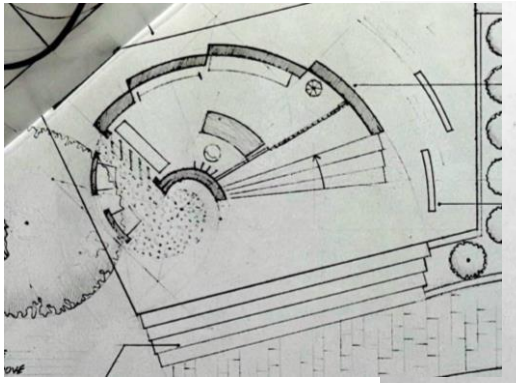
ARC 4501 ARCHITECTURAL DESIGN AND DETAILING - I

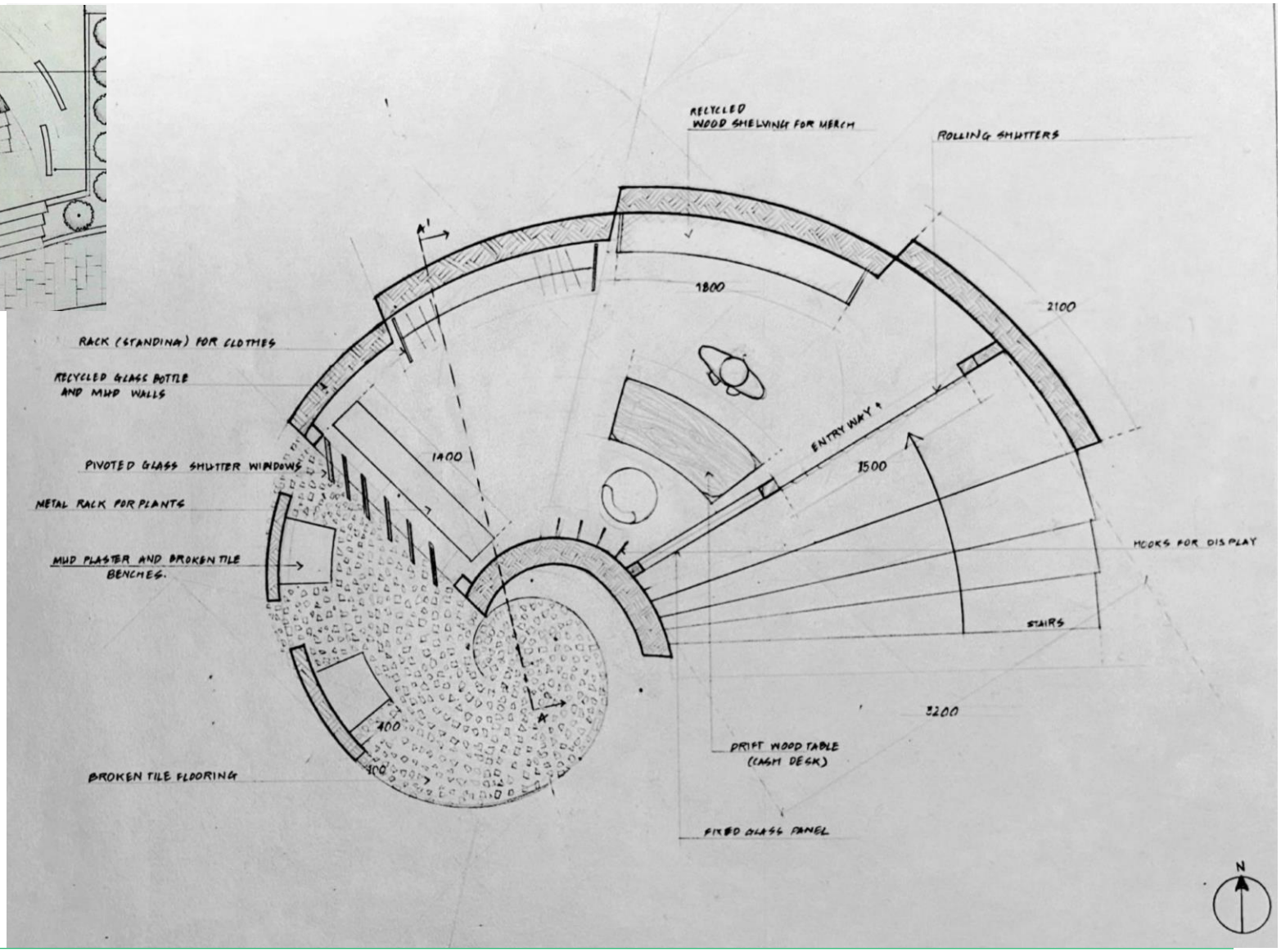
KIOSK SITE PLAN AND CONCEPT



STUDENT: ASMI AMBERSHETH (243701142)
FACULTY: Dr. Prof. NANDINENI RAMA DEVI, Prof. TN TRIVIKRAM, Prof. NISHITH URVAL

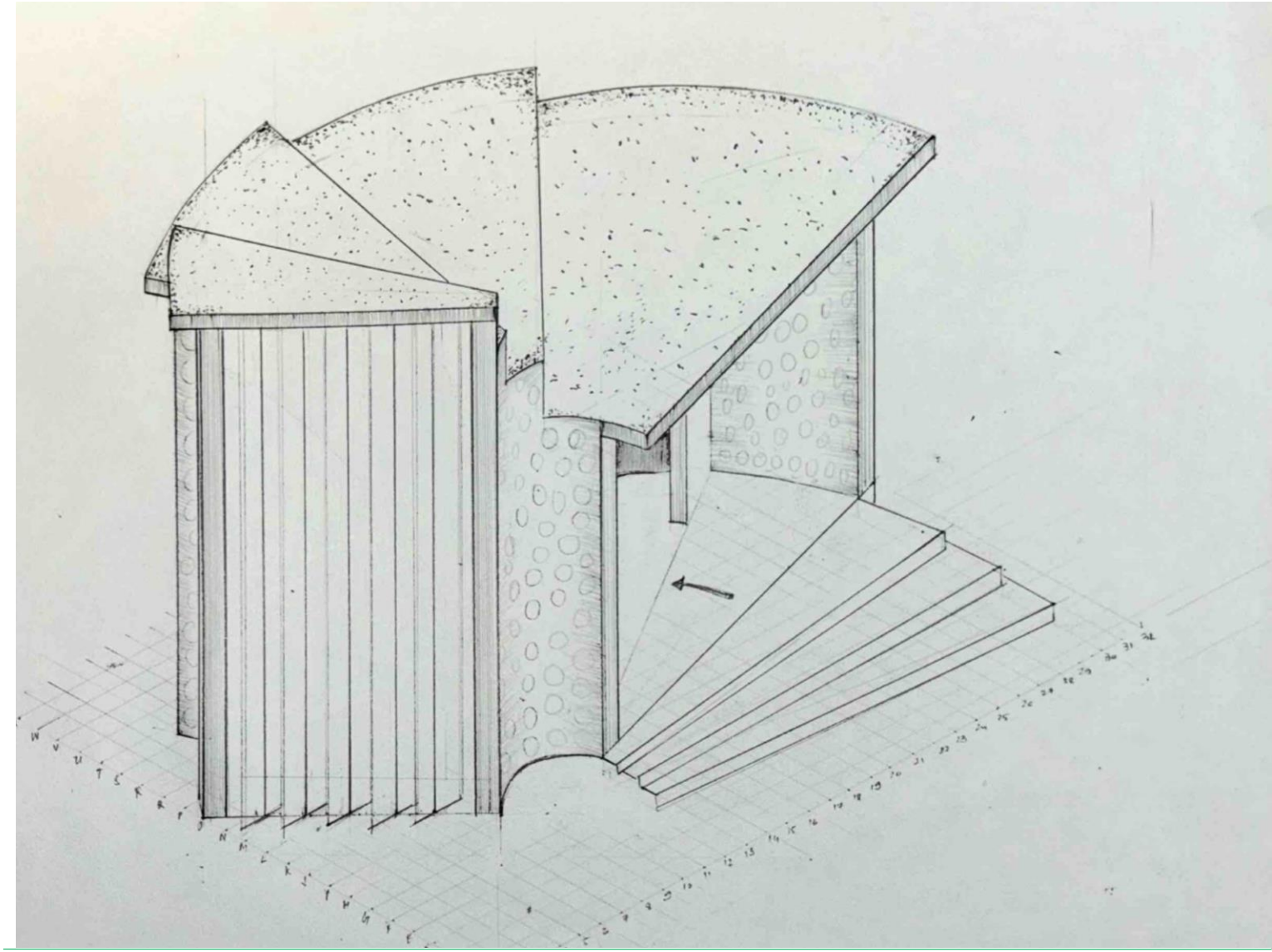
KIOSK FLOOR PLAN

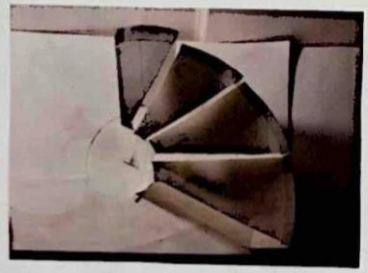




ARC 4501 ARCHITECTURAL DESIGN AND DETAILING - I

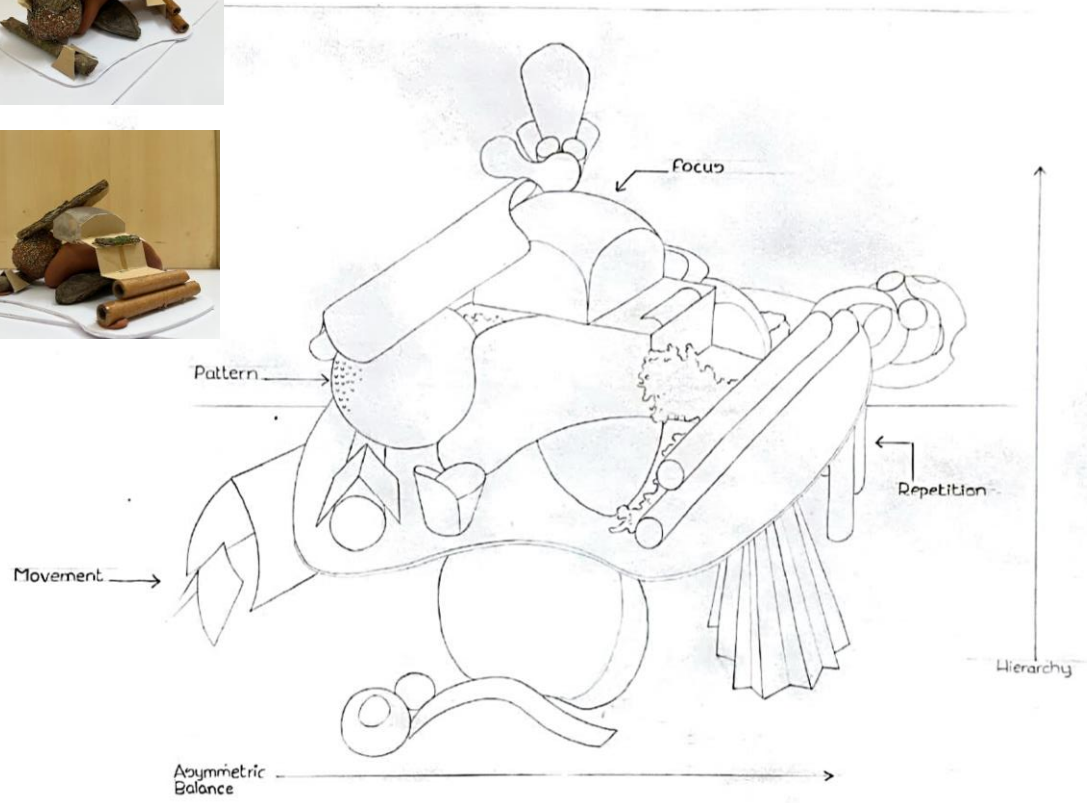
KIOSK ISOMETRIC VIEW AND WORKING MODEL



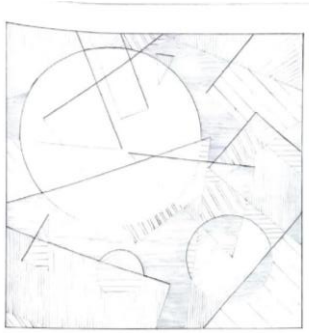


STUDENT: ASMI AMBERSHETH (243701142)
FACULTY: Dr. Prof. NANDINENI RAMA DEVI, Prof. TN TRIVIKRAM, Prof. NISHITH URVAL

ELEMENTS OF DESIGN



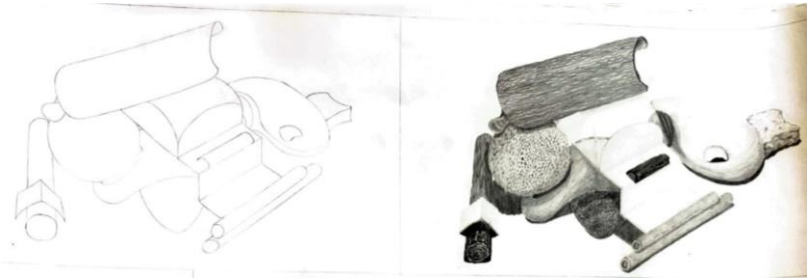
COMMUNICATION IN DESIGN



COALESCE
SHAPED ACT AS FRAGMENTS COMING TOGETHER TOWARD THE SOURCE THAT DEFINED EDGED FACING UP.

SHIFT
DIMENSIONS COLLAPSE, FORMS FLOAT AGAINST GRAVITY, FORMING NEW TEXTURES WHERE THEY OVERLAP.

PRINCIPLES OF DESIGN



ARC 4505 ARCHITECTURAL GRAPHICS

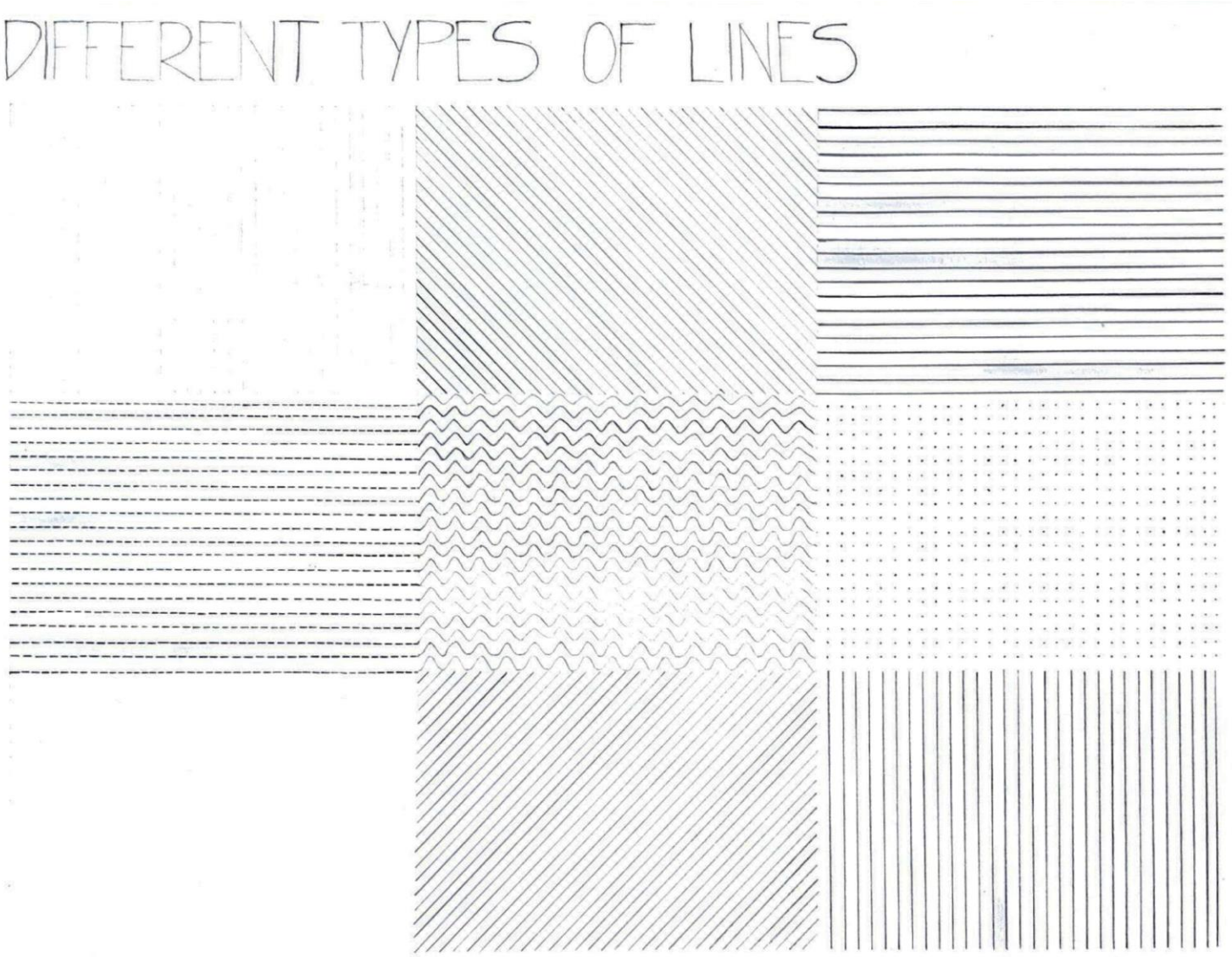
TYPES OF LINES

COURSE OBJECTIVES:

The coursework intends to familiarize students with the essential techniques used in architectural drafting, covering from fundamental skills to advanced presentations. The
students are expected to communicate through graphic language and geometrical construction, understand the basics of planes and their representation, and understand solid geometry through exercises of increasing complexity.

PROJECT BRIEF:

Introducing various Drafting Techniques, Lettering, Annotations, and Scales, Basics of Orthographic Projections, Pictorial Projections, Presentation Drawings and Sciography.

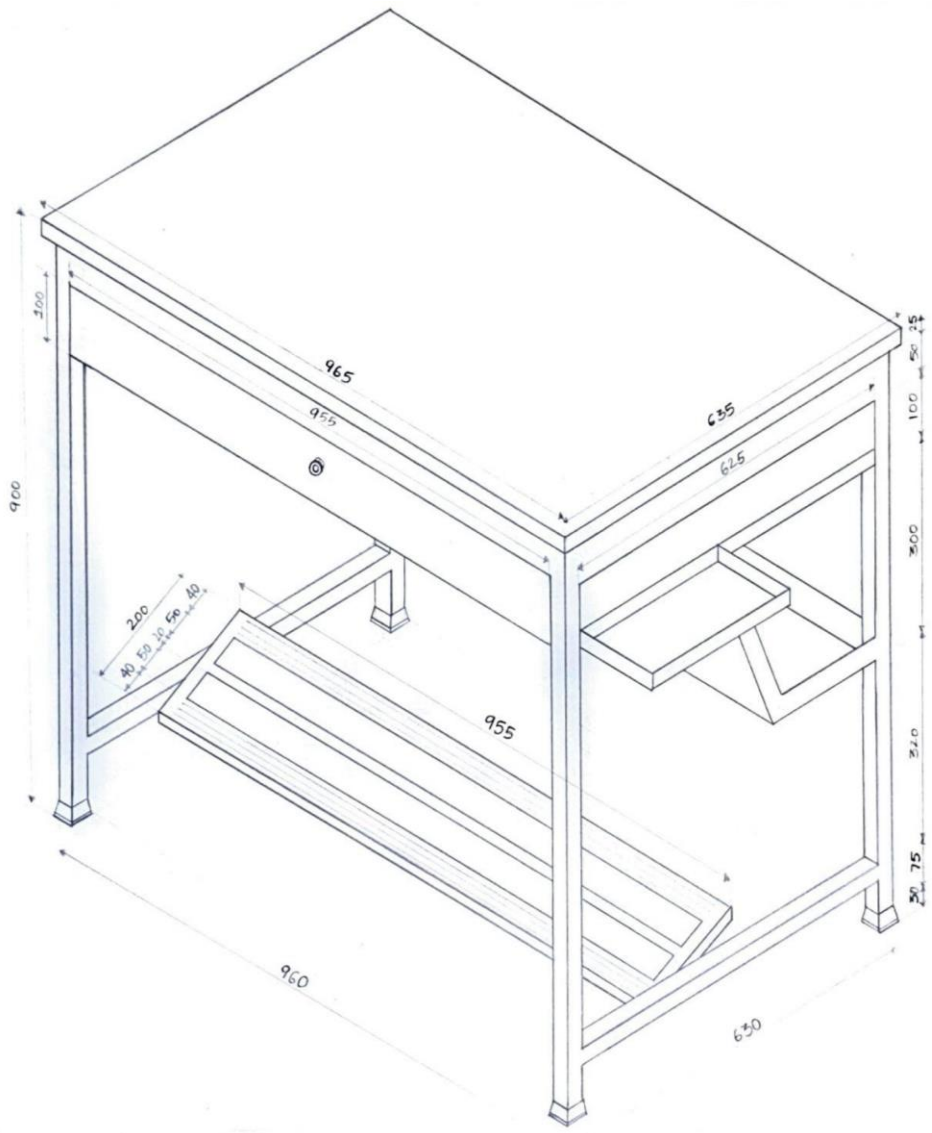


STUDENT: S SREENITHI (243701028)
FACULTY: NIKHIL S KOHALE

LETTERING

STUDENT: S SREENITHI (243701028)
FACULTY: NIKHIL S KOHALE

ISOMETRIC VIEW



SCALE 1:5

All dimensions are in mm

STUDENT: S SREENITHI (243701028)
FACULTY: NIKHIL S KOHALE

ARC 4503 BUILDING MATERIALS AND CONSTRUCTION SYSTEMS - I

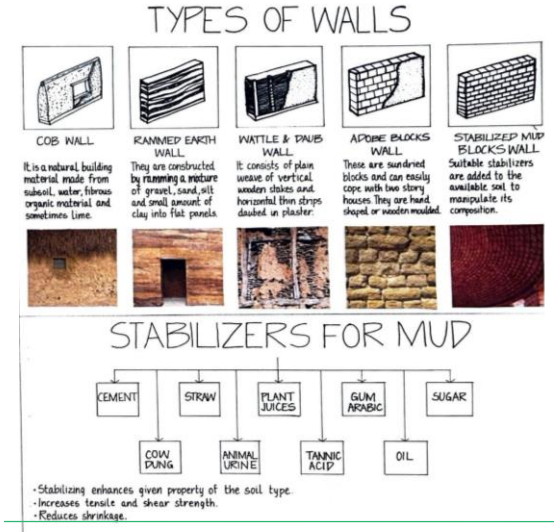
BUILDING MATERIALS

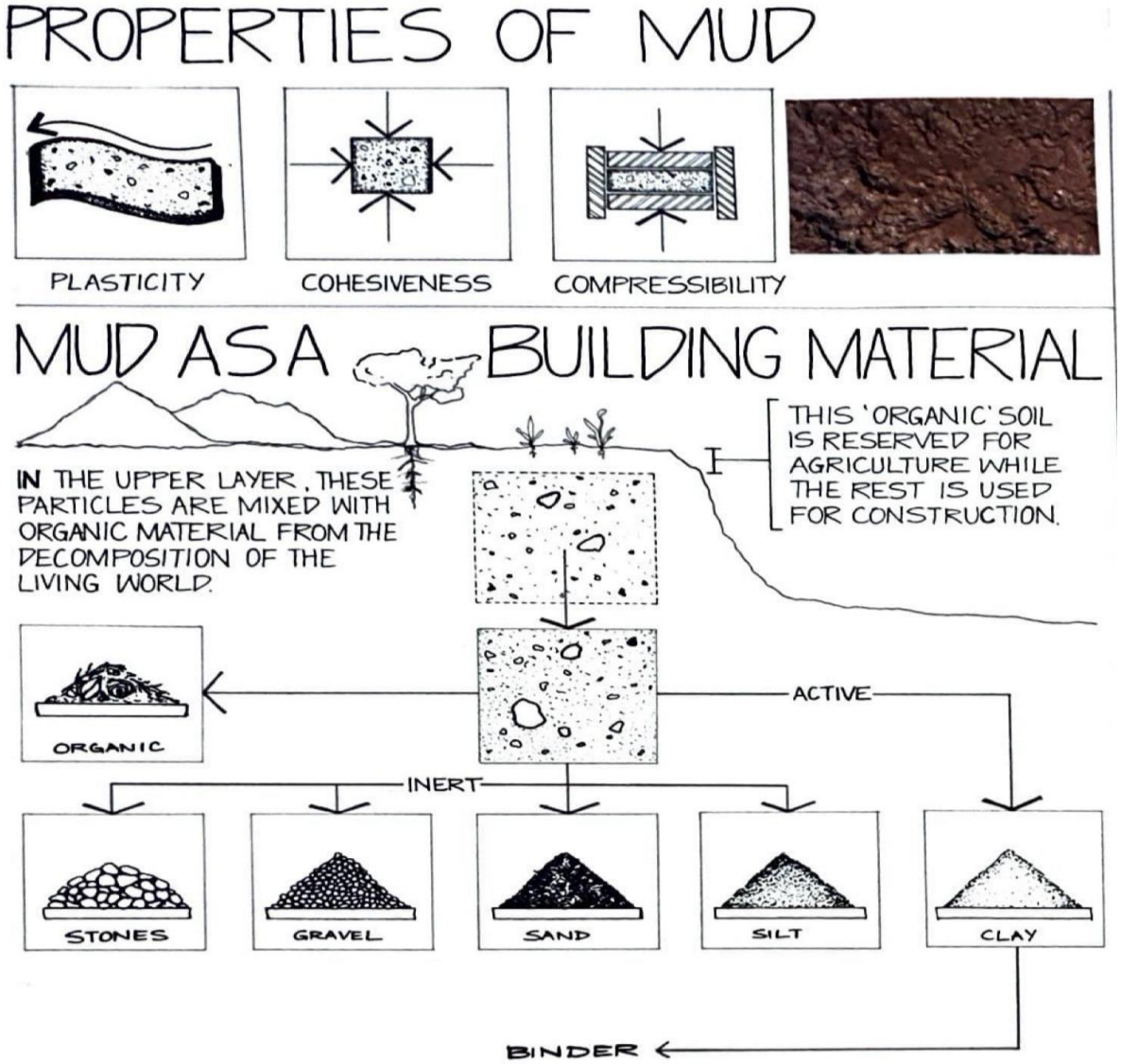
COURSE OBJECTIVES:

The coursework familiarizes students with a comprehensive overview of building components, materials, and construction systems, specifically emphasizing mud, stone, clay, and brick. It covers each technique's characteristics, methods, and applications and emphasizes sustainability and structural considerations.

PROJECT BRIEF:

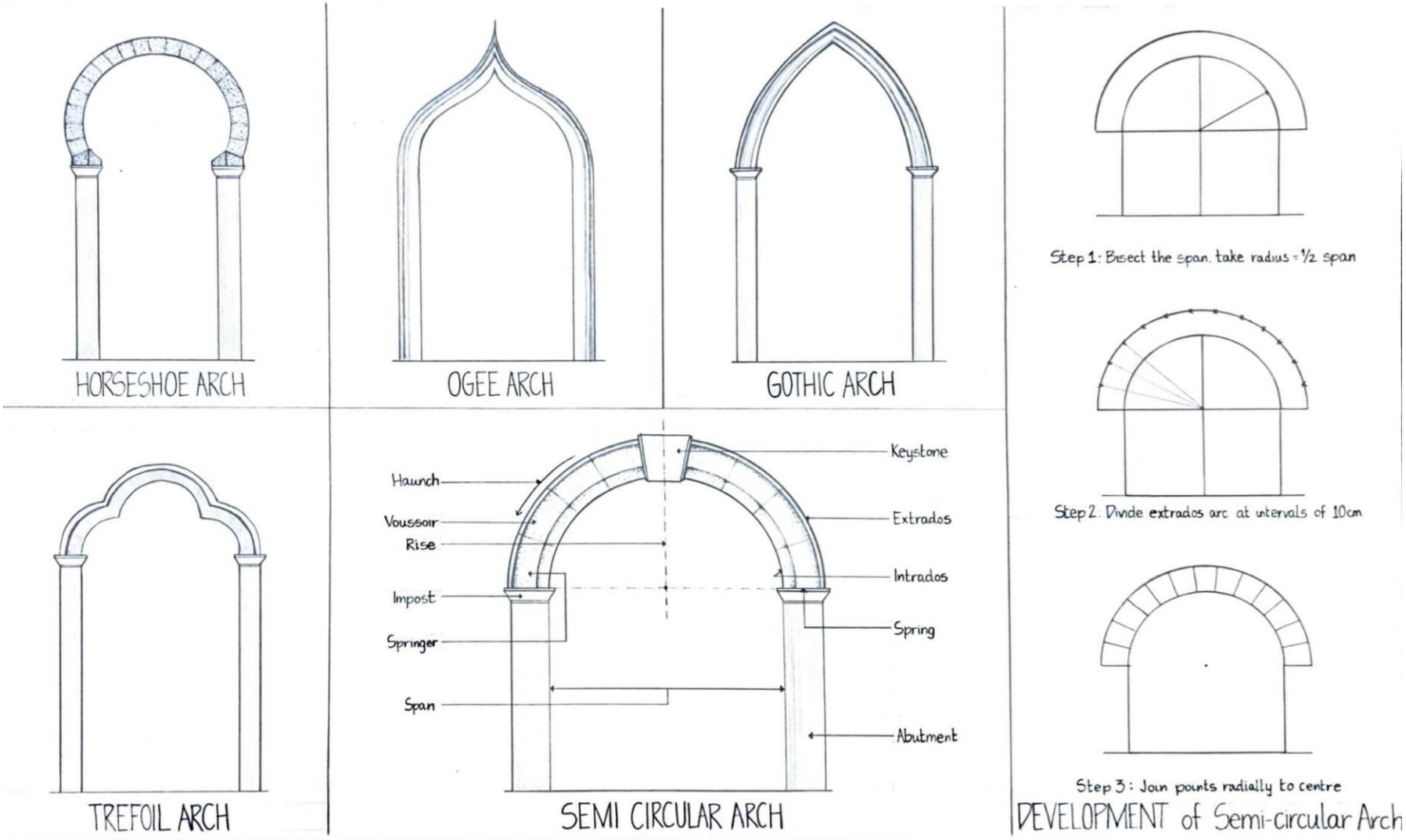
The coursework intends to familiarize students with a comprehensive overview of building components, materials, and construction systems, specifically emphasizing mud, stone, clay, and brick. It covers each technique's characteristics, methods, and applications and emphasizes sustainability and structural considerations.



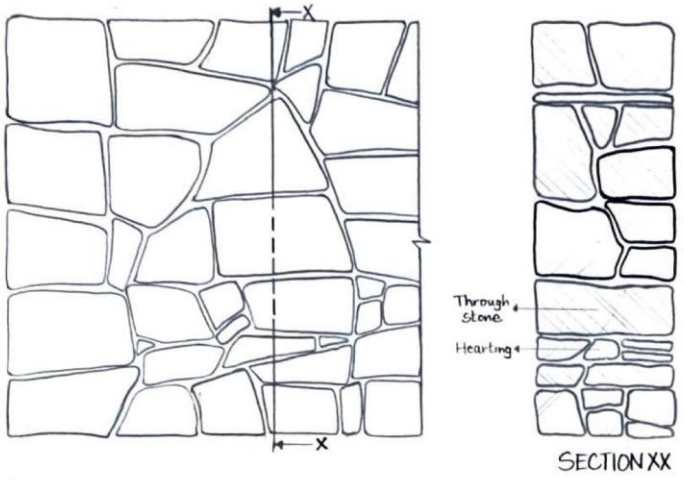


STUDENT: S SREENITHI (243701028)
FACULTY: VIDYA RAO, TRUPTI AMIT KINJAWADEKAR

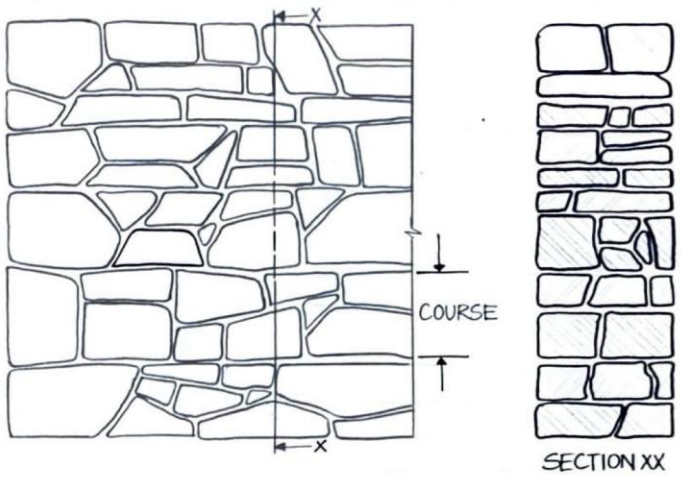
OPENINGS


HORSESHOE ARCH
OGEE ARCH
GOTHIC ARCH
TREFOIL ARCH
Keystone
Haunch
Voussoir
Extrados
Rise
Intrados
Impost
Spring
Springer
Span
Abutment
SEMI CIRCULAR ARCH
Step 1: Bisect the span. take radius = ½ span
Step 2. Divide extrados arc at intervals of 10cm
Step 3 : Join points radially to centre
DEVELOPMENT of Semi-circular Arch

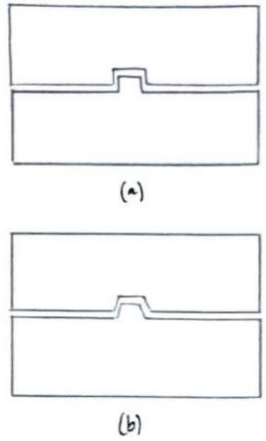
STONE MASONRY



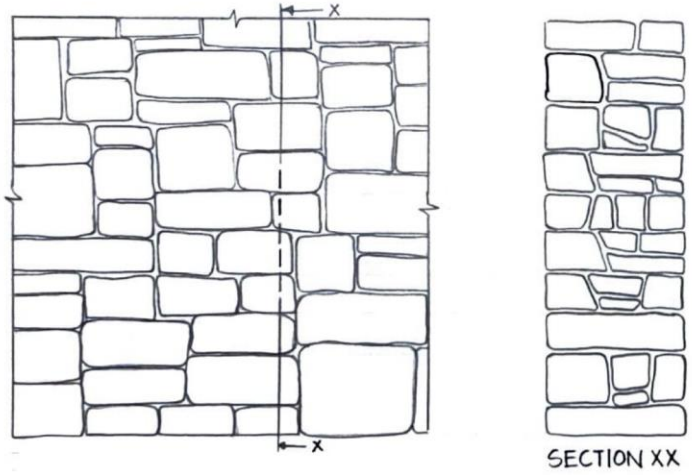
RANDOM RUBBLE UNCOURSED MASONRY



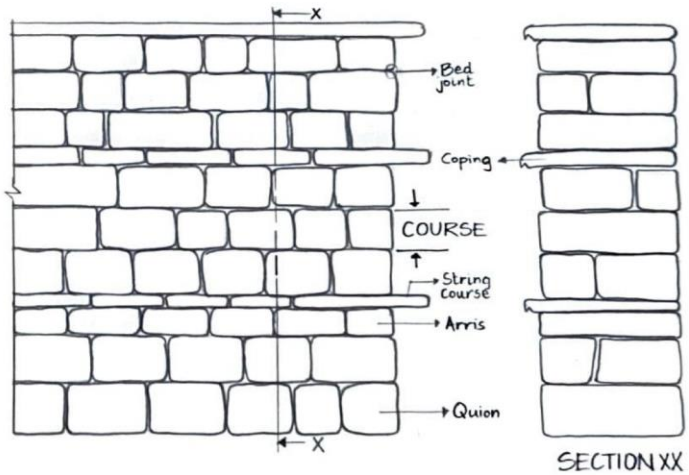
RANDOM RUBBLE COURSED MASONRY



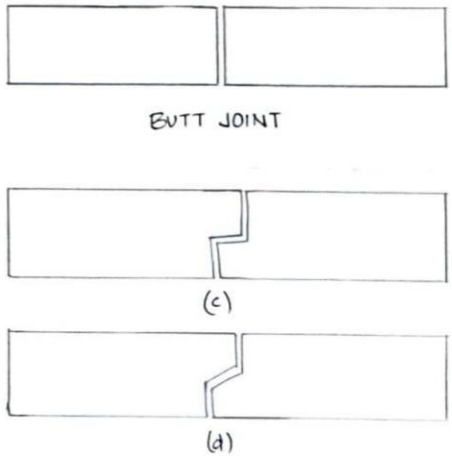
BED JOINTS



SQUARED RUBBLE UNCOURSED MASONRY



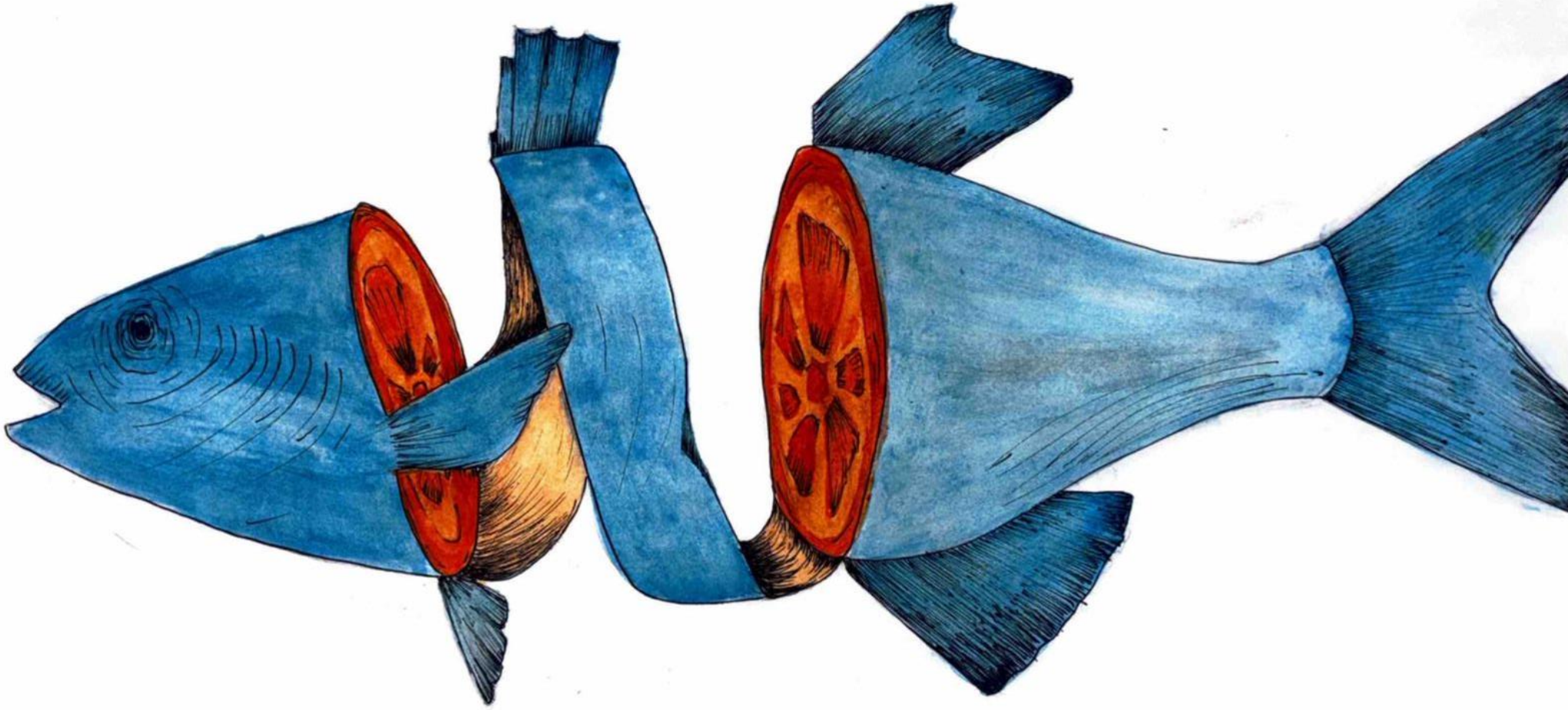
SQUARED RUBBLE COURSED MASONRY



BUTT JOINT

REBATED JOINTS

COMPOSITION

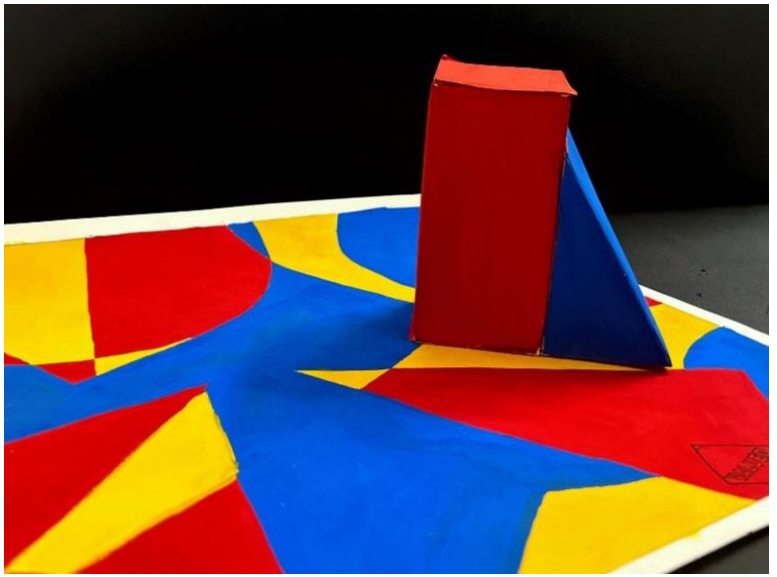


STUDENT: V MADHURIMA (243701058)
FACULTY: SRIDHARA

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 4507 VISUAL ARTS & MODEL MAKING STUDIO

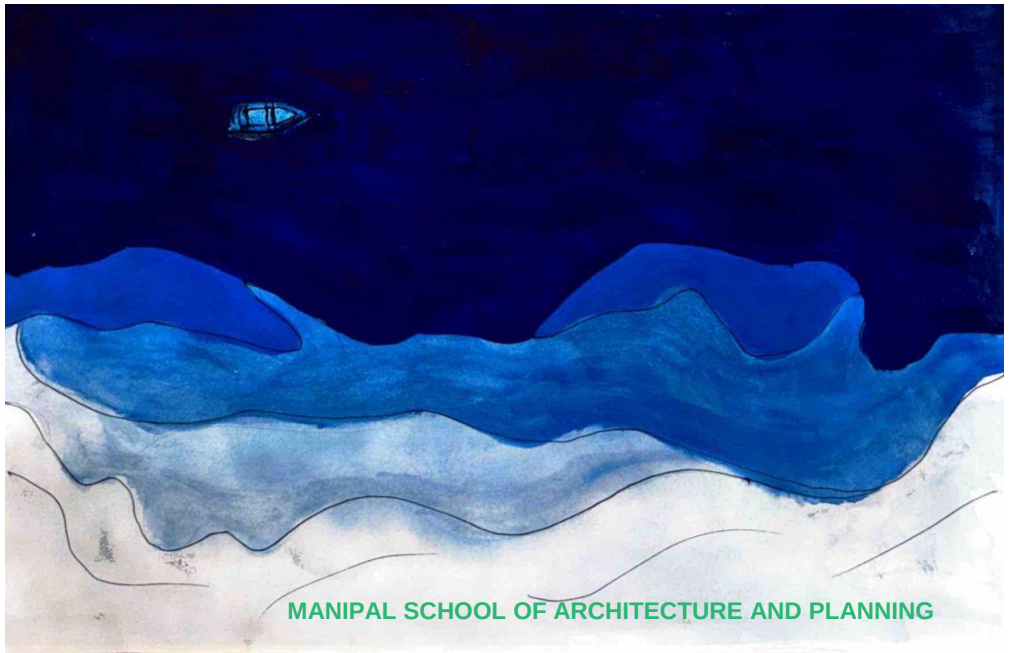
COMPOSITION



STUDENT: V MADHURIMA (243701058)
FACULTY: SRIDHARA

ARC 4507 VISUAL ARTS & MODEL MAKING STUDIO

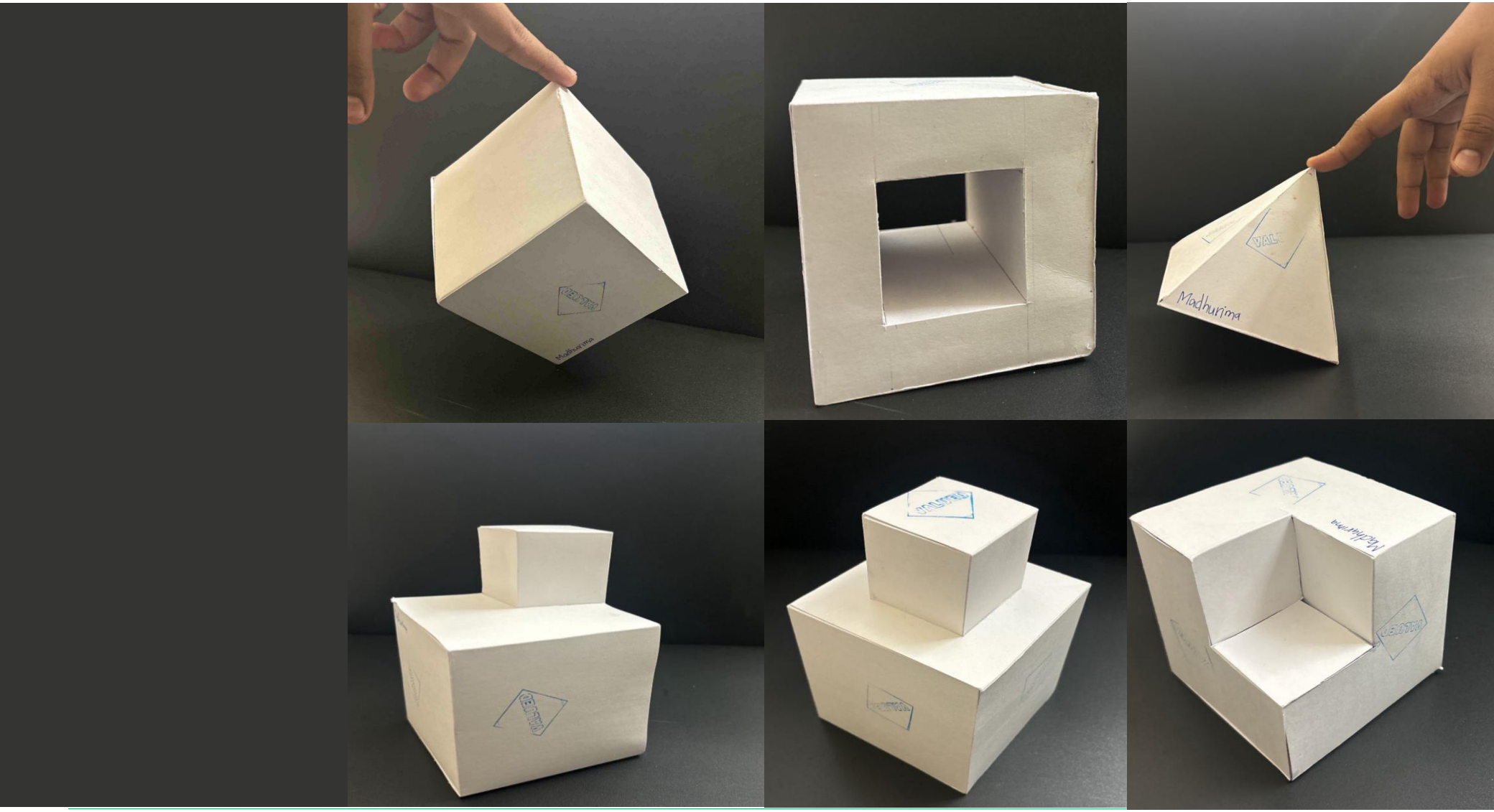
COMPOSITION



STUDENT: V MADHURIMA (243701058)
FACULTY: SRIDHARA

ARC 4507 VISUAL ARTS & MODEL MAKING STUDIO

MODEL MAKING



STUDENT: V MADHURIMA(243701058)
FACULTY: SRIDHARA

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

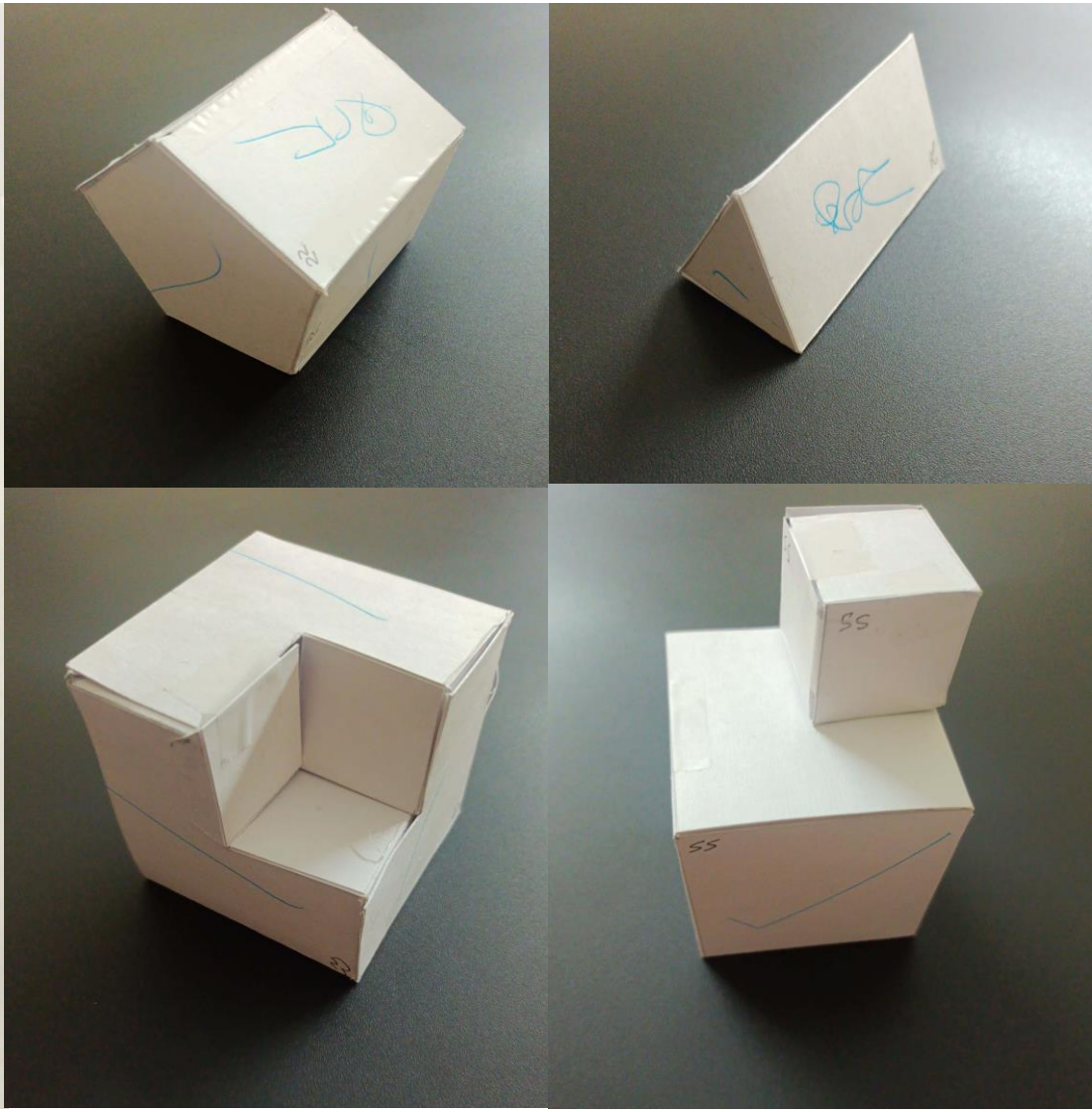
ARC 4507 VISUAL ARTS & MODEL MAKING STUDIO

COMPOSITION

STUDENT: SWASTIKA SETH (243701194)
FACULTY: SRIDHARA

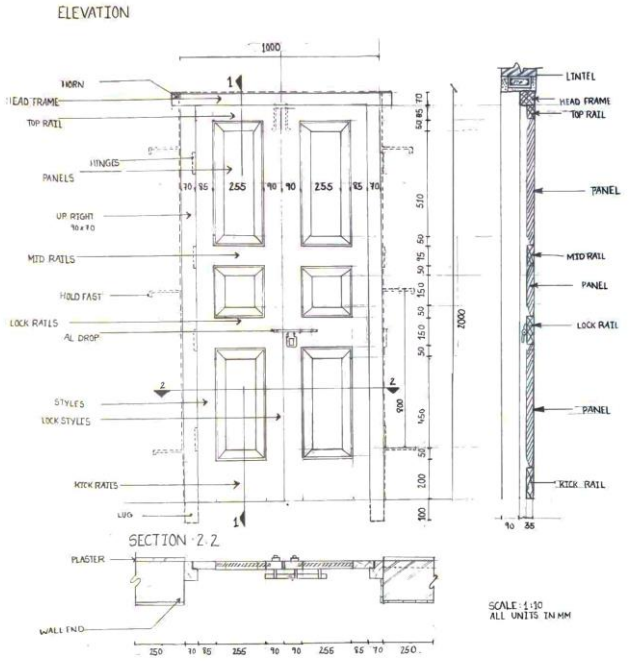
ARC 4507 VISUAL ARTS & MODEL MAKING STUDIO

COMPOSITION

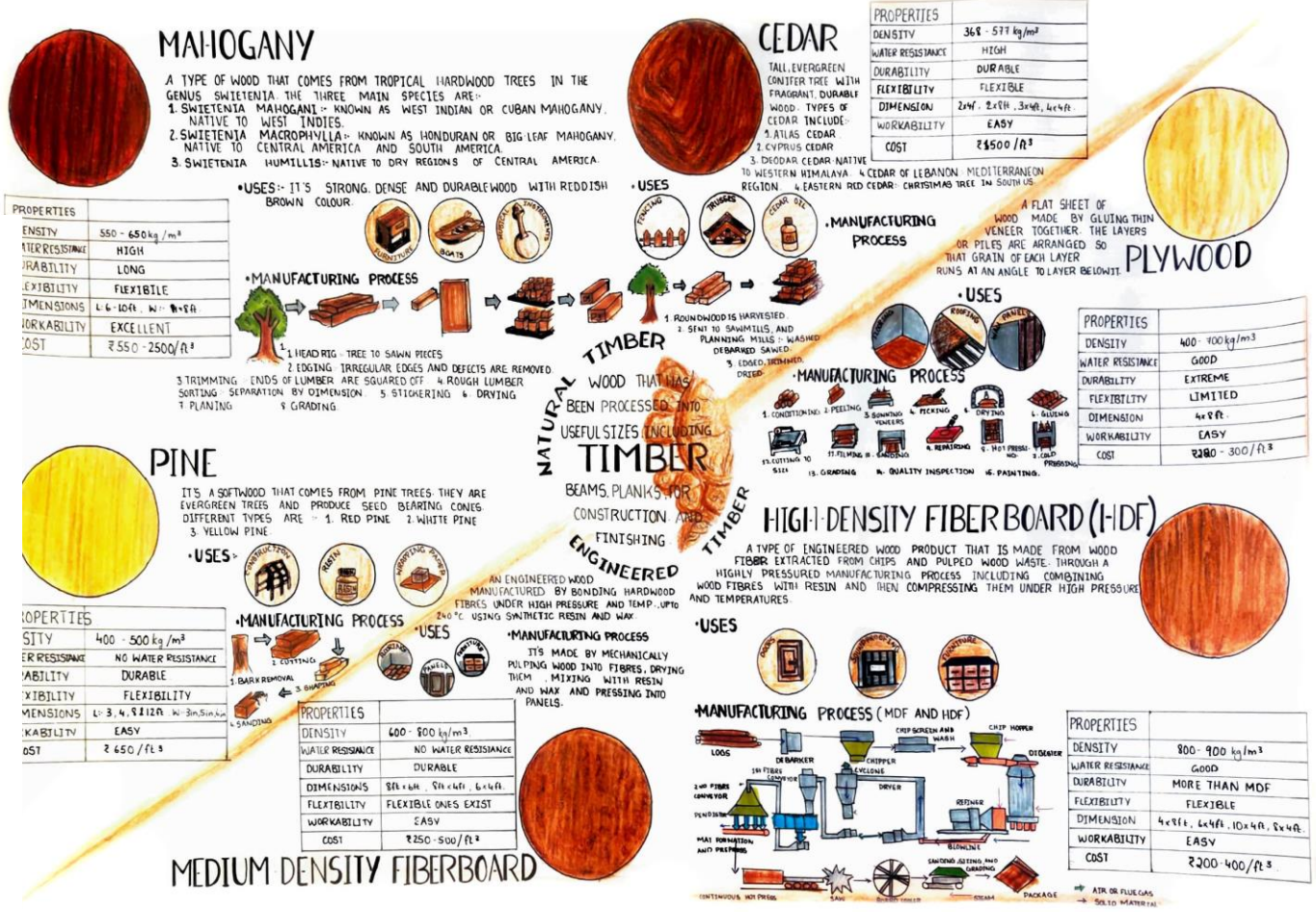


COURSE OBJECTIVES:

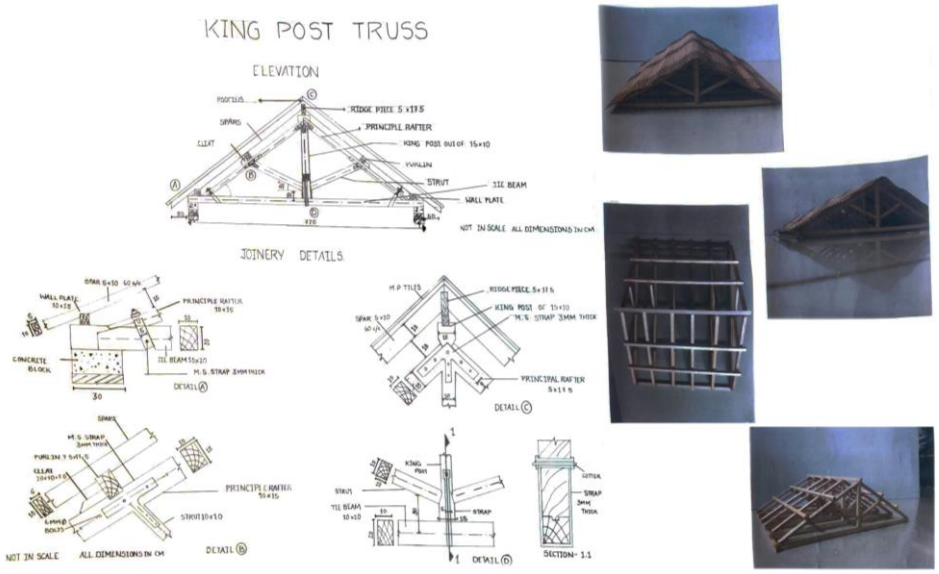
The course work intends to develop a comprehensive understanding of building components , architectural details and methods of construction of timber and bamboo as building material .It also dwells into the understanding of the material properties and their application in the building construction.

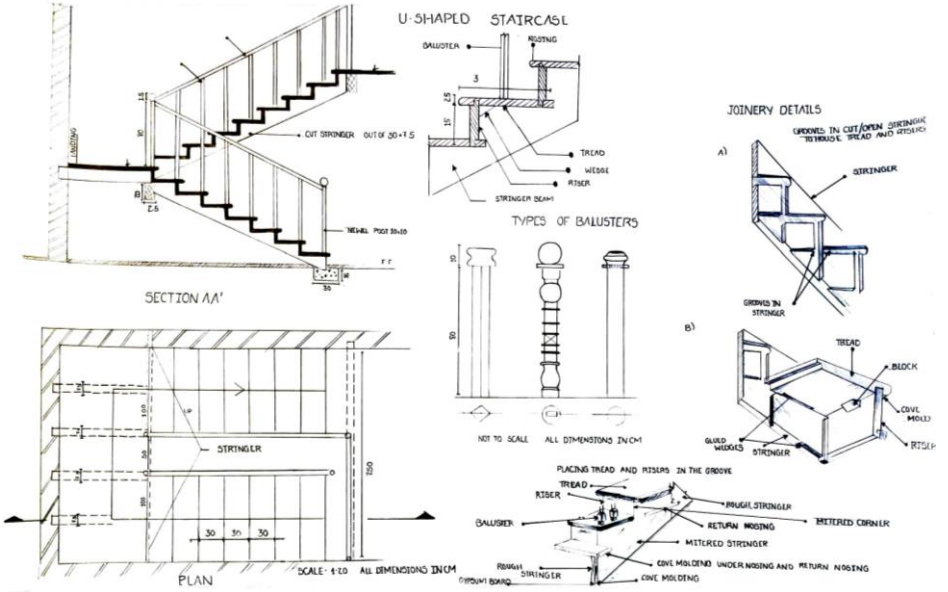


PANELLED DOOR

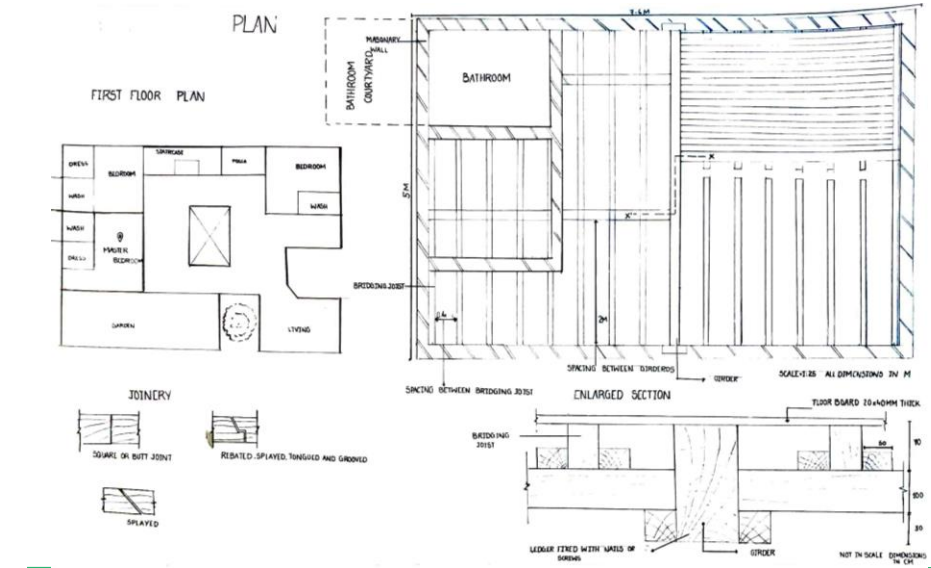


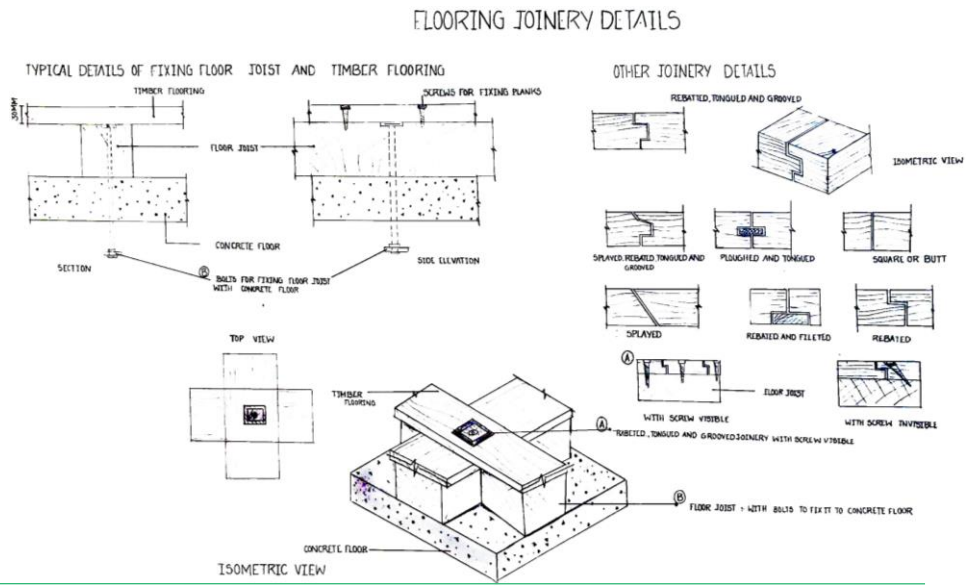
STUDENT: SARA BONEE (243701256)
FACULTY: DR. SHANTHARAMA PATIL, KUMAR VYOMKESH



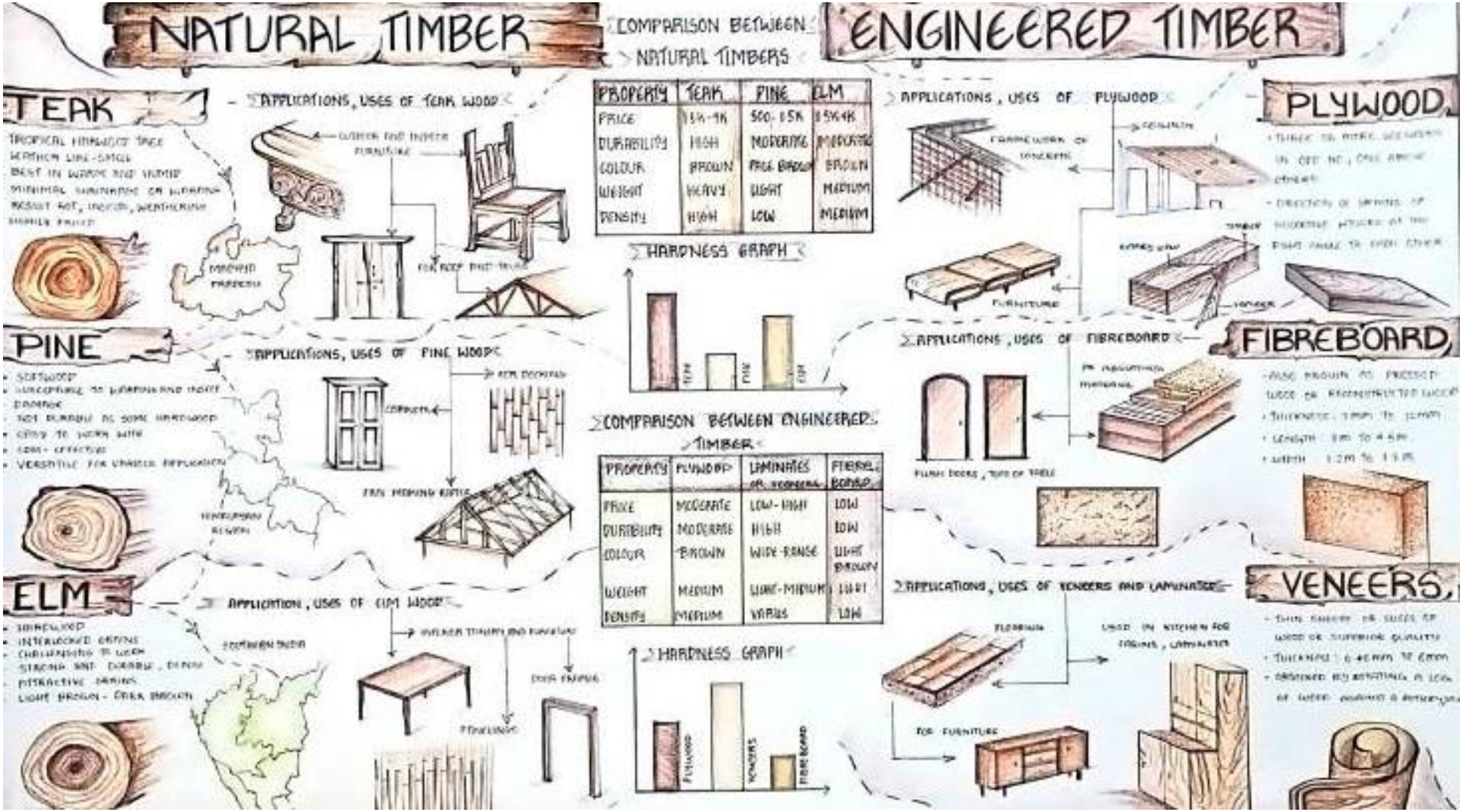


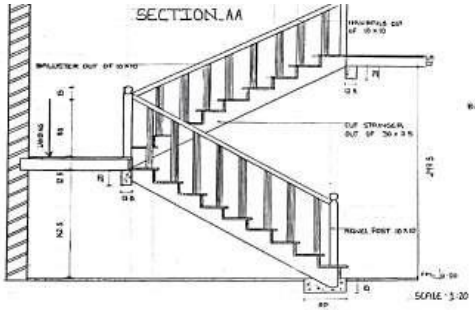
TIME TEST

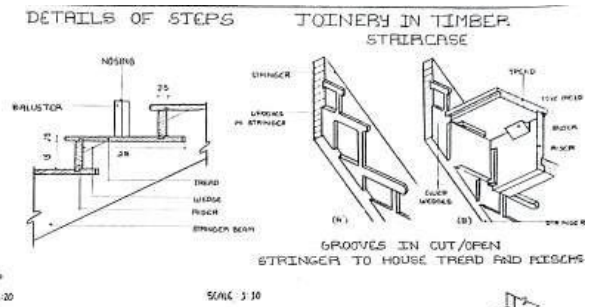


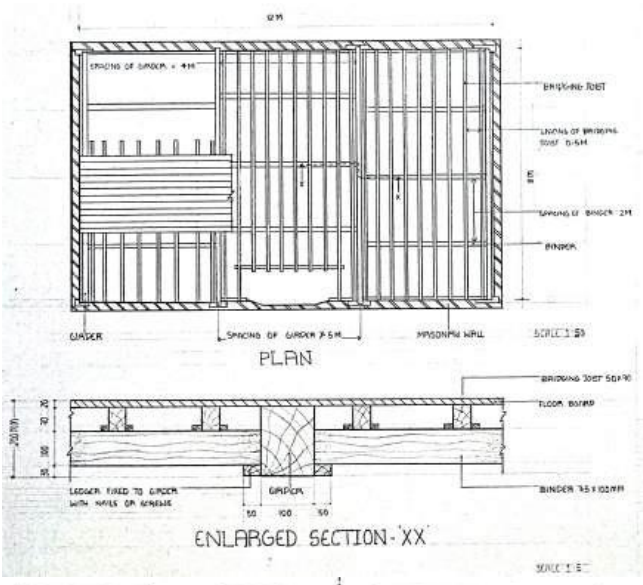


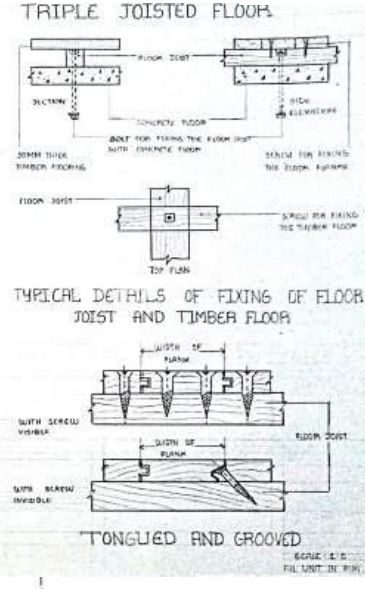
STUDENT: SARA BONEE (243701256)
FACULTY: DR. SHANTHARAMA PATIL, KUMAR VYOMKESH

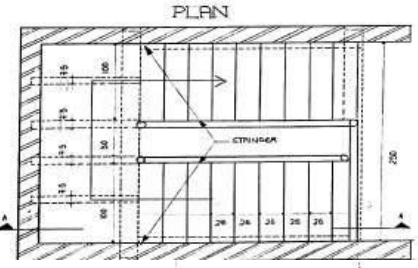

NATURAL TIMBER
COMPARISON BETWEEN NATURAL TIMBERS
ENGINEERED TIMBER
TEAK
APPLICATIONS, USES OF TEAK WOOD
PROPERTY | TEAK | PINE | ELM
PRICE | 5K-9K | 500-15K | 15K-4K
DURABILITY | HIGH | MODERATE | MODERATE
COLOUR | BROWN | PALE BROWN | BROWN
WEIGHT | HEAVY | LIGHT | MEDIUM
DENSITY | HIGH | LOW | MEDIUM
HARDNESS GRAPH
PINE
APPLICATIONS, USES OF PINE WOOD
ELM
APPLICATION, USES OF ELM WOOD
COMPARISON BETWEEN ENGINEERED TIMBER
PROPERTY | PLYWOOD | LAMINATES OR VENEERS | FIBRE BOARD
PRICE | MODERATE | LOW-HIGH | LOW
DURIBILITY | MODERATE | HIGH | LOW
COLOUR | BROWN | WIDE RANGE | LIGHT BROWN
WEIGHT | MEDIUM | LIGHT-MEDIUM | LIGHT
DENSITY | MEDIUM | VARIES | LOW
HARDNESS GRAPH
PLYWOOD
APPLICATIONS, USES OF PLYWOOD
FURNITURE
FIBREBOARD
APPLICATIONS, USES OF FIBREBOARD
VENEERS
APPLICATIONS, USES OF VENEERS AND LAMINATES
FOR FURNITURE

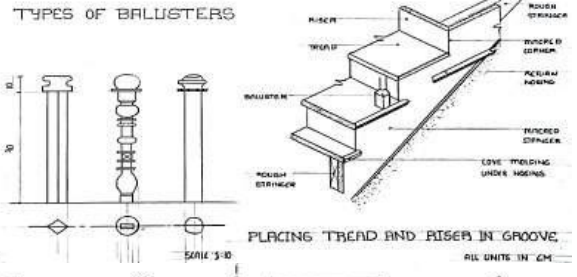

SECTION AA

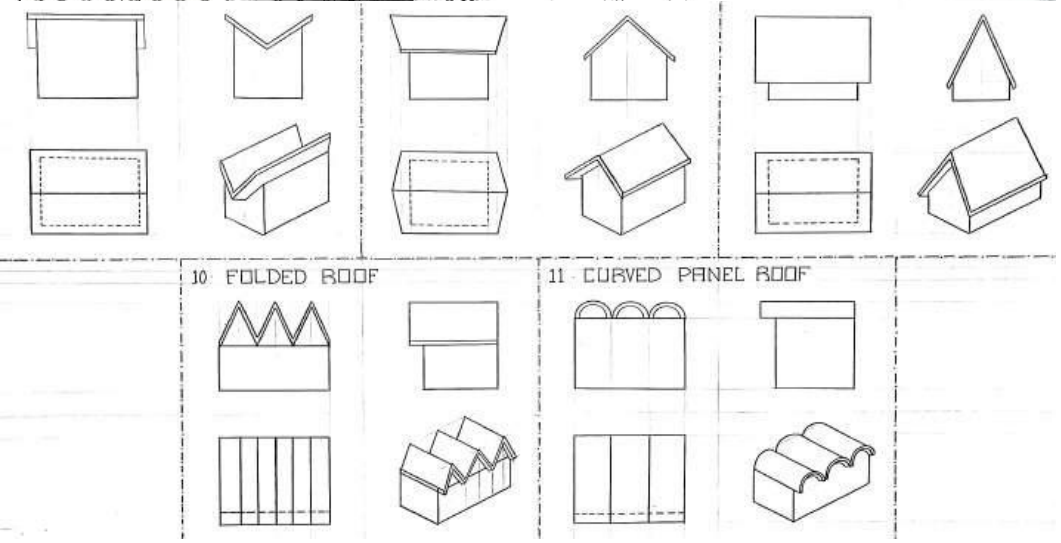

DETAILS OF STEPS
JOINERY IN TIMBER
STAIRCASE
GROOVES IN CUT/OPEN
STRINGER TO HOUSE TREAD AND RISERS

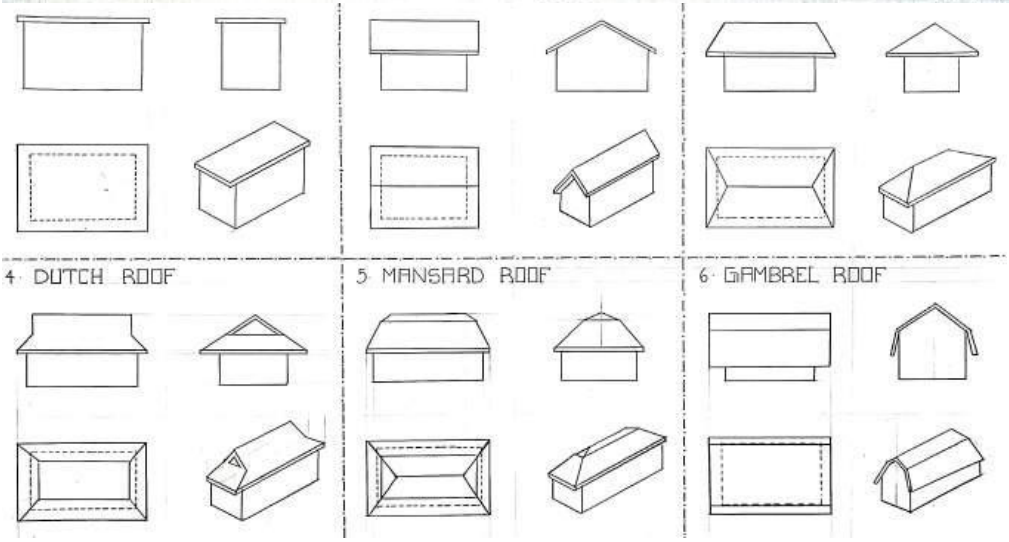

PLAN
ENLARGED SECTION-XX

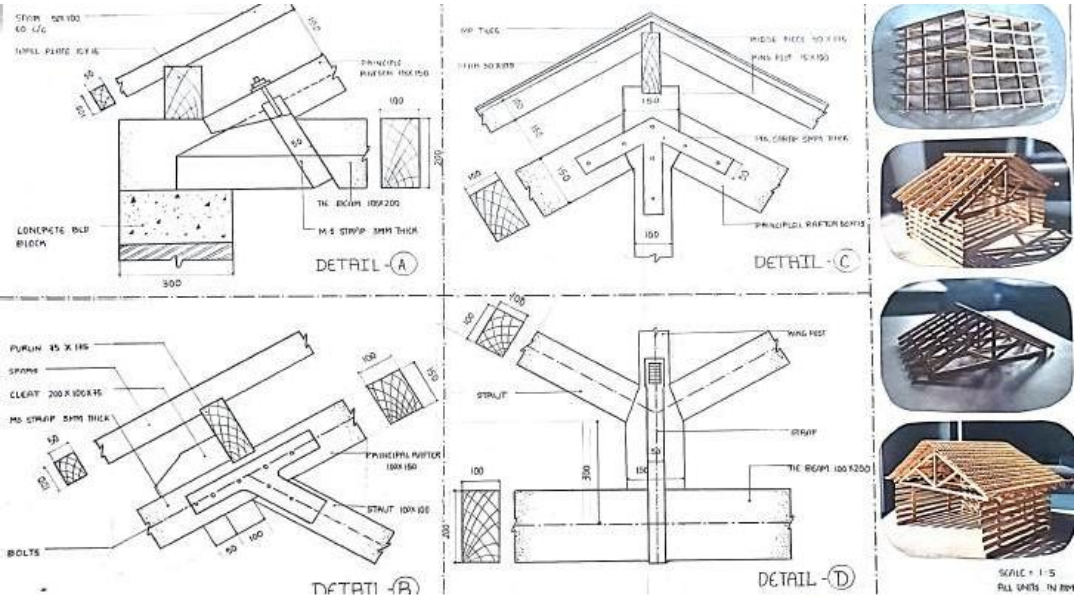

TRIPLE JOISTED FLOOR
TYPICAL DETAILS OF FIXING OF FLOOR JOIST AND TIMBER FLOOR
TONGUED AND GROOVED

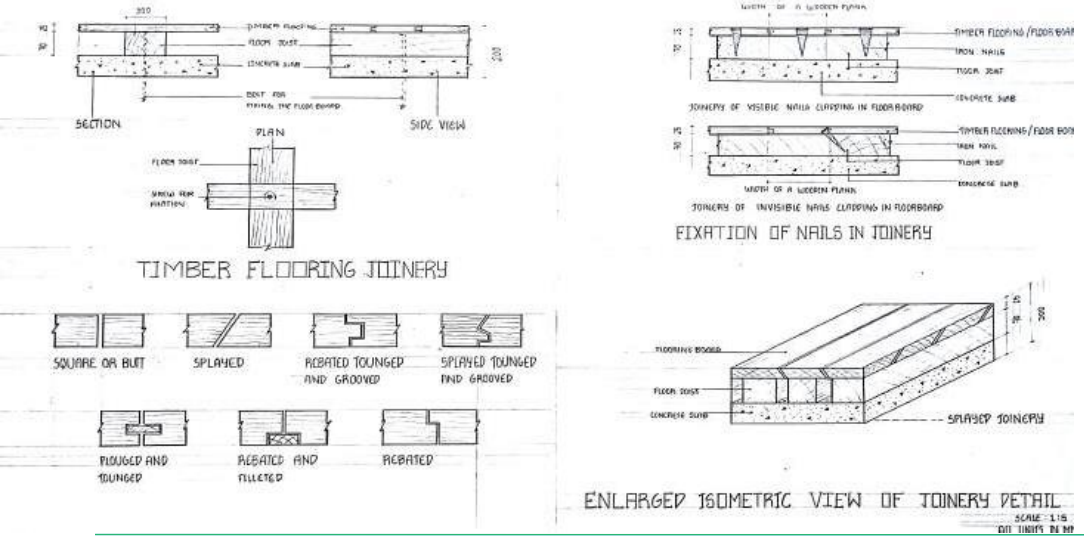

PLAN

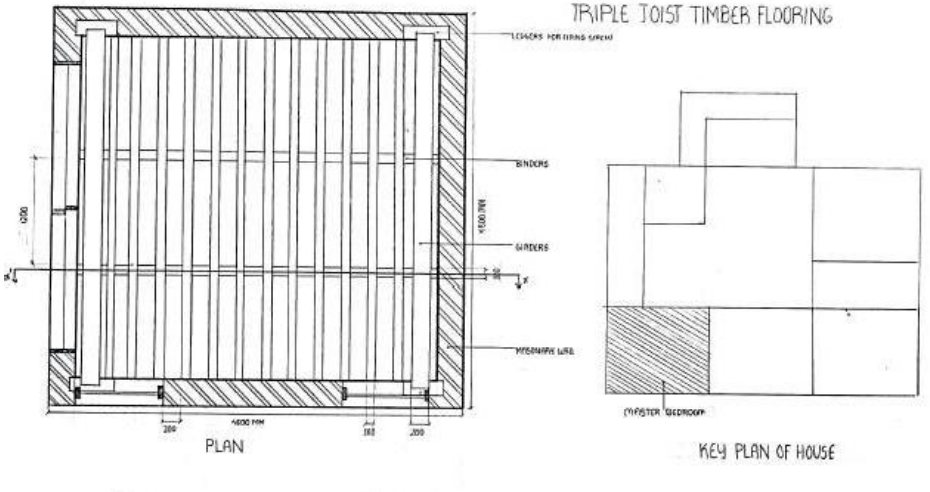

TYPES OF BALUSTERS
PLACING TREAD AND RISER IN GROOVE

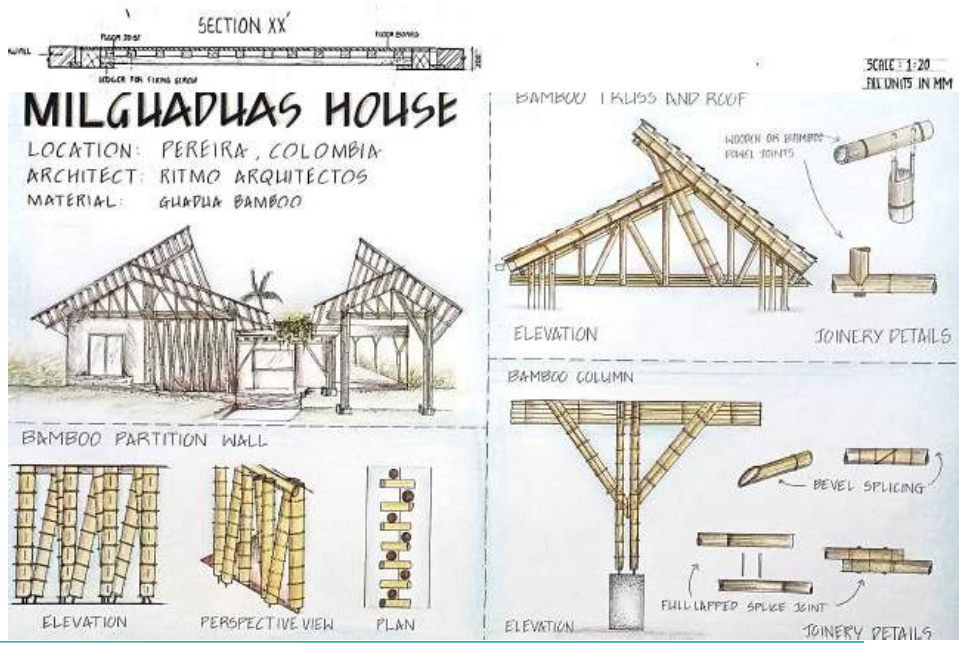

10 FOLDED ROOF
11 CURVED PANEL ROOF


4 DUTCH ROOF
5 MANSARD ROOF
6 GAMBREL ROOF









STUDENT: MIDHUNA V
FACULTY: JAMBAVATI GAUDA

ARC 4512 CLIMATE RESPONSIVE DESIGN

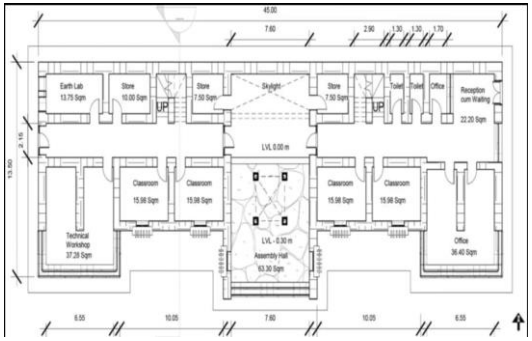
COURSE OBJECTIVES:

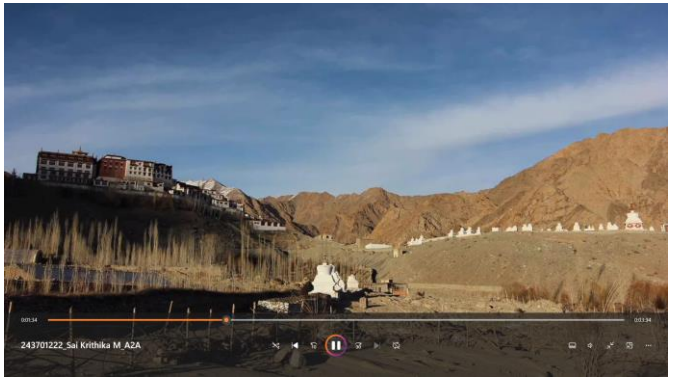
It provides an introduction to climate-responsive architecture, emphasizing passive design strategies and sustainable approaches suited to diverse climatic conditions. It fosters the integration of environmental principles into architectural design, with the objective of enhancing energy efficiency and occupant comfort.

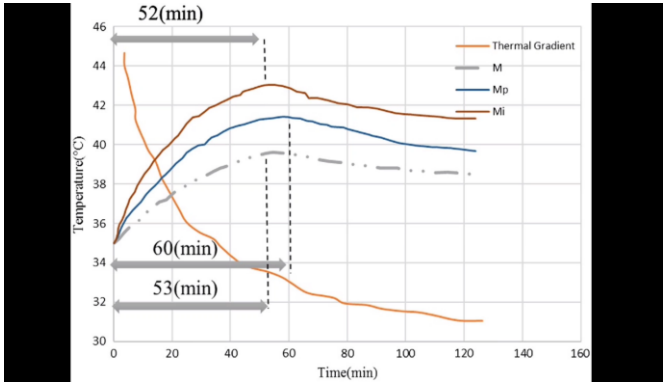
PROJECT BRIEF:

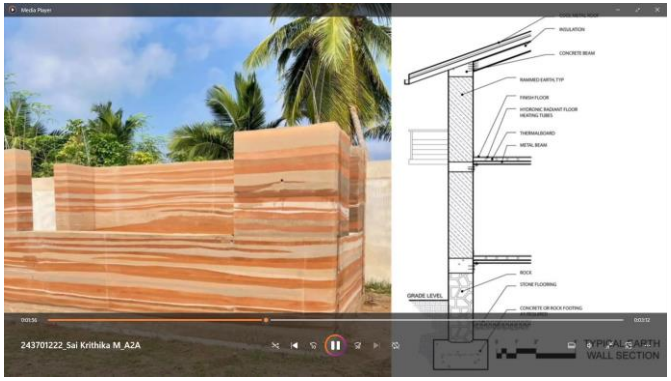
SECMOL Campus, Leh

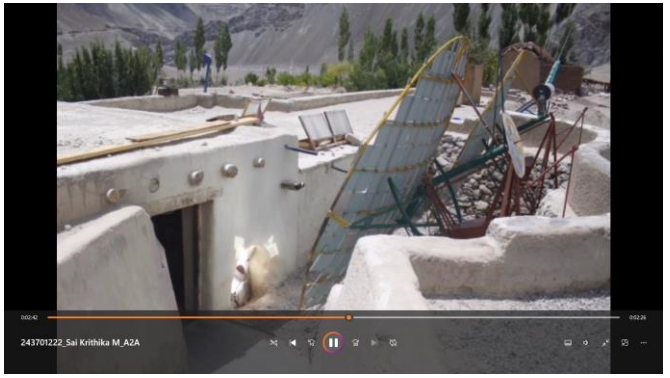
This case study examines the SECMOL campus in Ladakh as a model of climate-responsive and sustainable design in a cold desert climate. It focuses on passive solar techniques, use of local materials, orientation, and insulation strategies. The study highlights how traditional methods are effectively combined with modern sustainability principles to create energy-efficient, comfortable spaces with minimal environmental impact.

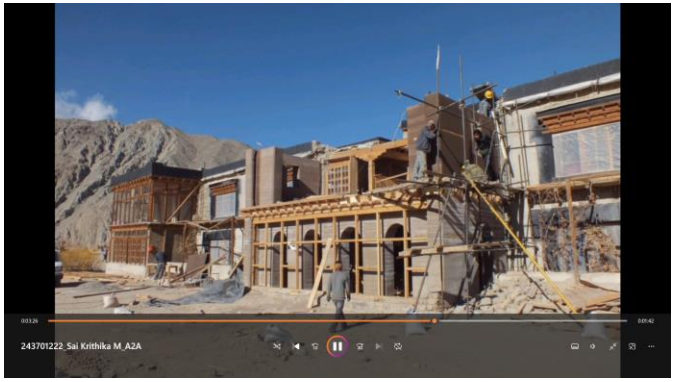






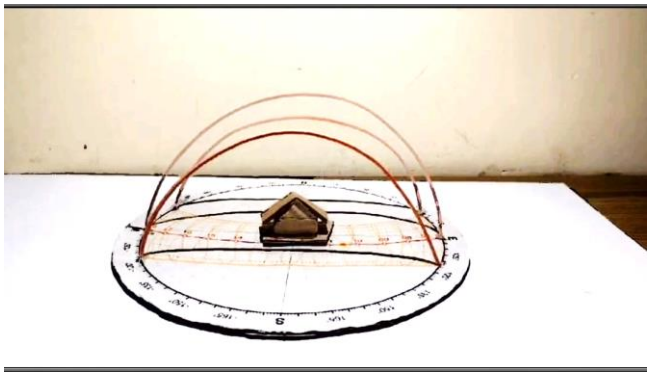


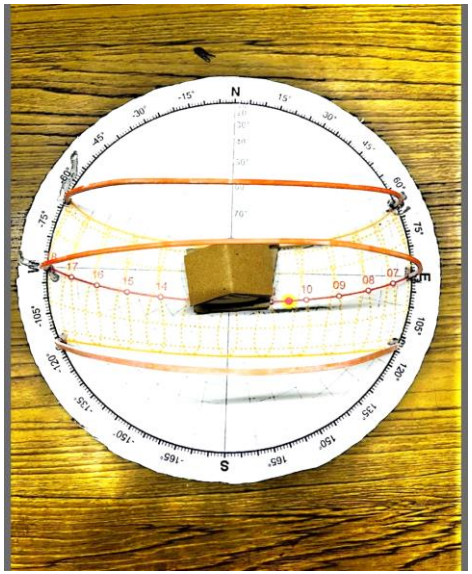


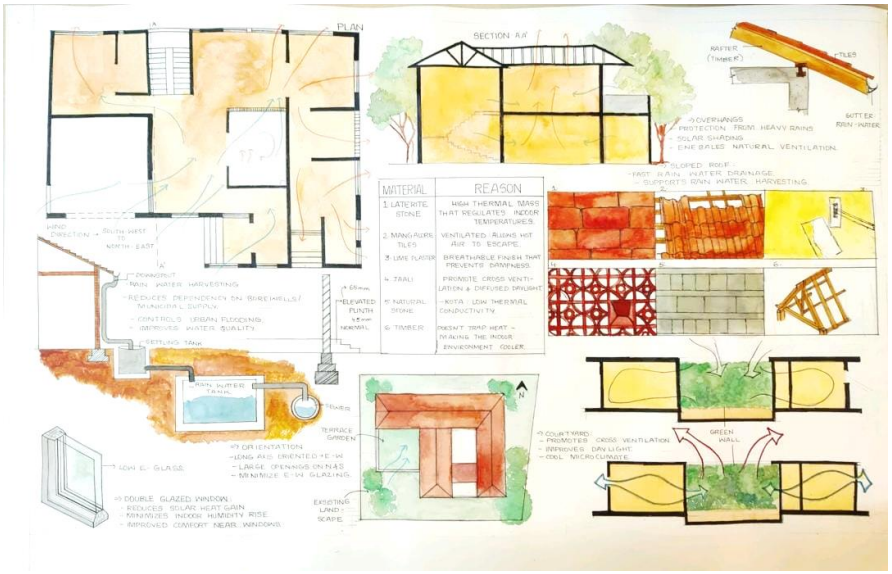


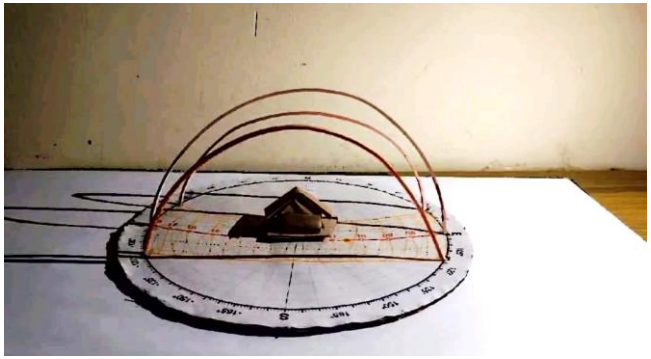
Aspects	SECMOL	NZEB	ECBC
Primary Goal	Sustainable, eco-friendly campus for Ladakhi youth.	Achieve net-zero energy balance through efficiency and renewables.	Reduce energy consumption in commercial buildings.
Design Philosophy	Passive solar heating, traditional architecture, and local materials.	High-efficiency measures with on-site renewable generation.	Energy efficiency through optimization of building envelopes and systems.
Building Materials	Locally sourced materials (mud bricks, rammed earth, wood).	Sustainable materials and advanced technologies.	High-performance materials based on climate zones.
Energy Strategies	Passive solar heating, thermal mass, and solar energy.	Net-zero through reduced energy demand and renewable sources.	Energy-efficient HVAC, lighting, and renewable integration.
Water	Rainwater harvesting, minimal water usage.	Water recycling and	Water-efficient fixtures and

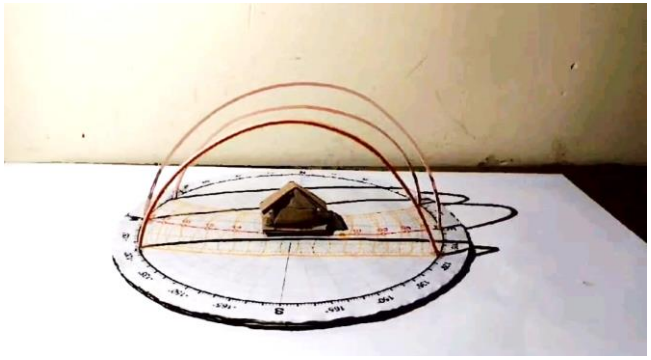
STUDENT: KRITHIKA MUDDAMSETTY (243701222) ANJALI NEVOJI (243701064)
FACULTY: BABAR JAVED, ARNAB JANA

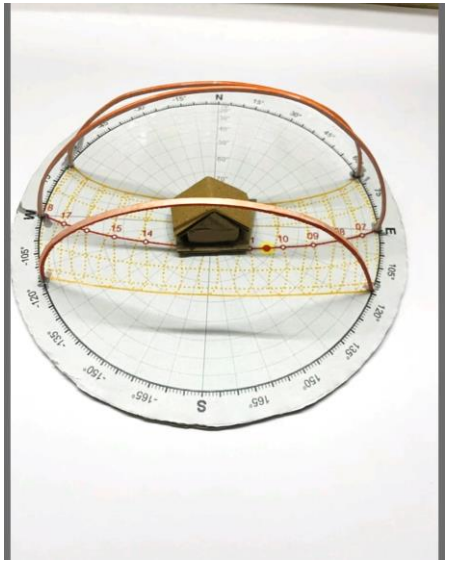


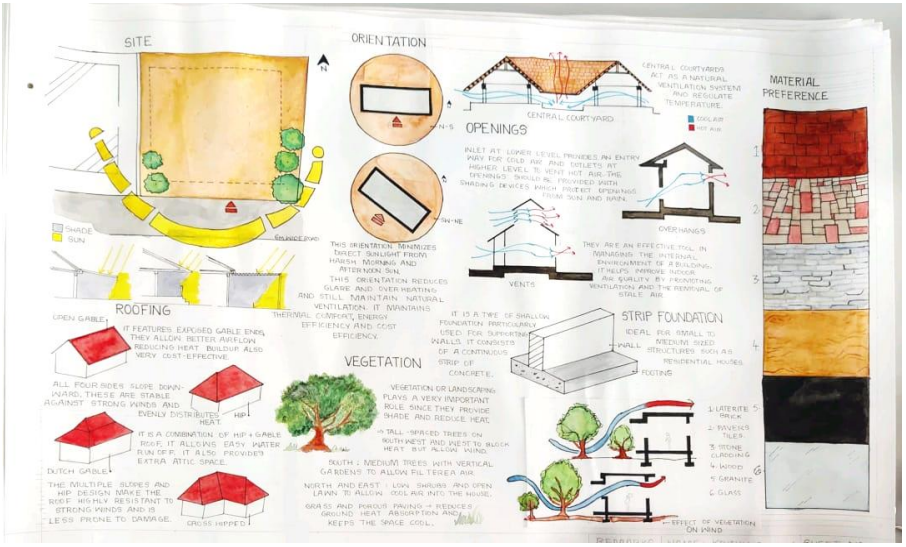



PLAN
SECTION AA'
MATERIAL
REASON
1. LATERITE STONE
2. MANGALORE TILES
3. LIME PLASTER
4. TARU
5. NATURAL STONE
6. TIMBER
HIGH THERMAL MASS THAT REGULATES INDOOR TEMPERATURES
VENTILATED. ALLOWS HOT AIR TO ESCAPE.
BREATHABLE FINISH THAT PREVENTS DAMPNESS.
PROVIDES CROSS VENTILATION & DIFFUSED DAYLIGHT
- RAIN WATER HARVESTING
- REDUCES DEPENDENCY ON BOREWELLS/ MUNICIPAL SUPPLY
- CONTROLS URBAN FLOODING
- IMPROVES WATER QUALITY
- SETTLING TANK
- LOW E- GLASS
- DOUBLE GLAZED WINDOW
- REDUCES SOLAR HEAT GAIN
- MINIMIZES INDOOR HUMIDITY RISE
- IMPROVED COMFORT NEAR WINDOWS
- ORIENTATION
-LONG AXIS ORIENTED E-W
- LARGE OPENINGS ON N-S
- MINIMIZE E-W GLAZING
- COURTYARD
- PROMOTES CROSS VENTILATION
- IMPROVES DAYLIGHT
- COOL MICRO CLIMATE
- OVERHANGS
- PROTECTION FROM HEAVY RAINS
- SOLAR SHADING
- ENABLES NATURAL VENTILATION
- SLOPED ROOF
- FAST RAIN WATER DRAINAGE
- SUPPORTS RAIN WATER HARVESTING
- GREEN WALL



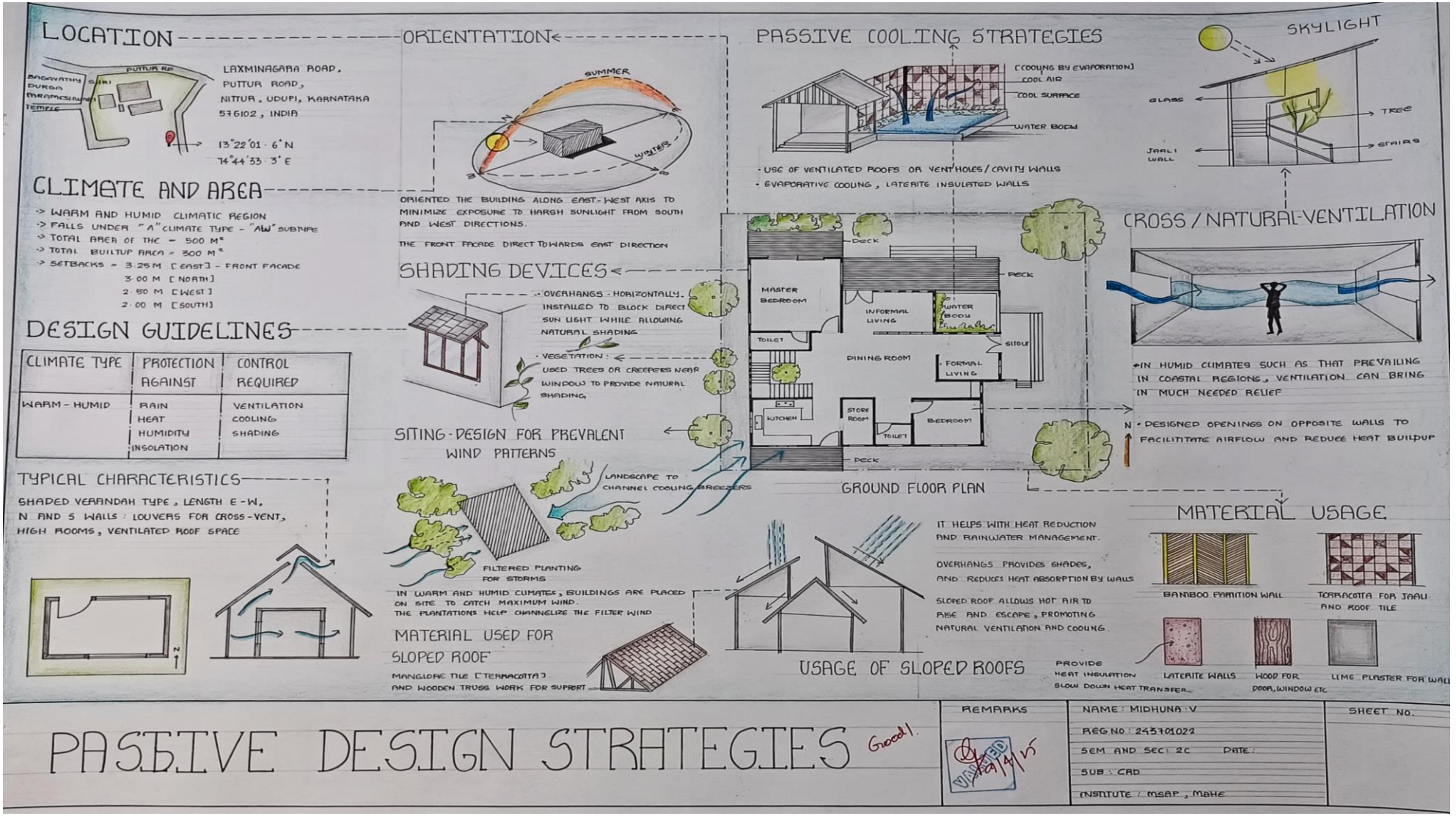


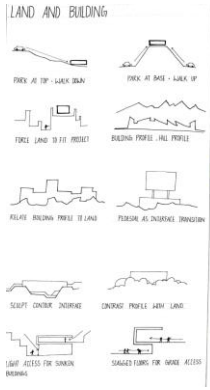


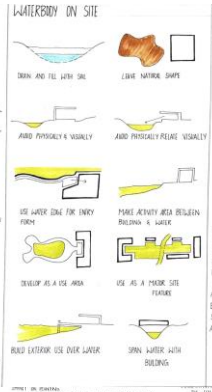

SITE
ORIENTATION
OPENINGS
MATERIAL PREFERENCE
ROOFING
VEGETATION
STRIP FOUNDATION
CENTRAL COURTYARD
OVERHANGS
VENTS
SHADE
SUN

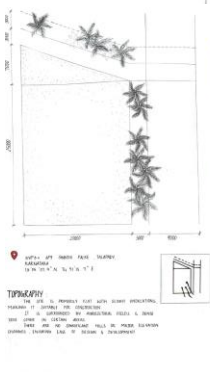
ARC 4512 CLIMATE RESPONSIVE DESIGN

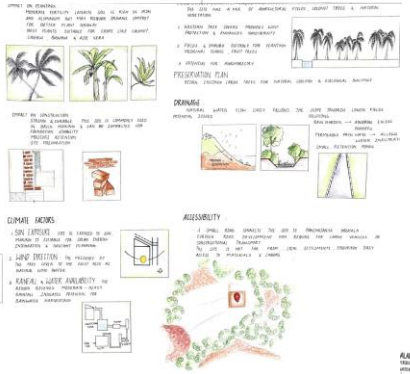
PASSIVE DESIGN STRATEGIES

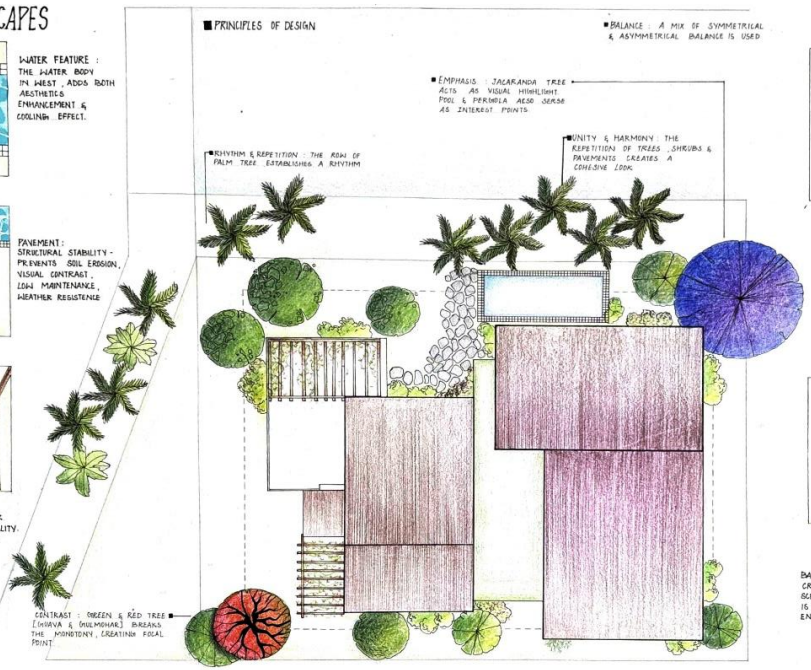


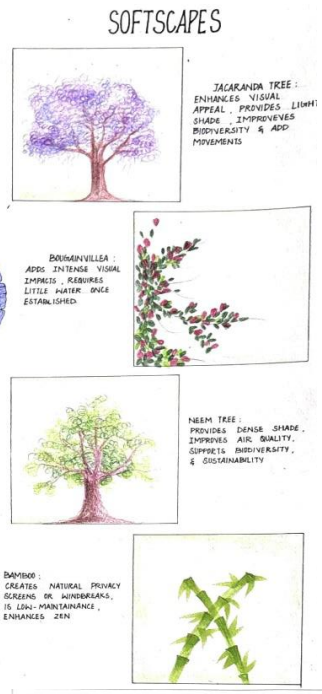


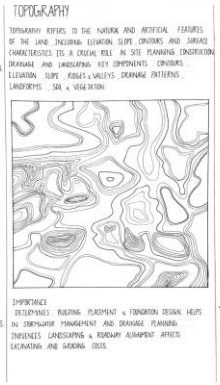


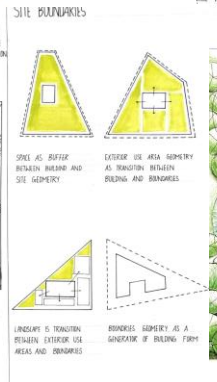


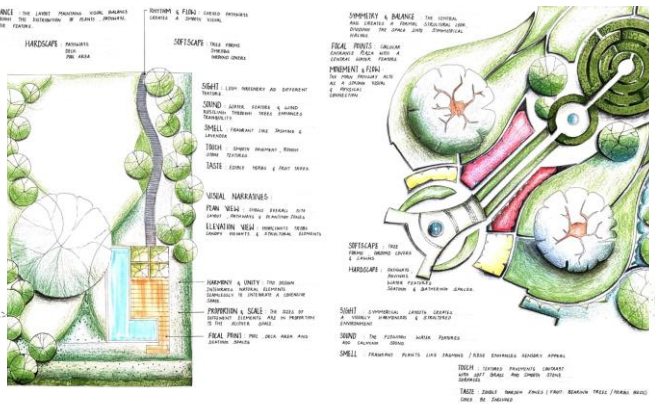


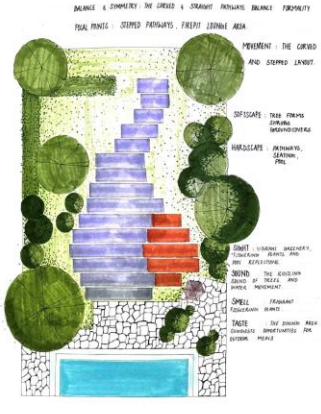












STUDENT: PRANIGA K (243701196)
FACULTIES: NIKHIL SURENDRA KOHALE, JAYESH DASHRATH KHAIRE
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

2

Architecture

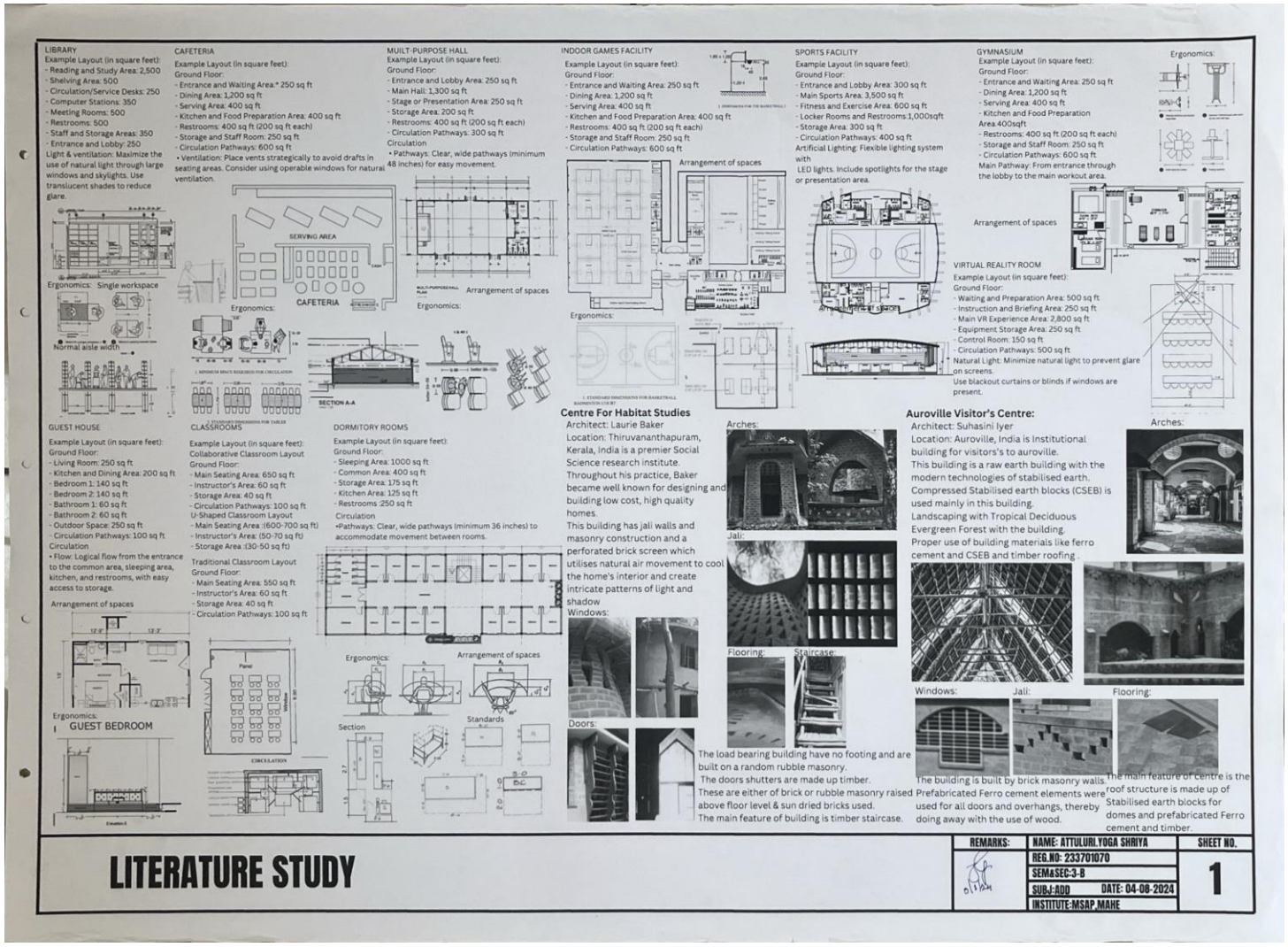
COURSE OBJECTIVES:

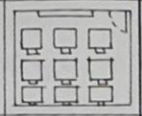
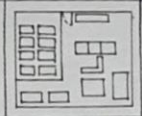
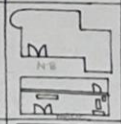
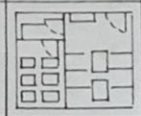
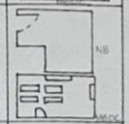
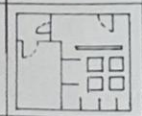
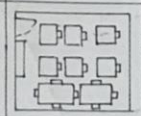
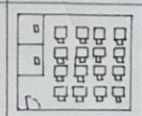
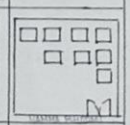
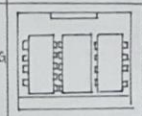
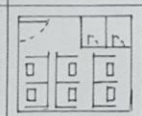
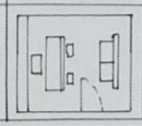
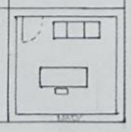
This course would provide the basic knowledge of developing a detailed design program for Campus Building Design while incorporating the building norms and regulators as well as with a focus on Timber structures and Masonry. The design will undergo a thorough appraisal of the site and its context, identifying environmental, cultural, and other attributes that add value to the project. The design program will be formulated through the study and analysis of various user types and their activities within a small-scale institutional facility.

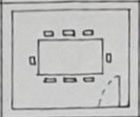
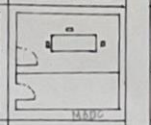
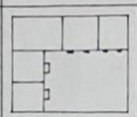
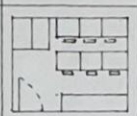
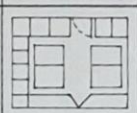
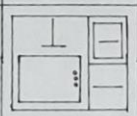
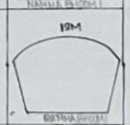
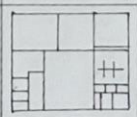
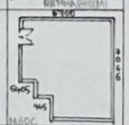
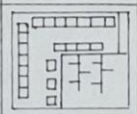
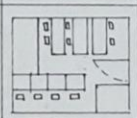
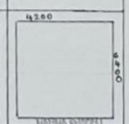
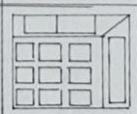
PROJECT BRIEF:

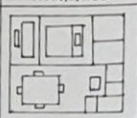
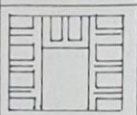
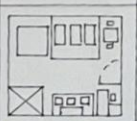
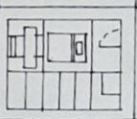
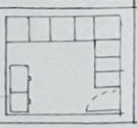
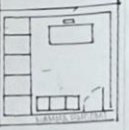
This course intends to introduce and understands:

Literature study
Area progamming
Site analysis
Concept and Form development
Site and building level zoning
Master plan
Floor plan
Elevations and Sections
Views
Landscape elements



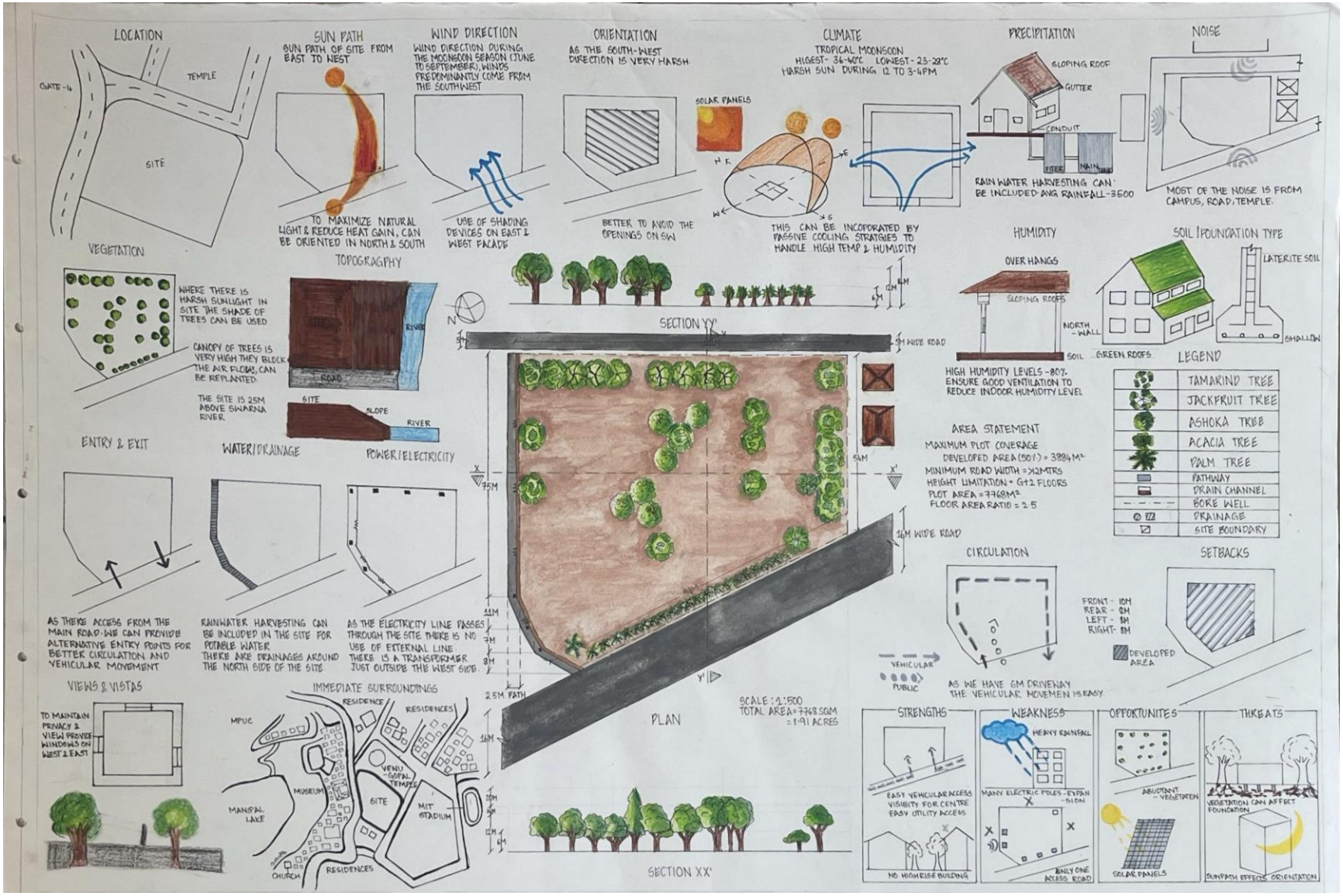
NAME	NO OF USERS	MAX AREA	FUNCTION	PLAN/LAYOUT	CASE STUDIES
ACADEMIC CLASS ROOM WITH LAB	25+1	25M²	LEARNING SPACES		5M X 5M = 25M²
CARPENTRY	25+1	235M²	CARPENTRY TEACHING		
ELECTRICAL	25+1	90M²	ELECTRICAL SKILLS		
WELDING	25+1	165M²	WELDING TECHNIQUES		
DIGITAL LITERACY	25+1	90M²	COMPUTER LABS		
APPAREL	25+1	90M²	CLOTHING WORKSHOPS		
JUTE/COCONUT FIBER PRODUCTS	25+1	90M²	JUTE STICHING		
STAFF ROOM	12	90M²	WORK AREA FOR STAFFS		
DIRECTOR'S ROOM	1	25M²	PRIVATE WORKSPACE		

NAME	NO OF USERS	MAX AREA	FUNCTION	PLAN/LAYOUT	CASE STUDIES
CONFERENCE HALL	20-25	40M²	MEETING PLACES		
STORAGE	2	15M²	STORE		
MANAGEMENT AREA	3	25M²	WORKSPACES		
INDOOR	15	60M²	SPORTS ACTIVITIES		
OUTDOOR			SPORTS ACTIVITIES		
MULTI-PURPOSE HALL	90	200M²	EVENTS		
EXHIBITION SPACE	15	60M²	DISPLAY SPACE		
LIBRARY	60	150M²	STUDY ROOM		
CAFETERIA -KITCHEN -DINING	50	50M² 50M² 180M²	SELF-SERVICE RESTAURANT		

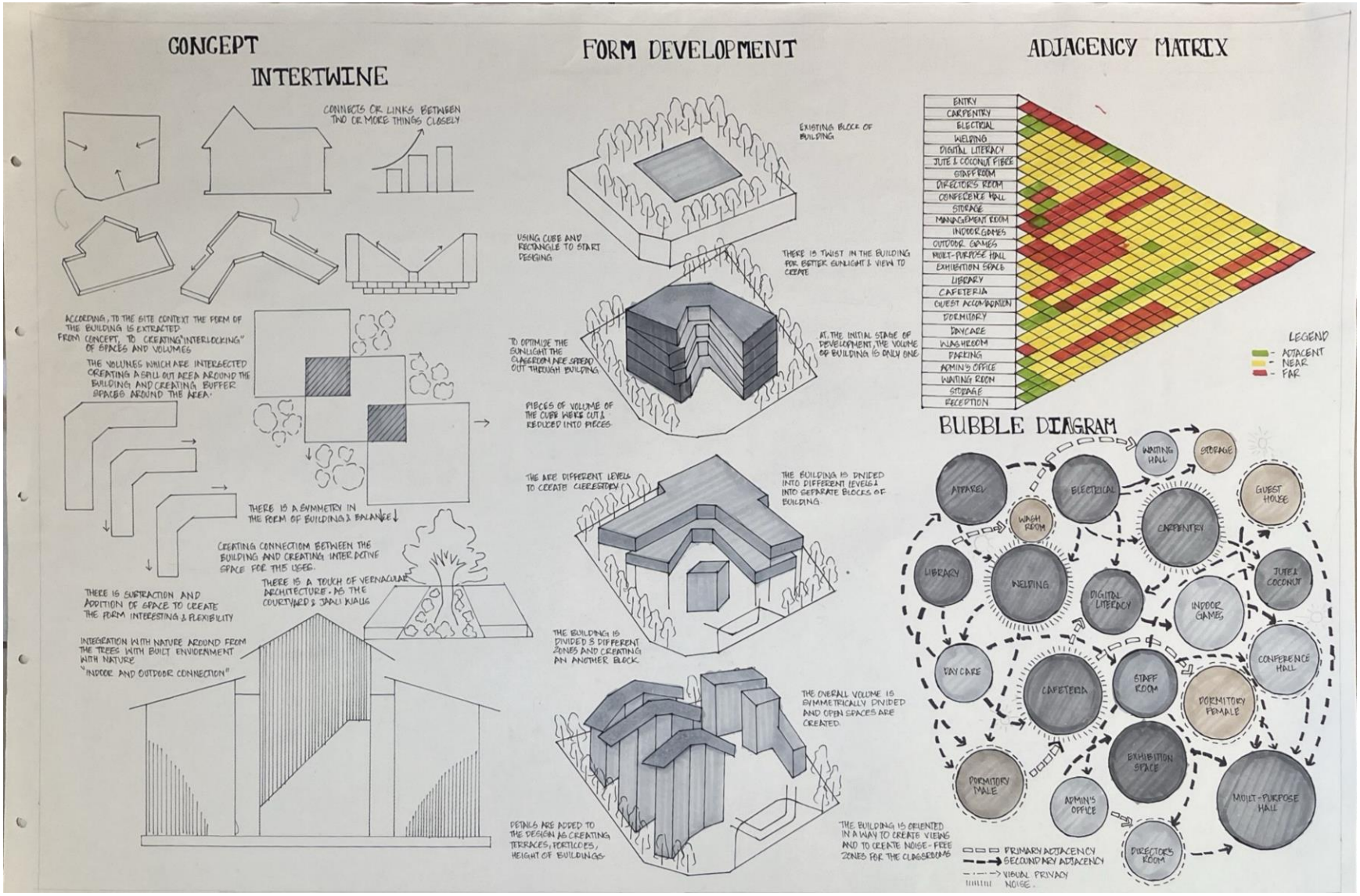
NAME	NO OF USERS	MAX AREA	FUNCTION	PLAN/LAYOUT	CASE STUDIES
GUEST ACCOMODATION	3	60M²	PLACE TO STAY		
DORMITORY MALE & FEMALE	10+10	120M²	STUDENTS PLACE		
DAYCARE	10	40M²	CARE FOR CHILDREN		
WASHROOM	3	40M²	FOR PERSONAL HYGIENE		
ADMIN OFFICE	3	25M² 50M²	WORKSPACE		

TOTAL AREA = 2000 M²
12% WALL = 240 M²
19% CIRCULATION = 300 M²
TOTAL AREA (INCL WALL & CIRCULATION) = 2540M²

ARCHITECTURAL DESIGN & DETAILING PORTFOLIO

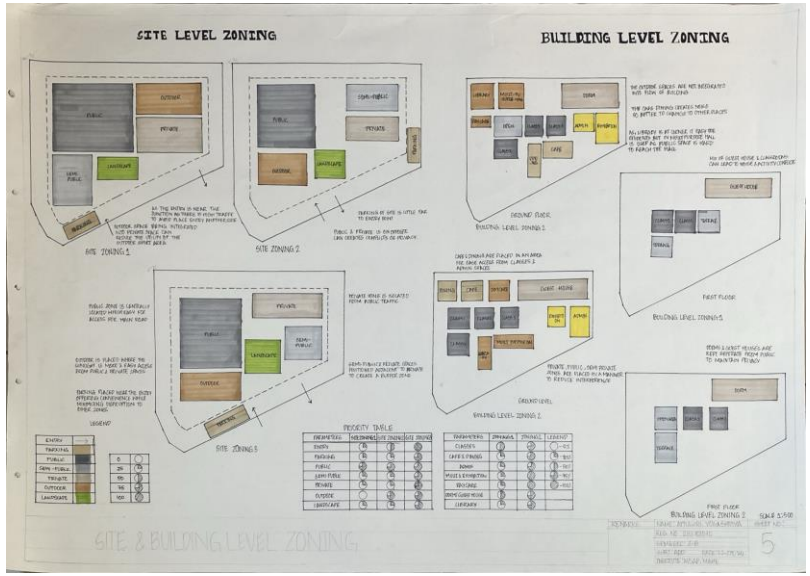


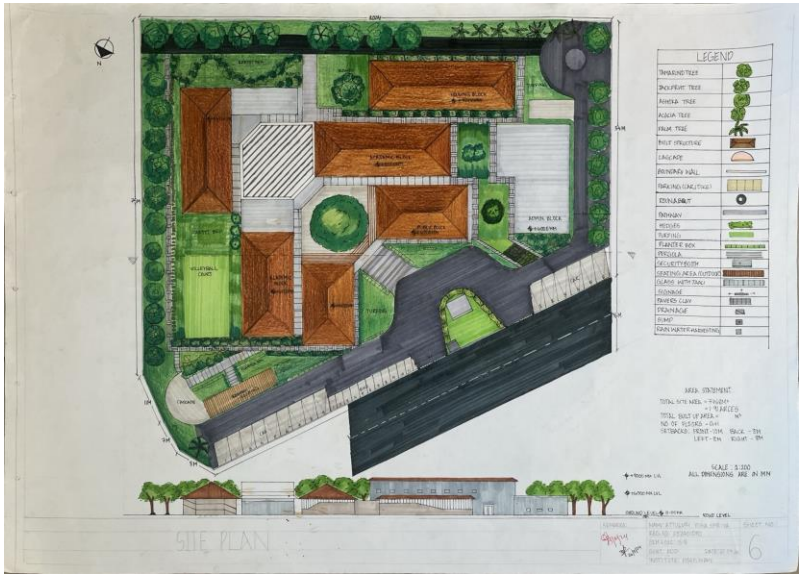
STUDENT: ATTULURI YOGA SHRIYA (233701070)
FACULTY: JAMBAVATHI GOWDA,DANNY PINTO,ROOPA KAMATH

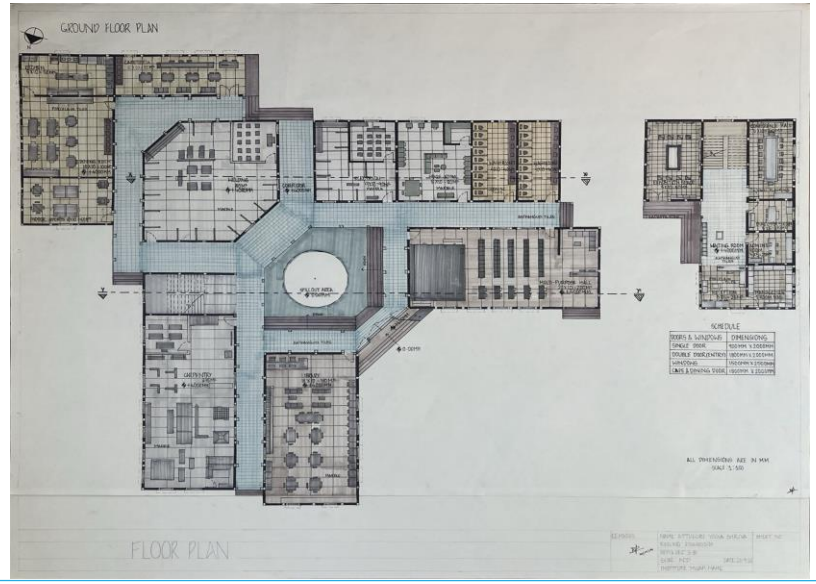

CONCEPT
INTERTWINE
CONNECTS OR LINKS BETWEEN TWO OR MORE THINGS CLOSELY
ACCORDING, TO THE SITE CONTEXT THE FORM OF THE BUILDING IS EXTRACTED FROM CONCEPT, TO CREATING "INTERLOCKING" OF SPACES AND VOLUMES
THE VOLUMES WHICH ARE INTERSECTED CREATING A FULL OUT AREA AROUND THE BUILDING AND CREATING BUFFER SPACES AROUND THE AREA.
THERE IS A SYMMETRY IN THE FORM OF BUILDING & BALANCE
CREATING CONNECTION BETWEEN THE BUILDING AND CREATING INTERACTIVE SPACE FOR THE USERS.
THERE IS A TOUCH OF VERNACULAR ARCHITECTURE - AS THE COURTYARD & JAALI WALLS
THERE IS SUBTRACTION AND ADDITION OF SPACE TO CREATE THE FORM INTERESTING & FLEXIBILITY
INTEGRATION WITH NATURE AROUND FROM THE TREES WITH BUILT ENVIRONMENT WITH NATURE
"INDOOR AND OUTDOOR CONNECTION"
FORM DEVELOPMENT
EXISTING BLOCK OF BUILDING
USING CUBE AND RECTANGLE TO START DESIGNING
THERE IS TWIST IN THE BUILDING FOR BETTER SUNLIGHT & VIEW TO CREATE
TO OPTIMIZE THE SUNLIGHT THE CLASSROOM ARE SPREAD OUT THROUGH BUILDING
AT THE INITIAL STAGE OF DEVELOPMENT, THE VOLUME OF BUILDING IS ONLY ONE
PIECES OF VOLUME OF THE CUBE WERE CUT & REDUCED INTO PIECES
THE ARE DIFFERENT LEVELS TO CREATE CLERESTORY
THE BUILDING IS DIVIDED INTO DIFFERENT LEVELS & INTO SEPARATE BLOCKS OF BUILDING.
THE BUILDING IS DIVIDED 5 DIFFERENT ZONES AND CREATING AN ANOTHER BLOCK.
THE OVERALL VOLUME IS SYMMETRICALLY DIVIDED AND OPEN SPACES ARE CREATED.
DETAILS ARE ADDED TO THE DESIGN AS CREATING TERRACES, PORTICOES, HEIGHT OF BUILDINGS
THE BUILDING IS ORIENTED IN A WAY TO CREATE VIEWS AND TO CREATE NOISE-FREE ZONES FOR THE CLASSROOMS
ADJACENCY MATRIX
ENTRY
CARPENTRY
ELECTRICAL
WELDING
DIGITAL LITERACY
JUTE & COCONUT FIBRE
STAFF ROOM
DIRECTOR'S ROOM
CONFERENCE HALL
STORAGE
MANAGEMENT ROOM
INDOOR GAMES
OUTDOOR GAMES
MULTI-PURPOSE HALL
EXHIBITION SPACE
LIBRARY
CAFETERIA
GUEST ACCOMODATION
DORMITORY
DAYCARE
WASHROOM
PARKING
ADMIN'S OFFICE
WAITING ROOM
STORAGE
RECEPTION
LEGEND
ADJACENT
NEAR
FAR
BUBBLE DIAGRAM
WAITING HALL
STORAGE
APPAREL
ELECTRICAL
GUEST HOUSE
WASH ROOM
CARPENTRY
LIBRARY
WELDING
DIGITAL LITERACY
JUTE & COCONUT
INDOOR GAMES
DAY CARE
CAFETERIA
STAFF ROOM
CONFERENCE HALL
DORMITORY FEMALE
EXHIBITION SPACE
DORMITORY MALE
ADMIN'S OFFICE
MULTI-PURPOSE HALL
DIRECTOR'S ROOM
PRIMARY ADJACENCY
SECONDARY ADJACENCY
VISUAL PRIVACY
NOISE

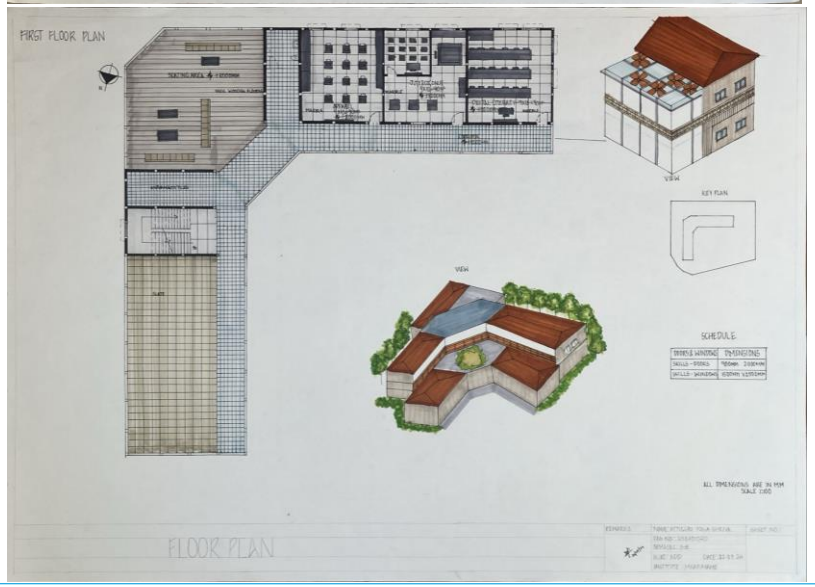
ARC 2101 ARCHITECTURAL DESIGN & DETAILING- III

ARCHITECTURAL DESIGN & DETAILING PORTFOLIO

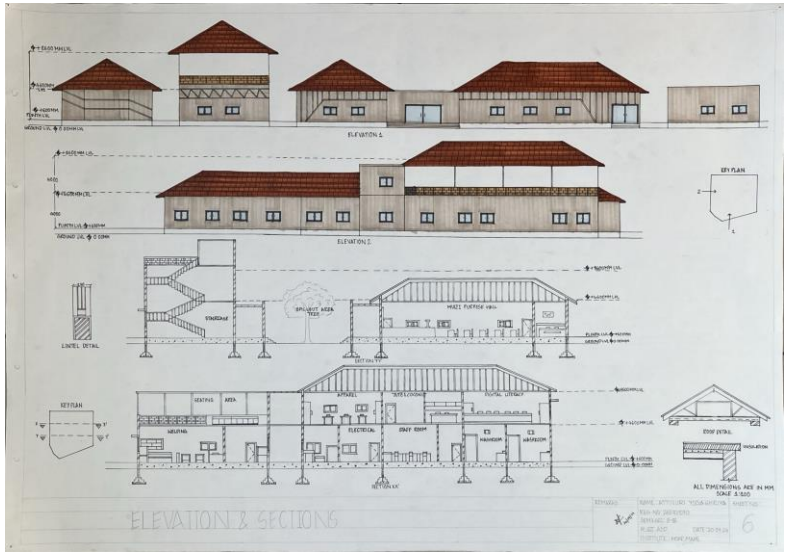






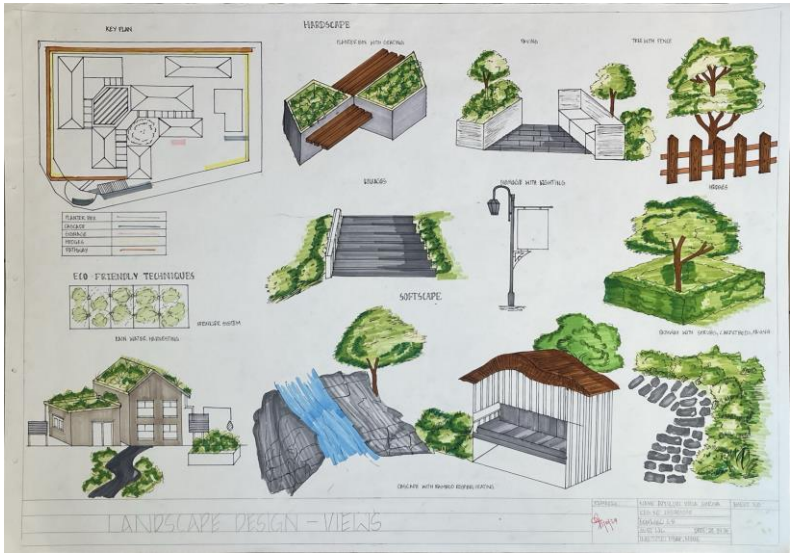


STUDENT: ATTULURI YOGA SHRIYA (233701070)
FACULTY: JAMBAVATHI GOWDA,DANNY PINTO,ROOPA KAMATH


ELEVATION & SECTIONS


ELEVATIONS


EXTERIOR VIEWS
MATERIAL STUDY
INTERIOR VIEWS
VIEWS & MATERIAL STUDY


KEY PLAN
HARDSCAPE
ECO FRIENDLY TECHNIQUES
SOFTSCAPE
LANDSCAPE DESIGN - VIEWS

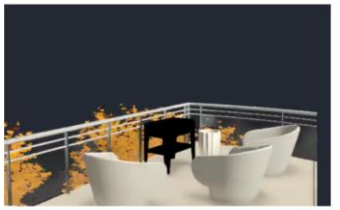
ARC 2103 ARCHITECTURAL REPRESENTATION - III

COURSE OBJECTIVES:

This course enables to build digital 3D models and produce rendered images by utilizing various commands and tools. Create Building Information Modeling (BIM) models, develop basic animations, and design foundational parametric Revit families for BIM applications. Create virtual walkthroughs and experience architectural designs in VR, enhancing their ability to visualize and present architectural concepts interactively.

PROJECT BRIEF:

This course aims to introduce and teach techniques for creating and presenting digital 3D models using a variety of software tools.



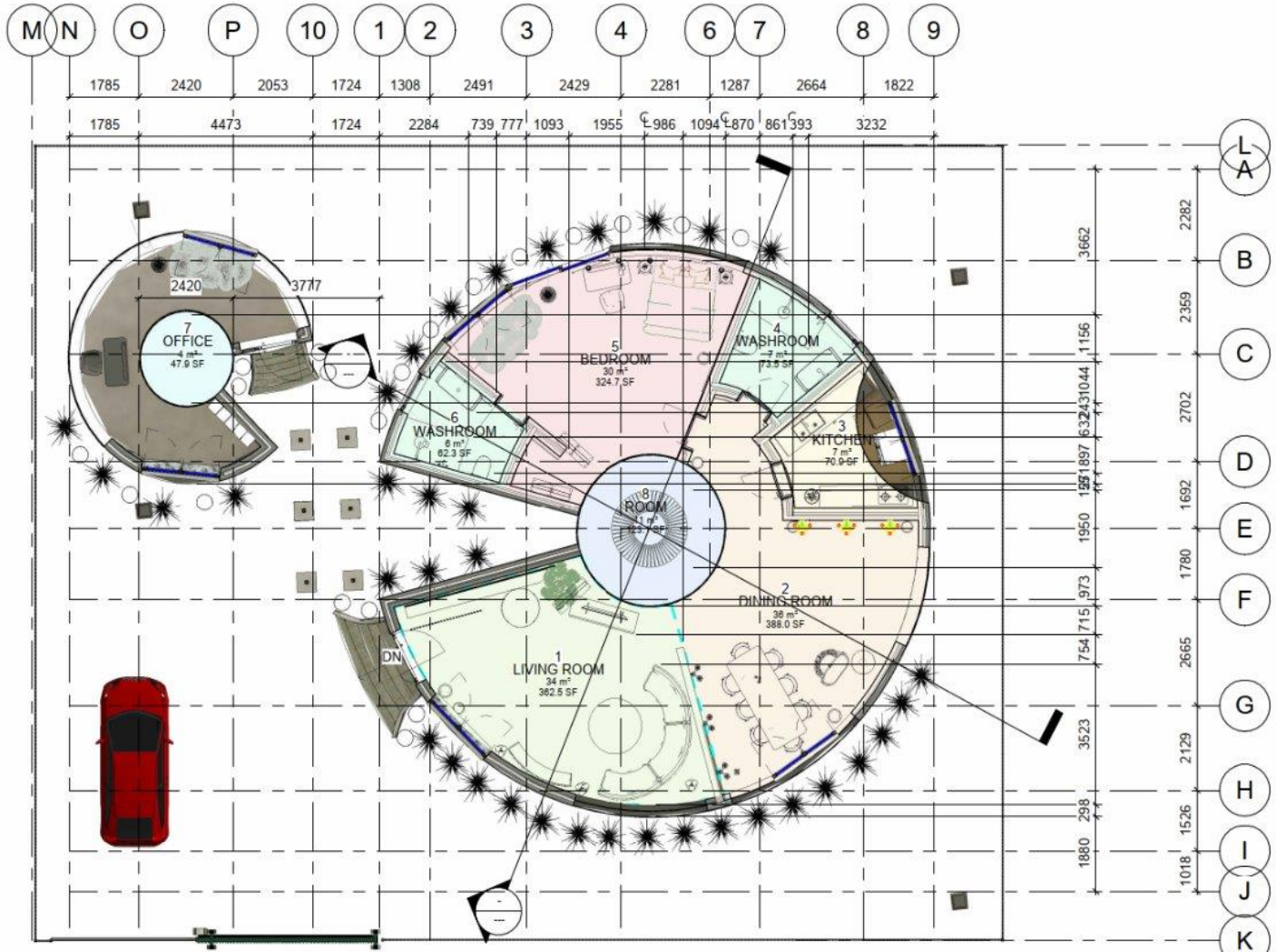
(1) CURTAIN WALL (BEDROOM)

(2) CURTAIN WALL (LIVING / DINING)

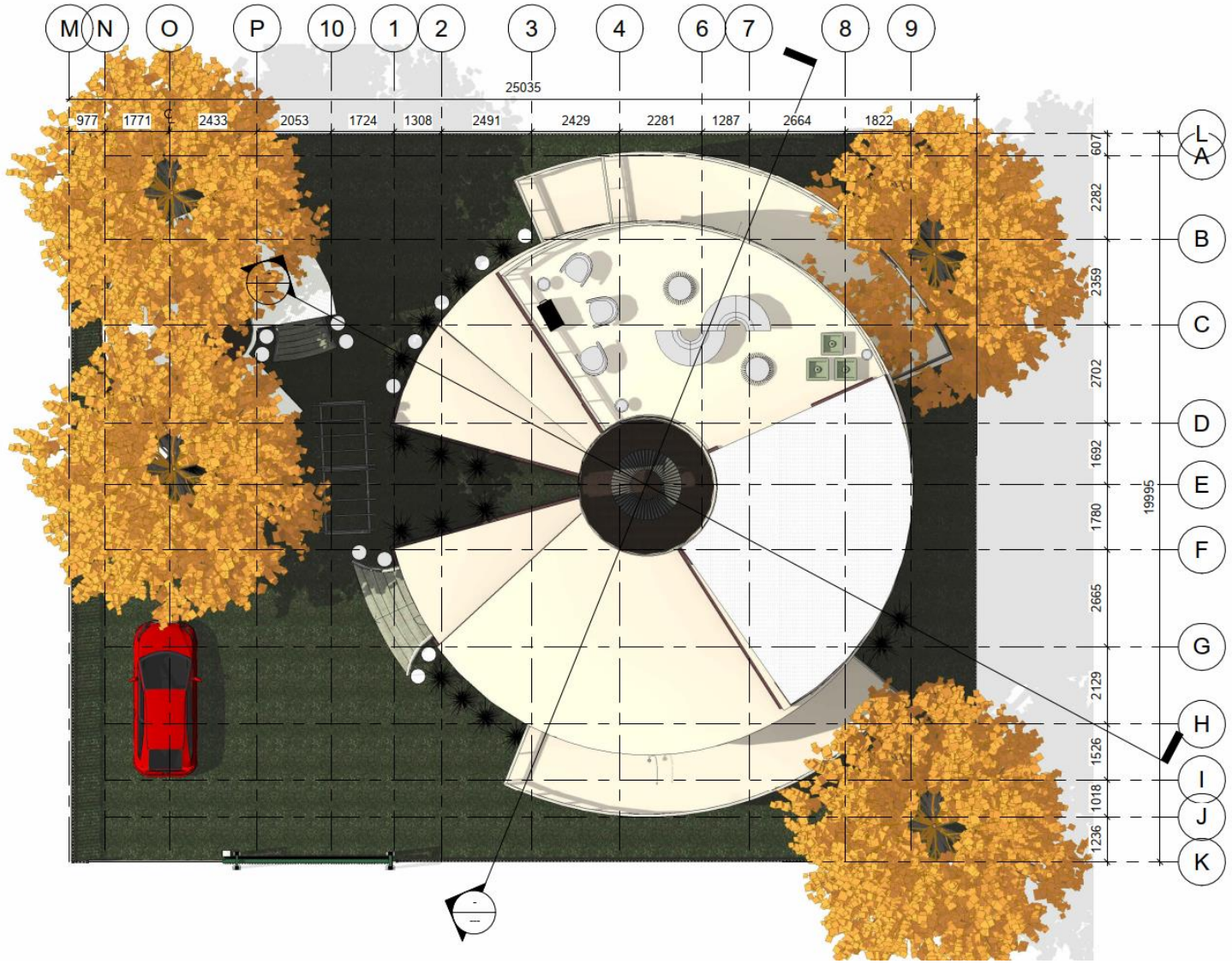
(3) MAIN WALL

(4) CURTAIN WALL EXTERIOR STAIRS

STUDENT: KEIRA LAUREN ANTAO (233701008)
FACULTY: KAILAS M. & NABANEETA SHARMA



1 **GROUND FLOOR**
1 : 100



STUDENT: KEIRA LAUREN ANTAO (233701008)
FACULTY: KAILAS M. & NABANEETA SHARMA


10
9
8
7
6
5
4
3
2
1
6200
1784
1309
1621
2130
1368
1488
6200
1965
Roofing
17600
Floor 4
14600
Floor 3
11100
Floor 2
7600
Floor 1
4100
Plinth
600
0
2875
875
1880
870
750
1250
1400
850
1250
700
700
1450
1250
2194

1 **South**
1 : 100

1 Section 2
1 : 100

ARC 2103 ARCHITECTURAL REPRESENTATION- III

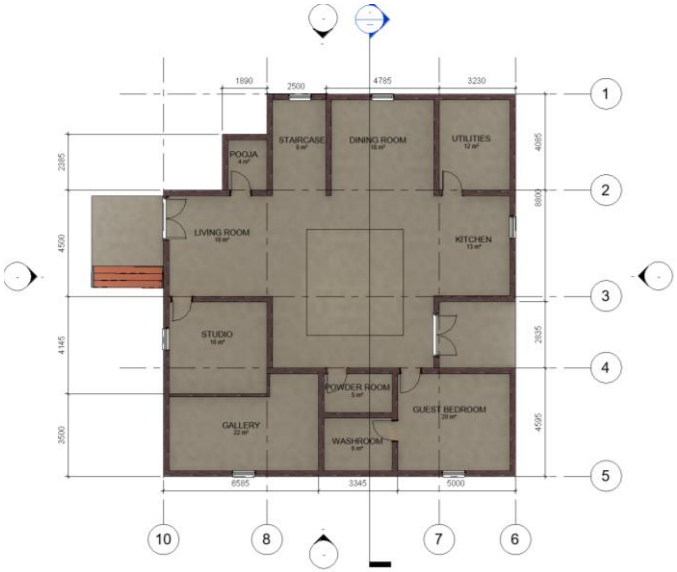
PORTFOLIO

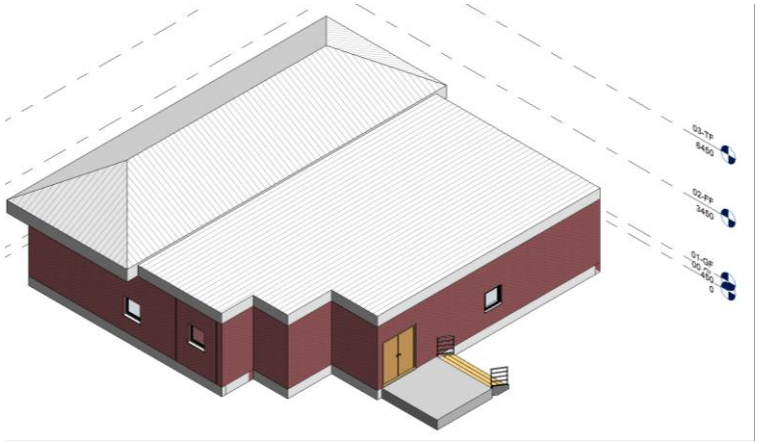
COURSE OBJECTIVES:

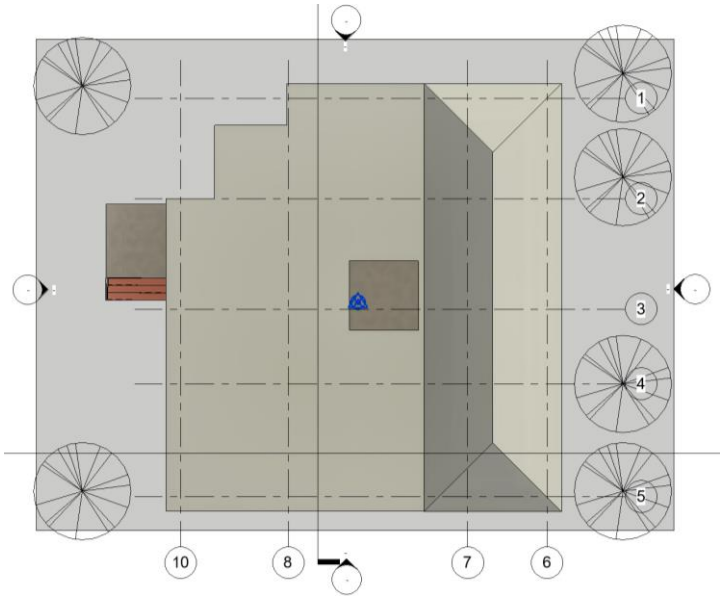
The content primarily focuses on architectural representation using Building Information Modeling (BIM). It includes plans, elevations, sections, and views for various assignments related to interior design and along with rendered images and walkthroughs created in software like Twin motion and Revit.

PROJECT BRIEF:

- Developing site plans, floor plans, elevations, and sections for various architectural projects.
- Producing rendered images and walkthroughs using BIM tools.
- Creating structural details, such as beam, column, and footing plans.
- Implementing parametric designs for furniture, such as chairs and tables.







PORTFOLIO

ARC 2103 ARCHITECTURAL REPRESENTATION- III

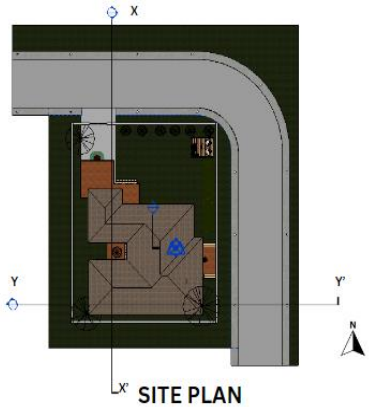
BIM

COURSE OBJECTIVES:

Students will learn the fundamentals of 3D Modelling, Animation, and BIM (Building Information Modelling), along with an introduction to Virtual Reality.

PROJECT BRIEF:

This course intends to introduce and understand how to Build digital 3d models and develop rendered images , Make use of different commands and features to build a BIM model, Develop simple animations , Build basic parametric Revit Families for BIM Model ,Build virtual walkthrough and experience architectural designs in Virtual Reality.



SITE PLAN

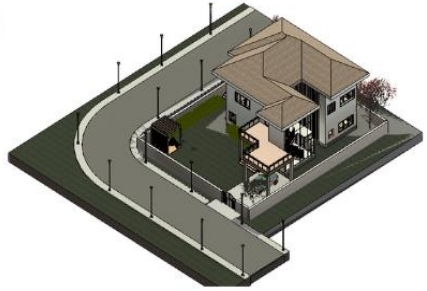
GROUND FLOOR PLAN

FIRST FLOOR PLAN

3D VIEWS

NORTH ELEVATION

EAST ELEVATION



SECTION Y-Y'

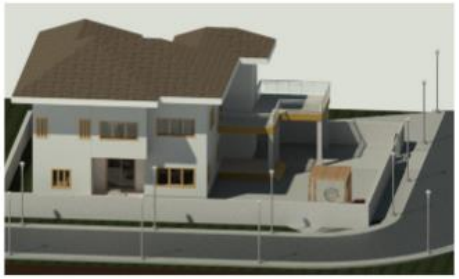
SECTION X-X'

ALL MEASUREMENTS ARE IN MM

STUDENT: SHARANYA VURA (233701124)
FACULTY: MONIKA JADHAV , BABAR JAVED

BIM






EXTERIOR RENDERED VIEWS



INTERIOR RENDERED VIEWS

BIM

TWINMOTION PRESENTATION MODE SNAPSHOTS

ARC 2105 BUILDING CONSTRUCTION & MATERIALS - III

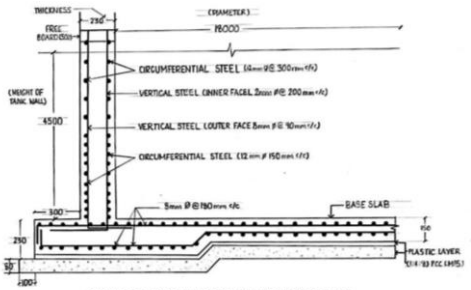
REINFORCED CEMENT CONCRETE

COURSE OBJECTIVES:

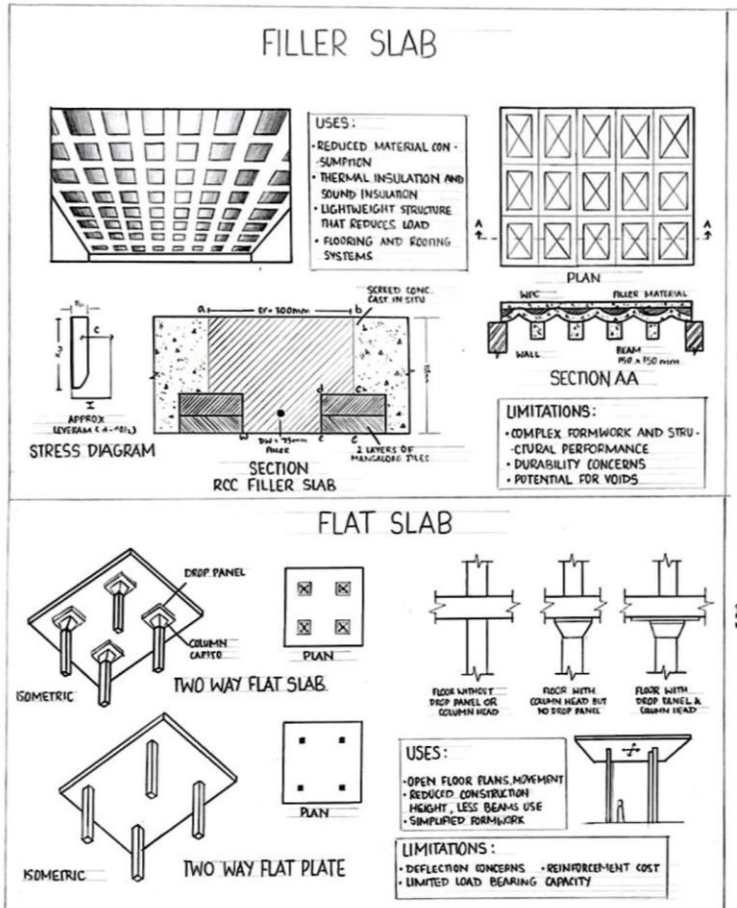
To demonstrate the understanding of the basics of RCC, its types, compositions & properties. To identify the use of RCC as a building material. To demonstrate the understanding of methods of different RCC construction, their uses, & limitations. To choose several building components practicable to be built with RCC. To utilize the knowledge of RCC as a building material in architectural design.

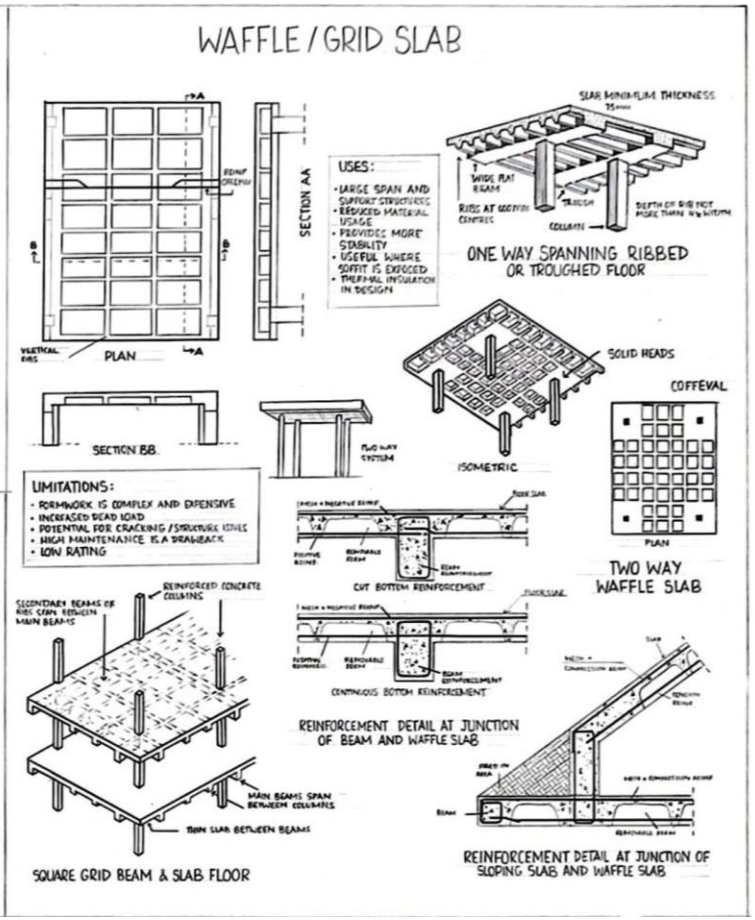
PROJECT BRIEF:

This course would provide knowledge & essential skills required for representing RCC structural elements. This course will equip students to develop the ability to understand concept of RCC. The course will also prepare students with requisite knowledge related to RCC as building material which will be helpful in selecting and understanding application of this material in architectural design.

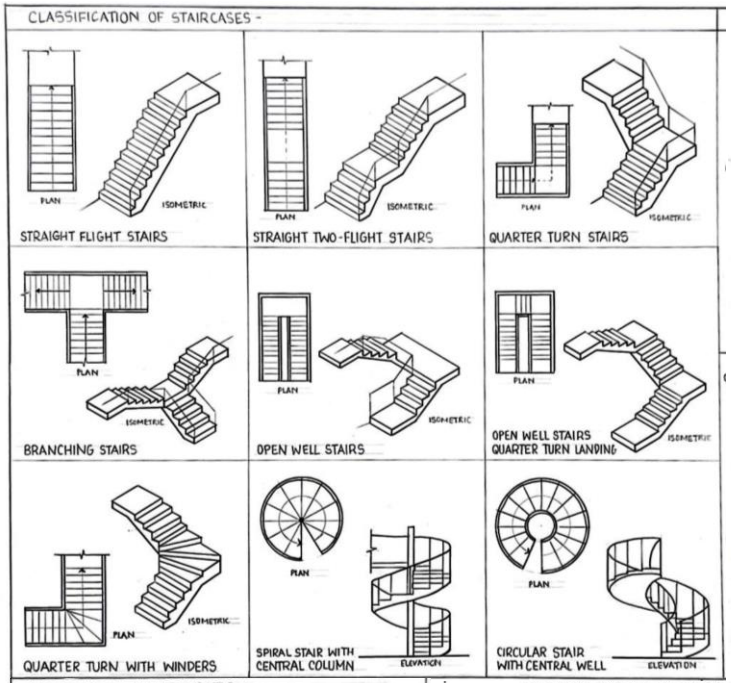


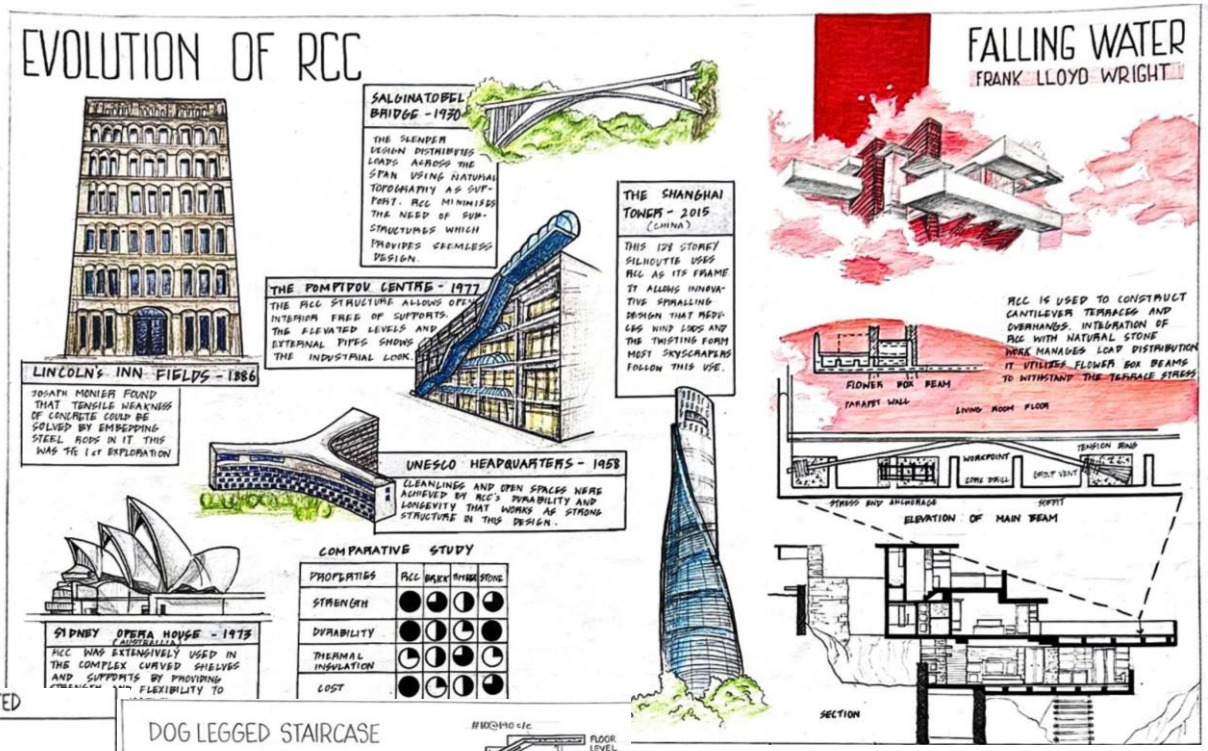
DETAILS OF RCC WATER TANK WITH FIXED BASE

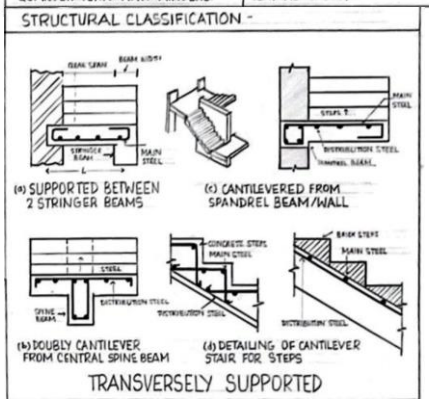


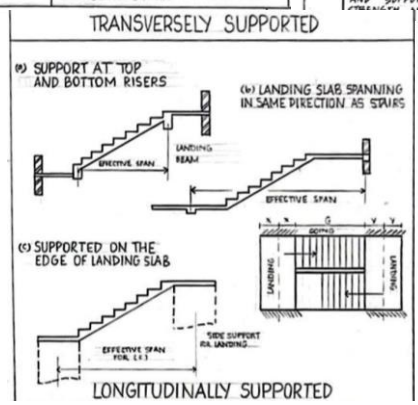


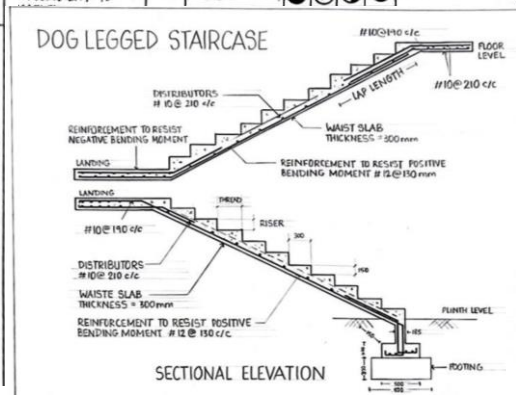
REINFORCED CEMENT CONCRETE

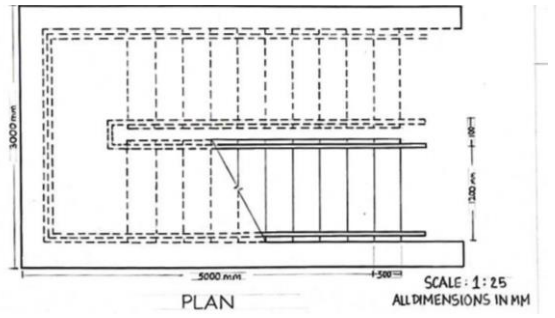












ARC 2109 BUILDING CONSTRUCTION & MATERIALS- III

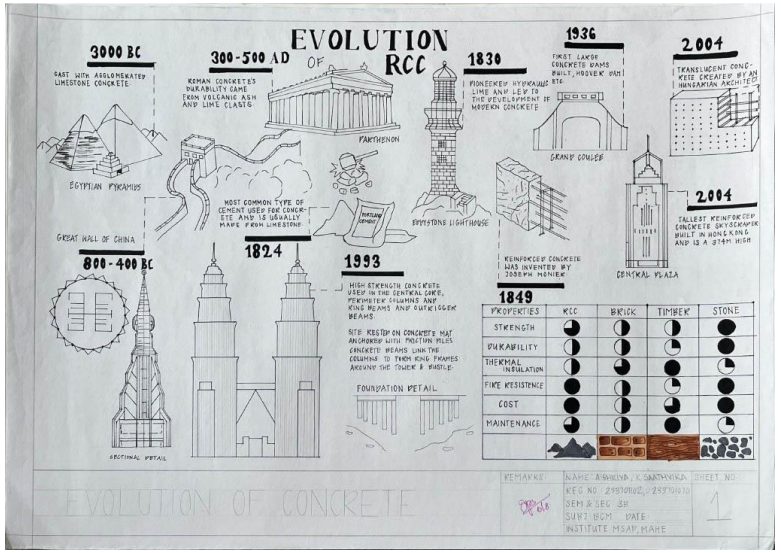
BUILDING CONSTRUCTION & MATERIALS PORTFOLIO

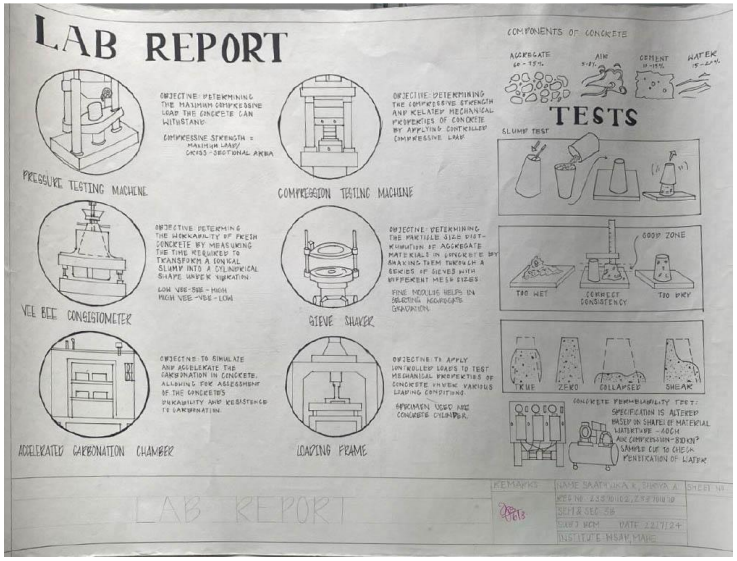
COURSE OBJECTIVES:

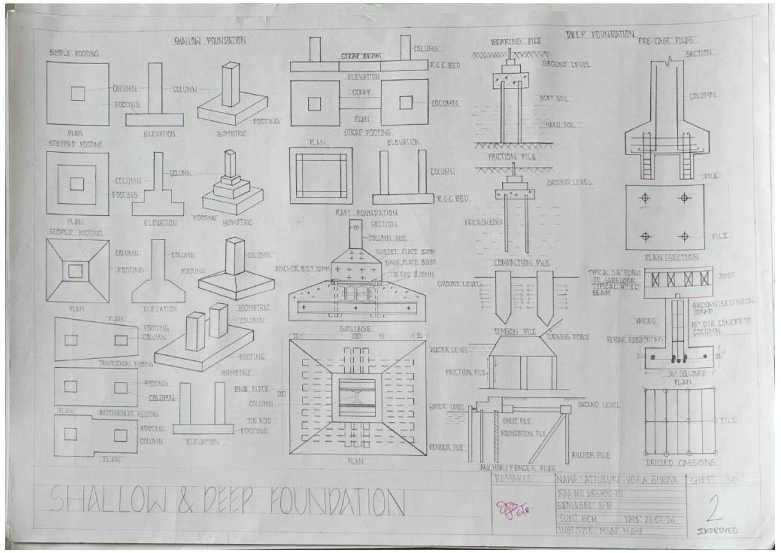
This course aims to study with a comprehensive understanding the detailing and study the RCC components.

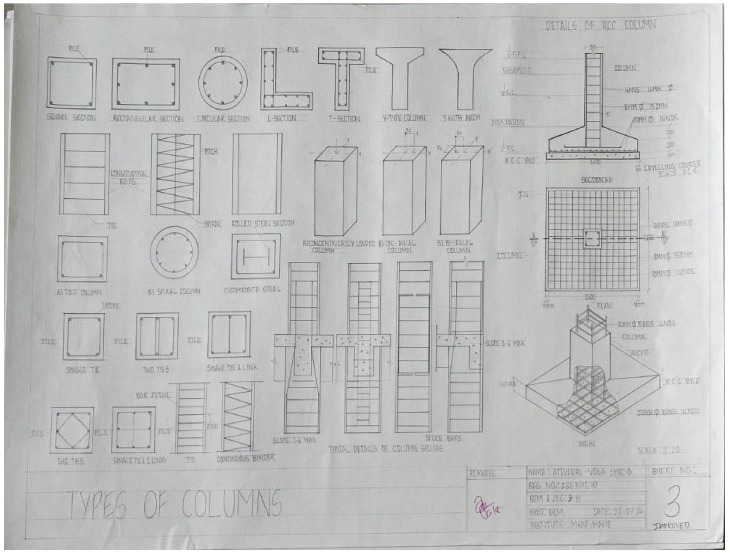
PROJECT BRIEF:

This course intends to introduce and understand RCC components:
Evolution of RCC:
History: Development from ancient civilizations to modern RCC.
Foundation:
Types: Shallow (spread, mat) and deep (pile, caisson) foundations.
Columns:
1. Types: Reinforced, prestressed, and composite columns.
2. Design: Load calculation, column sizing, and reinforcement detailing.
Beams:
1. Types: Simply supported, cantilever, and continuous beams.
2. Design: Load calculation, beam sizing, and reinforcement detailing.
Slabs:
1. Types: One-way, two-way, and flat slabs.
2. Design: Load calculation, slab thickness, and reinforcement detailing.
Staircase:
1. Types: Straight, dog-legged, and spiral staircases.
2. Design: Rise, tread, landing, and handrail design.
Miscellaneous Structures:
1. Retaining walls
2. Water tanks.

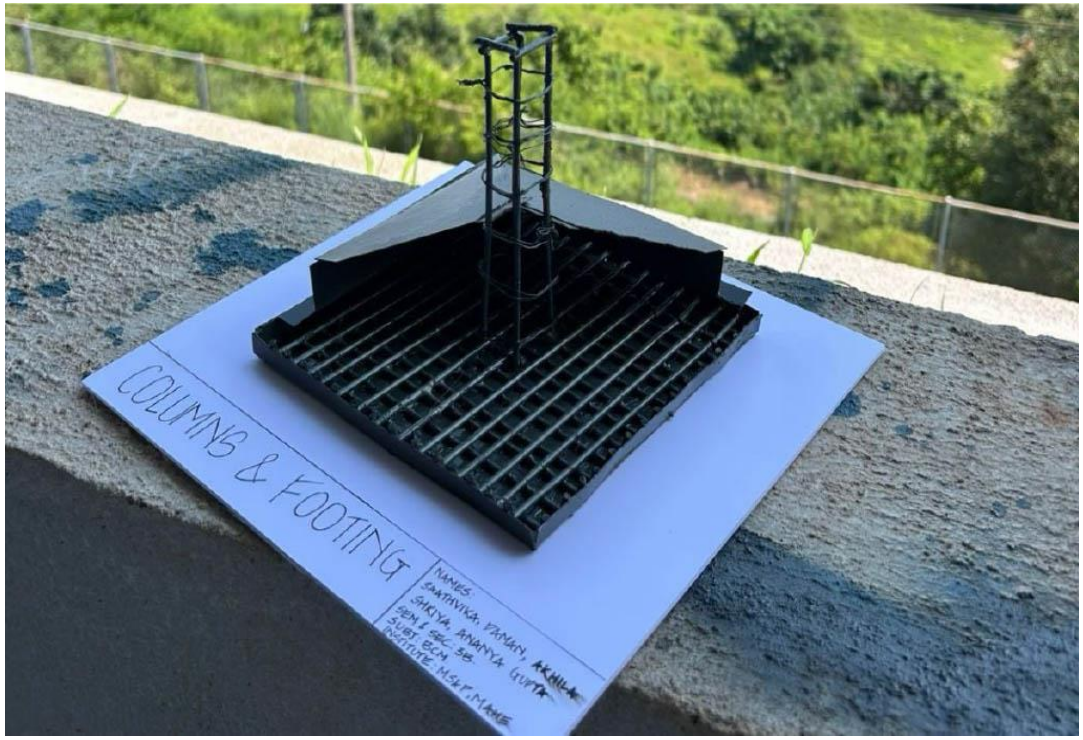


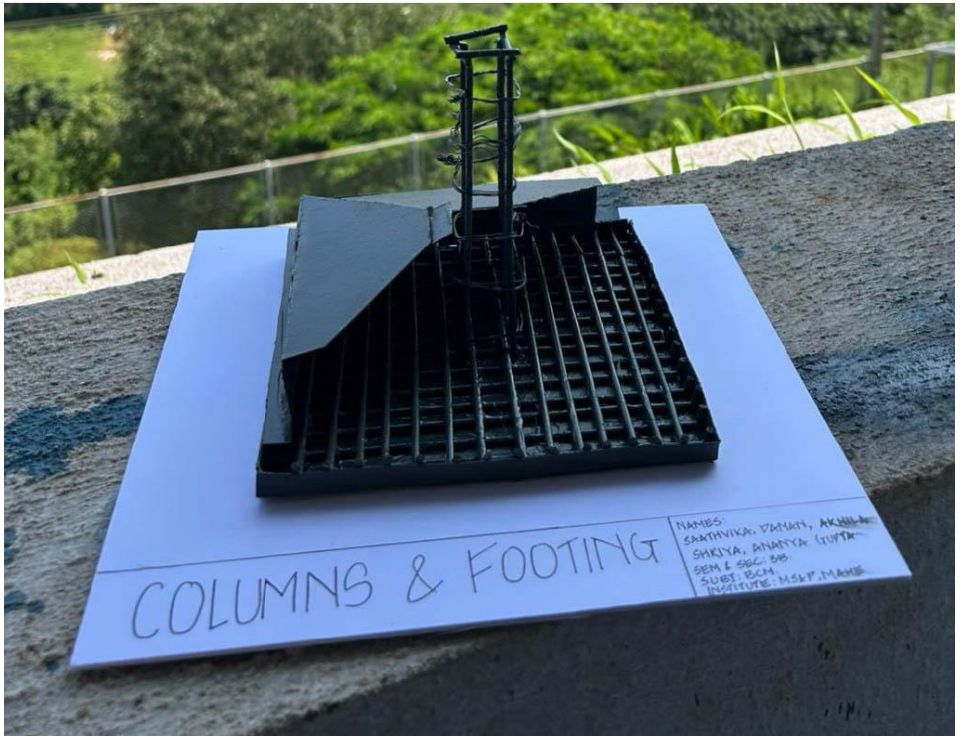






STUDENT: ATTULURI YOGA SHRIYA (233701070)
FACULTY: ROSHAN S SHETTY & SUJA T P


COLUMNS & FOOTING
NAMES:
SAATHVIKA, PANKTI, AKHILA
SHRIYA, ANANYA GUPTA
SEM & SEC: 5B
SUBJ: BCM
INSTITUTE: MSAP, MAHE


COLUMNS & FOOTING
NAMES:
SAATHVIKA, PANKTI, AKHILA
SHRIYA, ANANYA GUPTA
SEM & SEC: 5B
SUBJ: BCM
INSTITUTE: MSAP, MAHE

ARC 2109 BUILDING SERVICES - I

BUILDING SERVICES PORTFOLIO

COURSE OBJECTIVES:

This course aims to study with a comprehensive understanding of water distribution systems, covering both macro and micro levels of planning. It emphasizes the importance of proper drainage and sanitation facilities.

PROJECT BRIEF:

This course intends to introduce and understand Water Supply:

1. Fundamentals: Water sources, treatment, storage, and distribution.
2. Components: Pipes, pumps, valves, meters, and fittings.
3. Networking: Pipe layouts, sizing, and materials.

Sanitation:

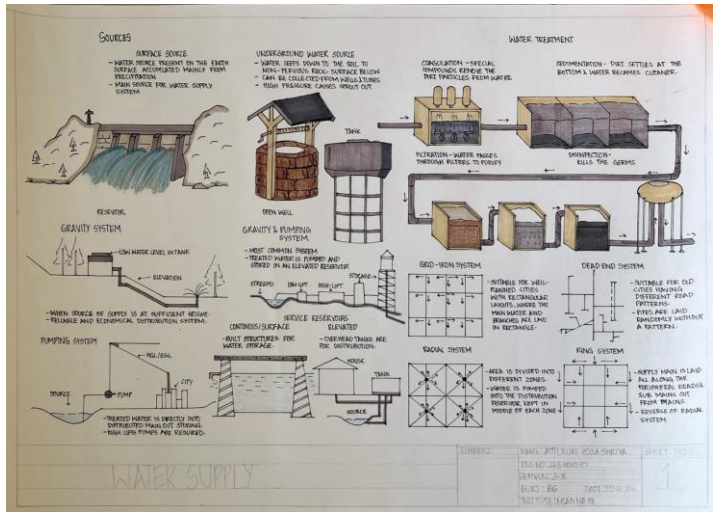
1. Principles: Hygiene, sewage collection, treatment, and disposal.
2. Systems: Sewerage networks, sewage treatment plants, and septic systems.

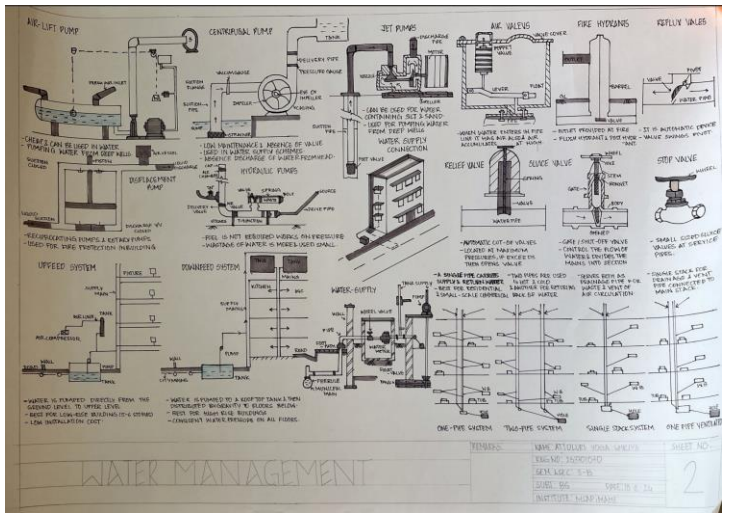
Water Drainage System:

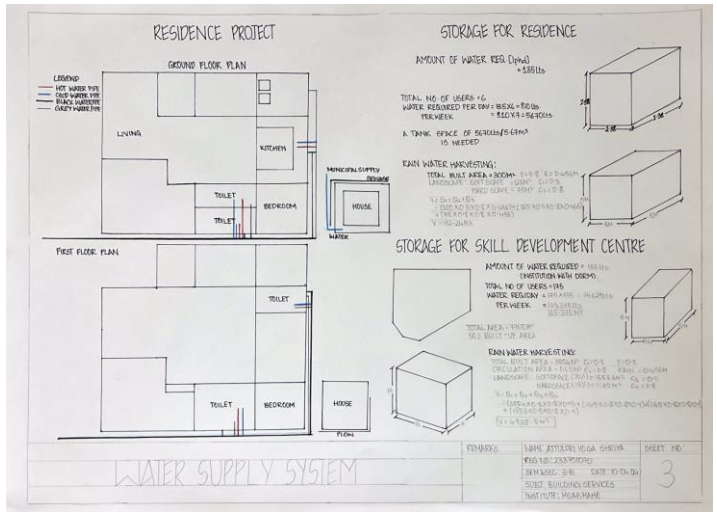
1. Design: Gravity-driven, slope, and pipe sizing.
2. Components: Gutters, downspouts, drains, and manholes.
3. Types: Surface, subsurface, and combined drainage.

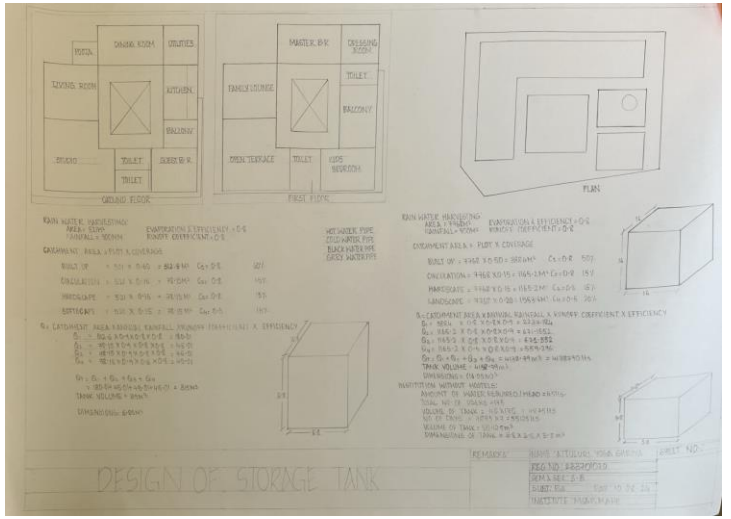
Solid Waste Management

1. Collection: Types (door-to-door, community bins), frequency, and vehicles.
2. Transportation: Routes, storage, and transfer stations.
3. Disposal: Landfills, incineration, recycling, and composting.

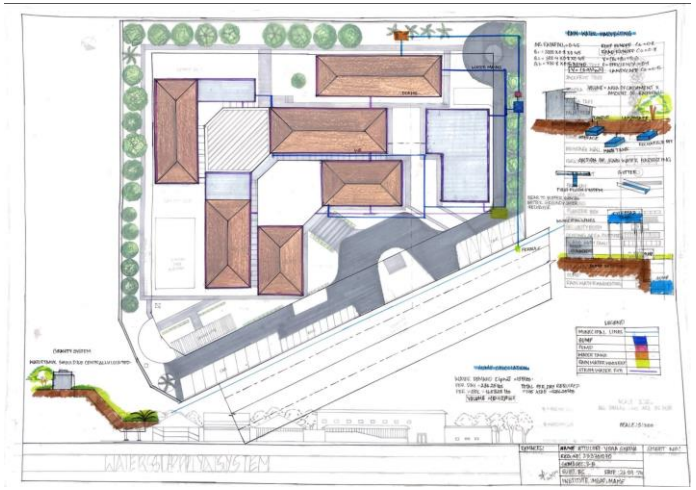


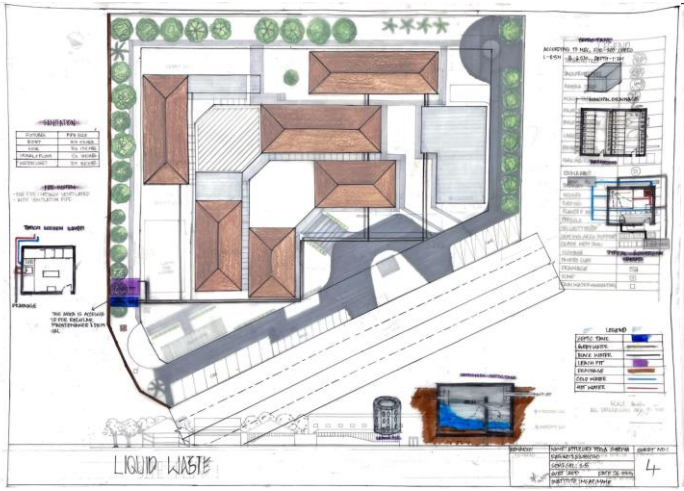


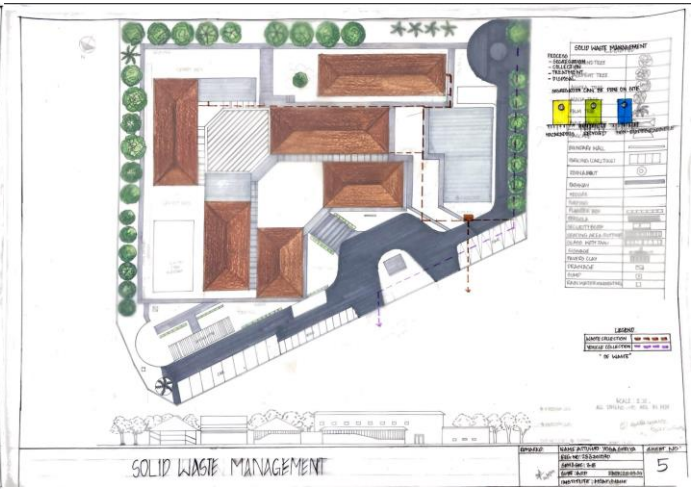


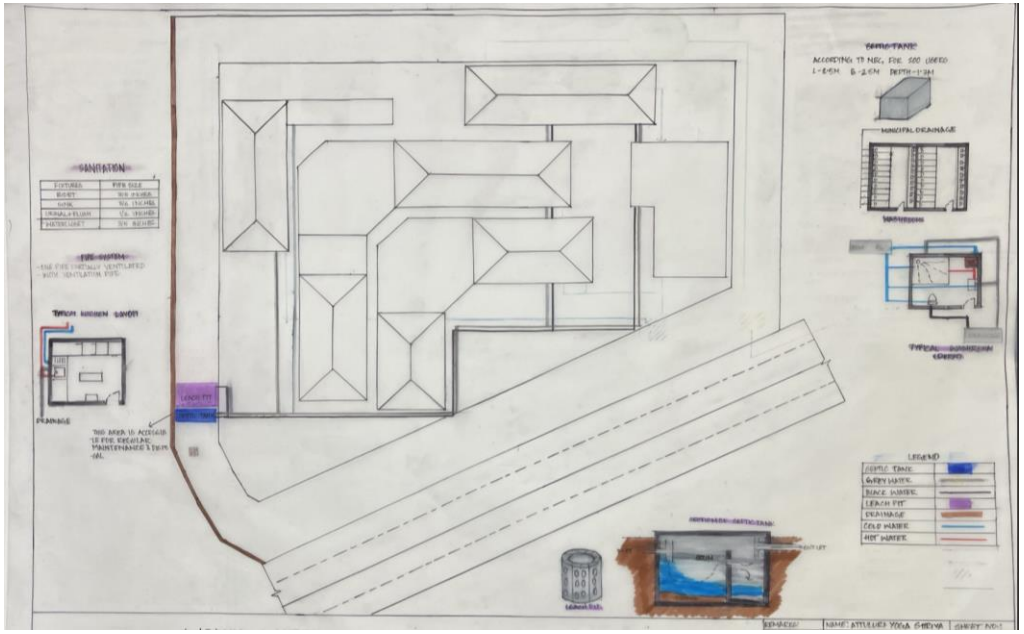


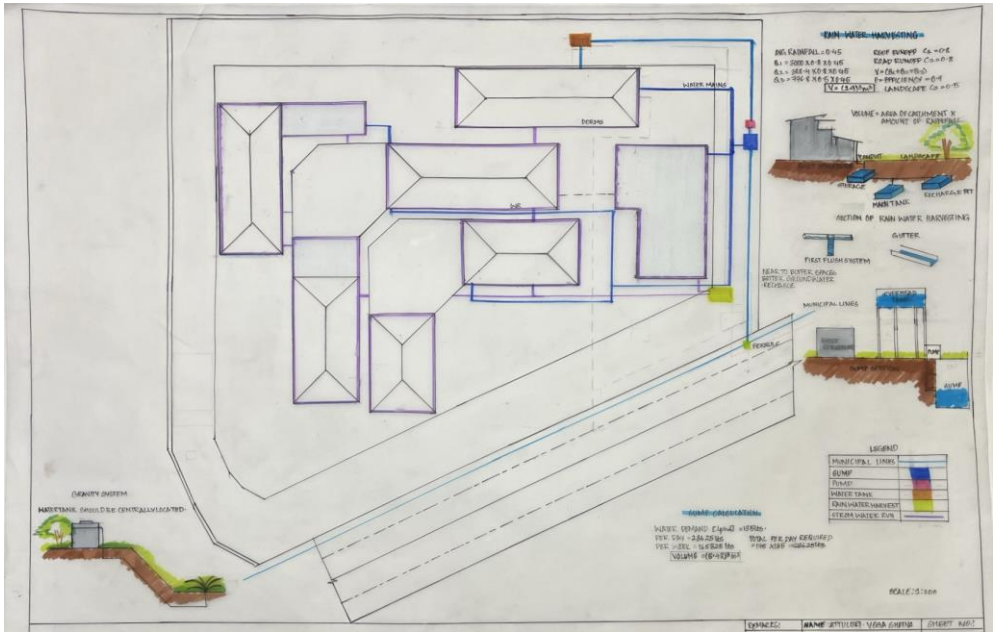
BUILDING SERVICES PORTFOLIO











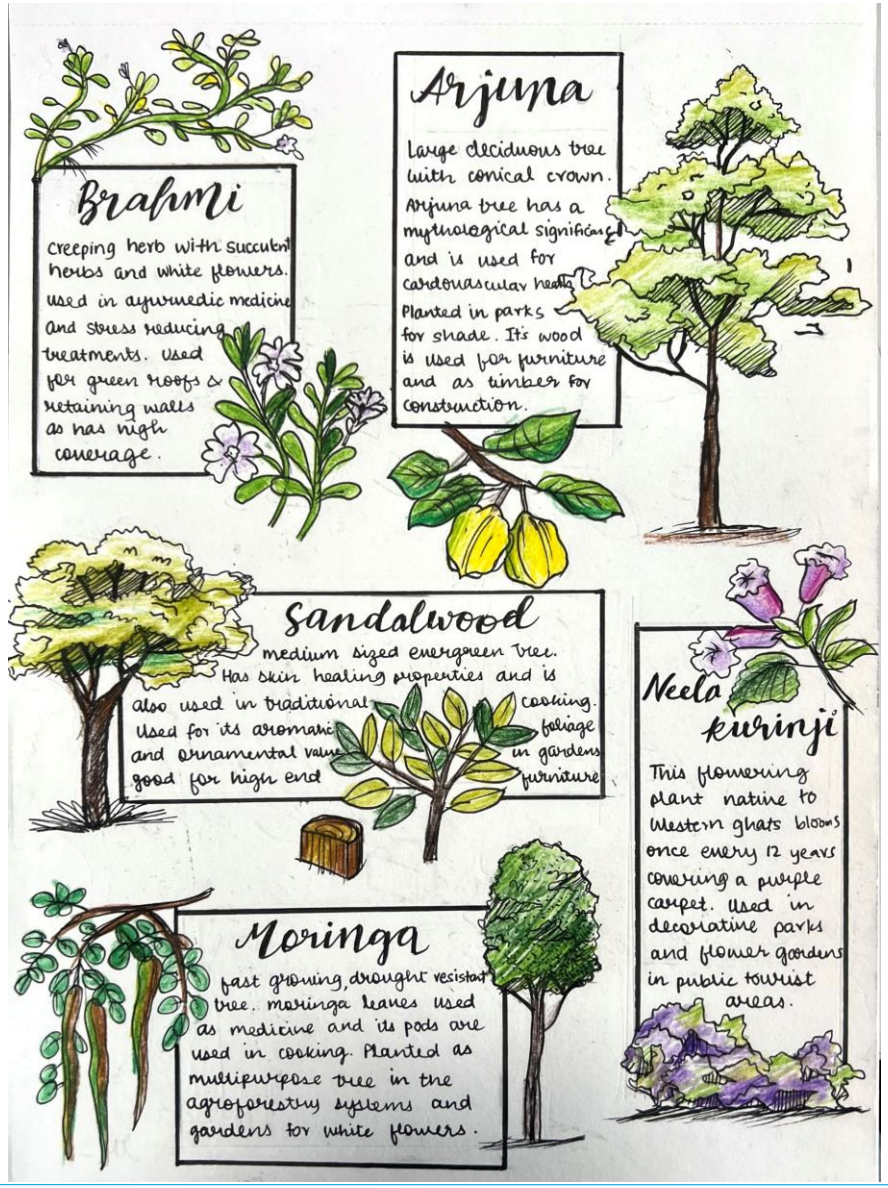
COURSE OBJECTIVES:

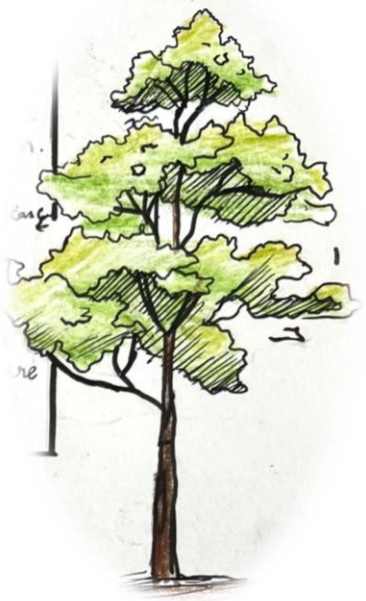
To study and analyse the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form.

PROJECT BRIEF:

Objective: To understand and appreciate native plant/tree species; Site: In & around MSAP campus

- To select a minimum of five different native plant/tree species for study.
- To diversify the selection by including a variety of plant species, such as trees, shrubs, and floral plants.
- To provide a detailed description of the plant, such as a tree, shrub, or herb. and explain its growth patterns, size, shape, etc.
- To specify the plant's practical applications, including medicinal, culinary, cultural or historical significance, and landscaping purposes, and show where it can be used in an architectural project.





ARC 2111 LANDSCAPE & LAB (EXTERIOR)

COURSE OBJECTIVES:

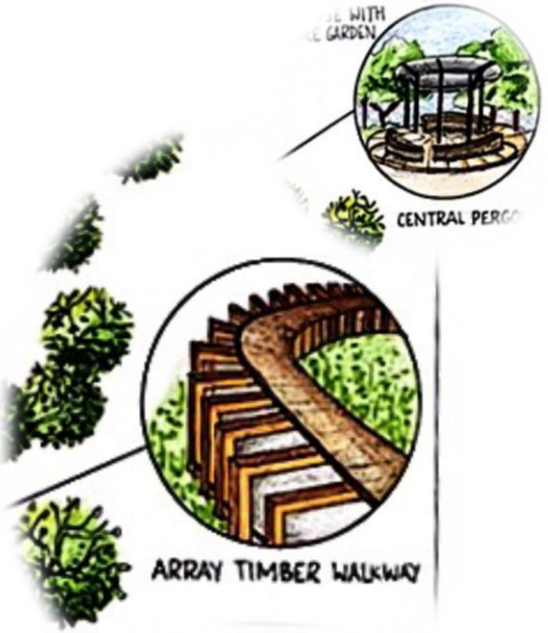
To study and analyse the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form.

PROJECT BRIEF:

In this assignment, students will create a comprehensive site plan for ADD III, incorporating the principles and elements of landscape design. They will propose softscape and hardscape elements that enhance the site's functionality and aesthetics.

Additionally, students will consider relevant site services, such as irrigation and lighting systems, and integrate renewable energy systems to promote sustainability. The site plan should reflect an understanding of landscape design principles and demonstrate the ability to create a cohesive, environmentally conscious outdoor environment for ADD III. The final submission will include a detailed site plan, explanations for design choices, and a focus on sustainable development

practices.



ARC 2111 LANDSCAPE & LAB (EXTERIOR)

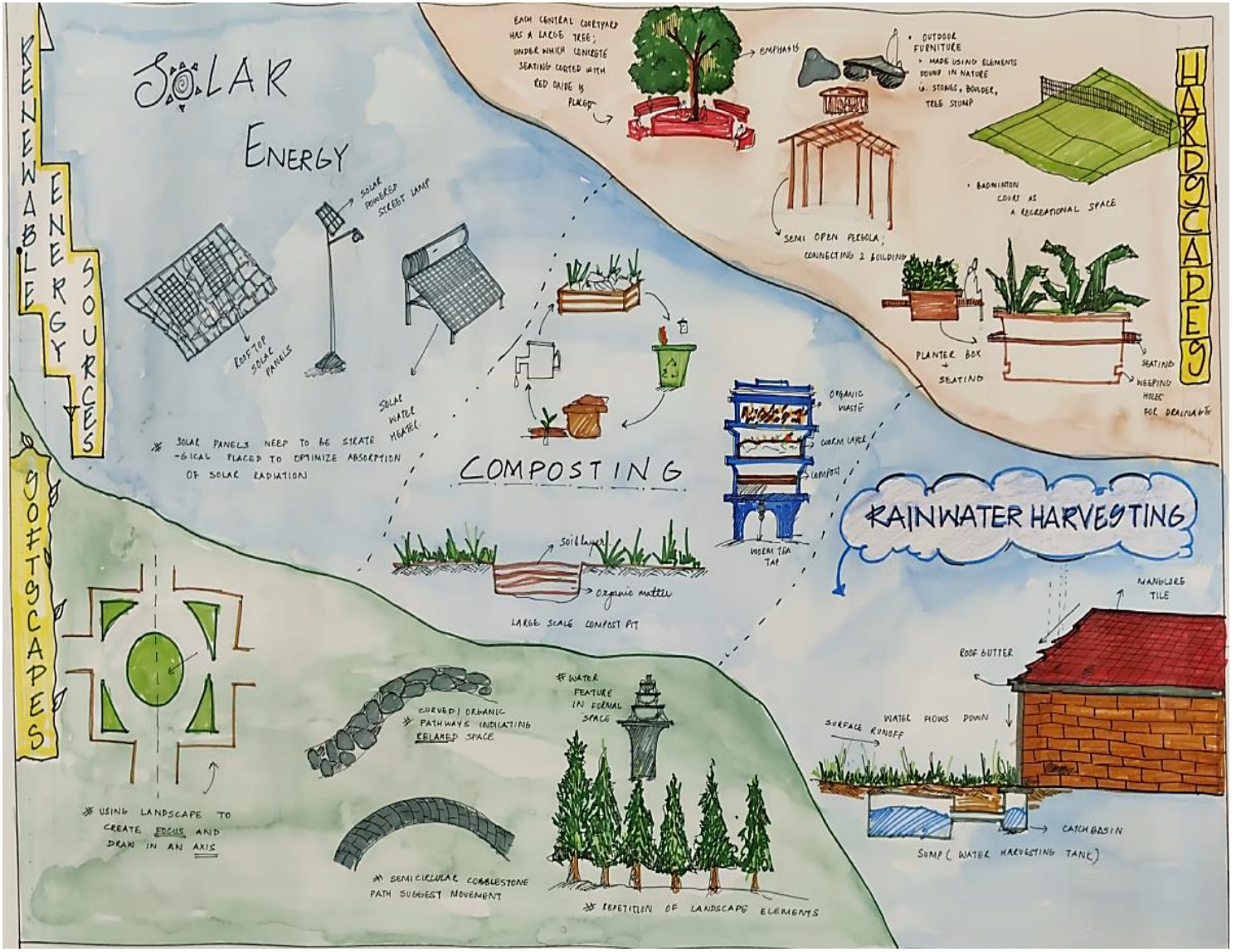
ANCIENT CIVILIZATIONS

COURSE OBJECTIVES:

The course aims to study and analyze the evolution , general settlement pattern, geographic and climatic influence, socio political background, construction technology, material influence, design principles of the city and its built form

PROJECT BRIEF:

This course intends to introduce and understand concepts of landscape design and help the student apply them in their own design through proper representation techniques



STUDENT: ANANYA NARAYANAN (233701088)
FACULTY: AR. JAYESH DASHRATH KHAIRE

COMPREHENSIVE LANDSCAPE DEVELOPMENT PLAN

STUDENT: ANANYA NARAYANAN (233701088)
FACULTY: AR. JAYESH DASHRATH KHAIRE

ARC 2101 ARCHITECTURAL DESIGN & DETAILING - IV

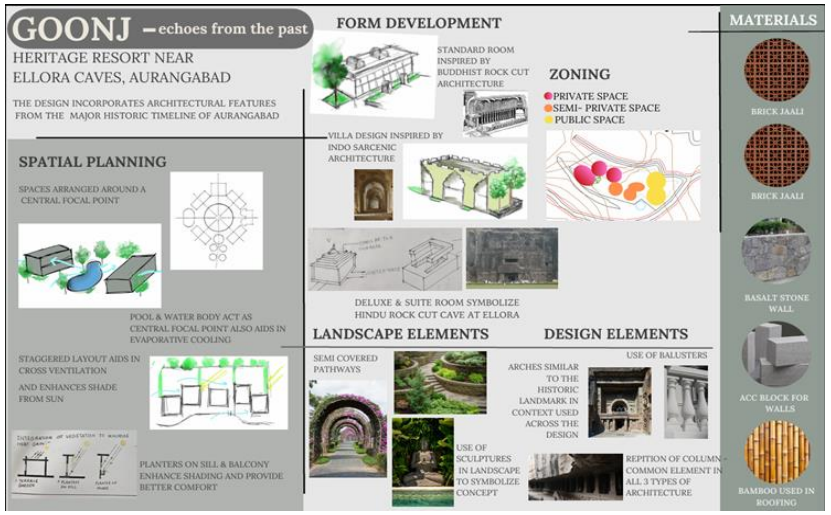
RESORT DESIGN

COURSE OBJECTIVES:

Demonstrating potential of alternative building construction techniques, identifying issues and concerns about context, developing design through analysis, formulate forms and structures of built forms and spaces through exploration of design strategies and materials, site and climate conditions while abiding by the rules, norms and regulations.

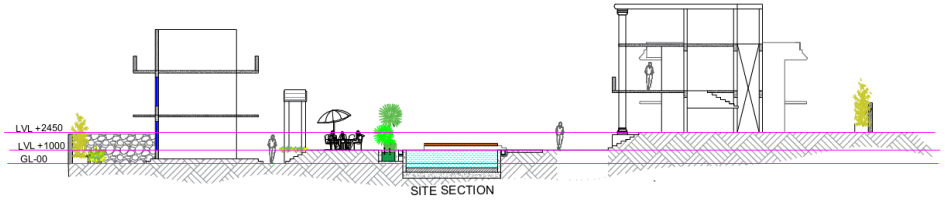
PROJECT BRIEF:

The project at ELLORA, envisions a heritage-inspired resort near Ellora caves, a UNESCO world heritage site. The design integrates cultural, architectural and environmental considerations to enhance tourist experience while preserving the sanctity of historic surroundings

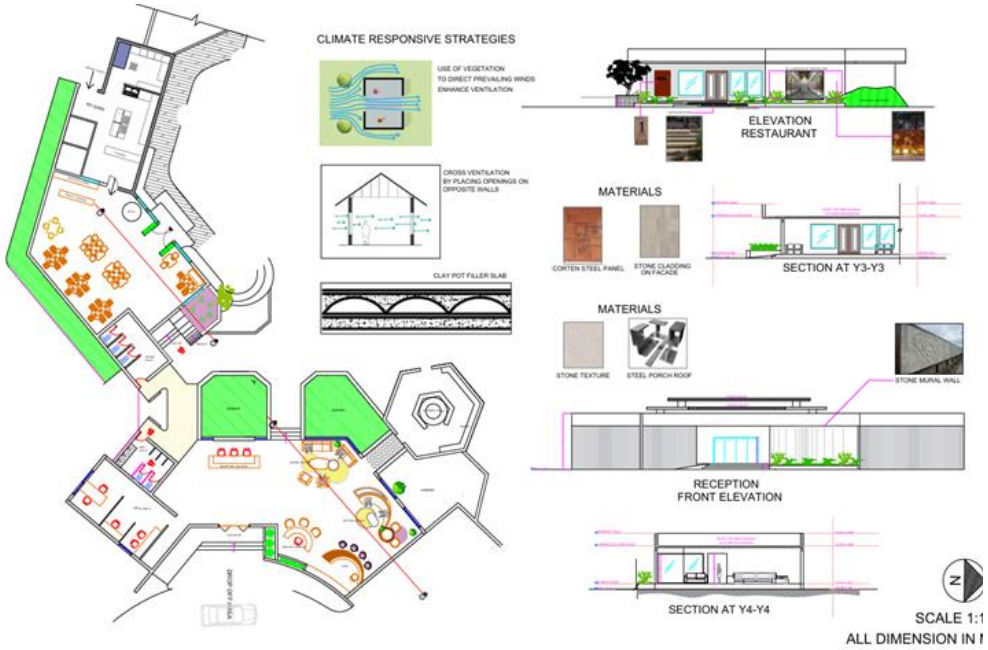


MASTER PLAN

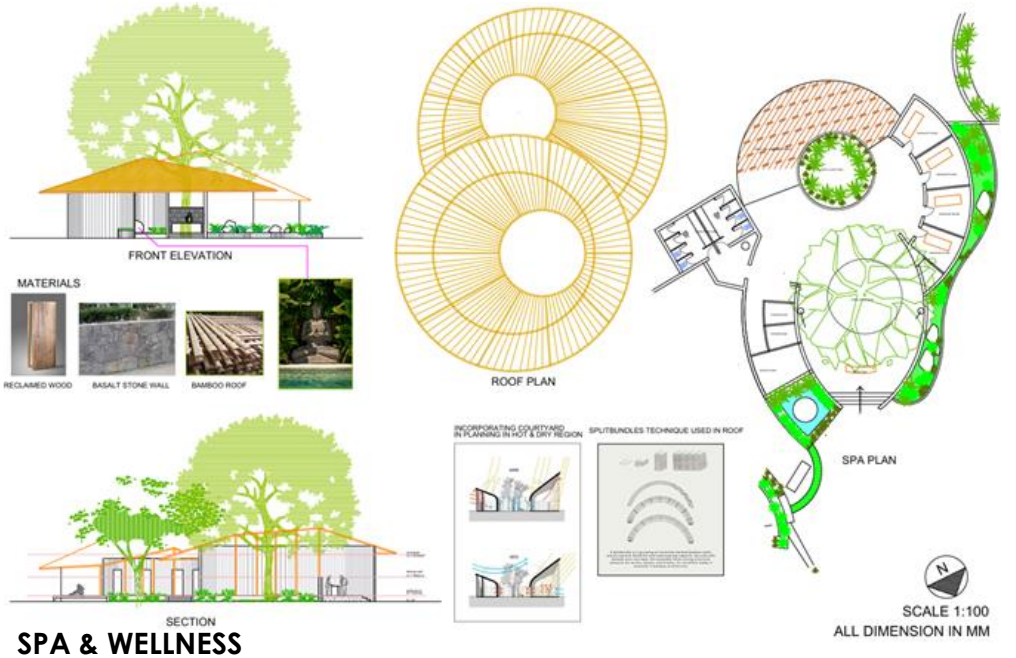
LEGEND	
1	RECEPTION
2	RESTAURANT
3	SOUVENIR STORE
4	AMENITIES
5	STANDARD ROOMS
6	DELUXE & SUITE ROOM
7	COTTAGES
8	SPA
9	PARKING
10	SWIMMING POOL
11	WATER TANK



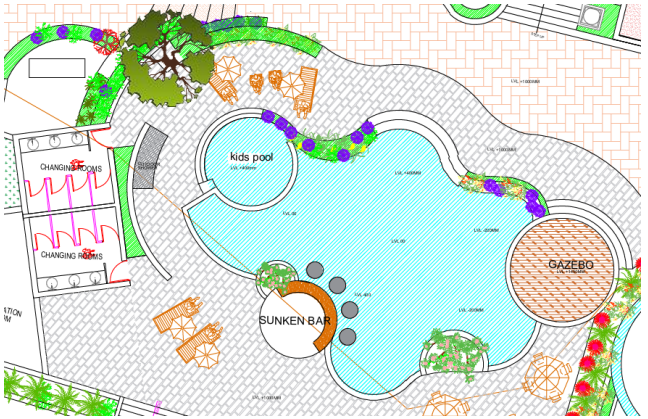
STUDENT: TANISHKA SHARMA(233701254)
FACULTY: AMIT KINJAWADEKAR, ARUN N HARIHARAN, JAMBAVATI GOUDA, NABANEETA SHARMA
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING



RESTAURANT & RECEPTION

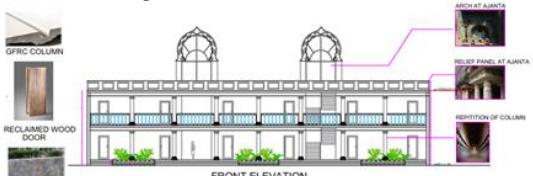


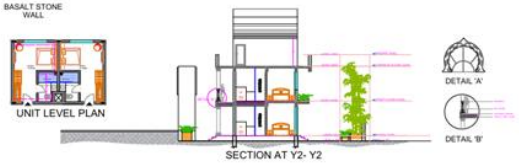
SPA & WELLNESS

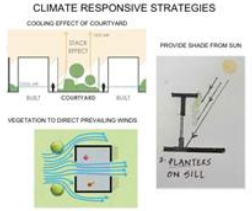


STUDENT: TANISHKA SHARMA(233701254)
FACULTY: AMIT KINJAWADEKAR, ARUN N HARIHARAN, JAMBAVATI GOUDA, NABANEETA SHARMA
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

SHANTI VIHAR (STANDARD ROOMS)







DOOR SCHEDULE

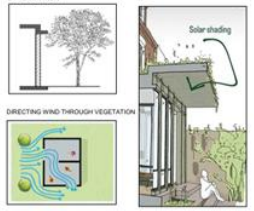
	DOOR TYPE	WD.	HT.	QT.
D1	SINGLE FLUSH DOOR	750	2100	12
D2	SINGLE FLUSH DOOR	900	2100	12

WINDOW SCHEDULE

	WINDOW TYPE	WD.	HT.	QT.
W1	FIXED GLASS	1800	W1	2
W2	DOUBLE SLIDING WINDOW	2000	1800	6
W3	DOUBLE SLIDING WINDOW	2900	2400	6

SCALE 1:100
ALL DIMENSION IN MM

DASTOOR BAGH (COTTAGES)



WINDOW SCHEDULE

	WINDOW TYPE	WD.	HT.	QT.
W1	FIXED GLASS	1650	1500	8
W2	DOUBLE SLIDING WINDOW	1950	2100	8
W3	DOUBLE SLIDING WINDOW	2400	1950	8

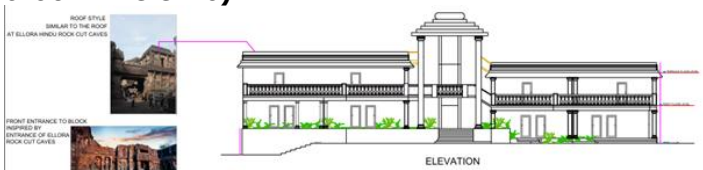
DOOR SCHEDULE

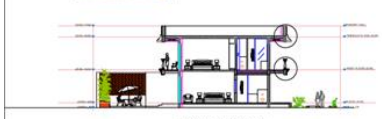
	DOOR TYPE	WD.	HT.	QT.
D1	SINGLE FLUSH DOOR	750	2100	8
D2	SINGLE FLUSH DOOR	900	2100	12

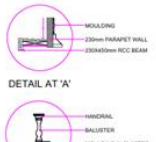
SCALE 1:100
ALL DIMENSIONS ARE IN MM

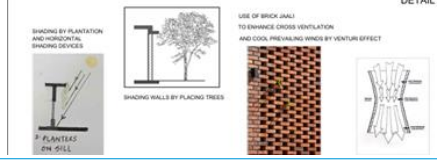
KAILASA (DELUXE & SUITE ROOMS)

UNIT LEVEL PLANS









DOOR SCHEDULE

	DOOR TYPE	WD.	HT.	QT.
D1	SINGLE FLUSH DOOR	750	2100	12
D2	SINGLE FLUSH DOOR	900	2100	12

WINDOW SCHEDULE

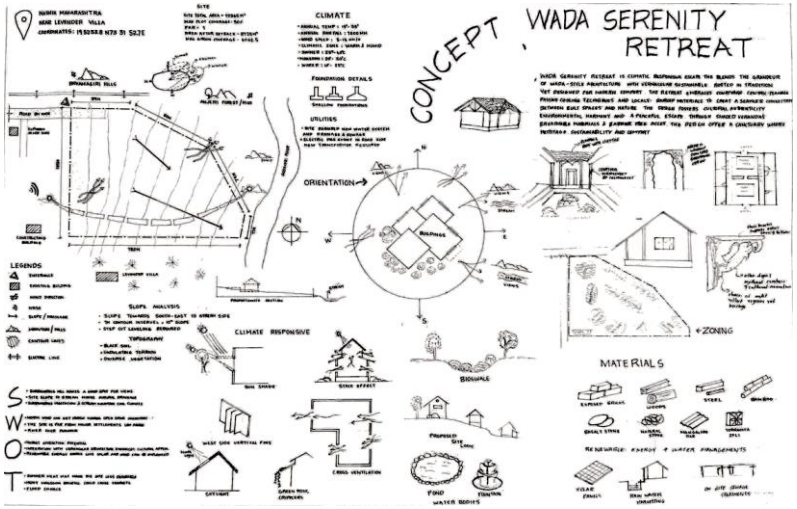
	WINDOW TYPE	WD.	HT.	QT.
W1	FIXED GLASS	1800	2100	8
W2	DOUBLE SLIDING WINDOW	2000	2100	8

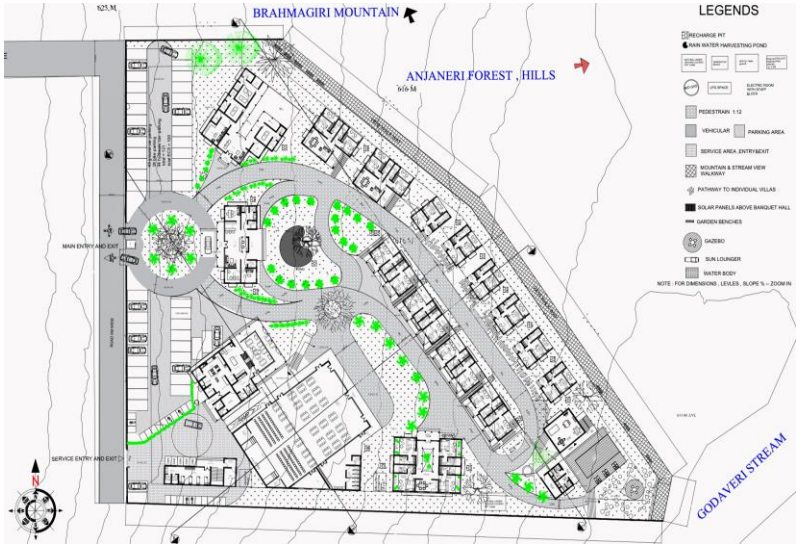
SCALE 1:100

STUDENT: TANISHKA SHARMA(233701254)
FACULTY: AMIT KINJAWADEKAR, ARUN N HARIHARAN, JAMBAVATI GOUDA, NABANEETA SHARMA
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

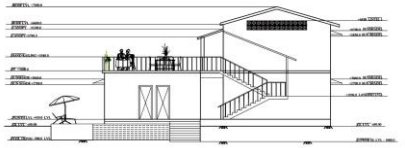
ARC 2102 ARCHITECTURAL DESIGN AND DETAILING - IV

CLIMATE RESPONSIVE RESORT DESIGN

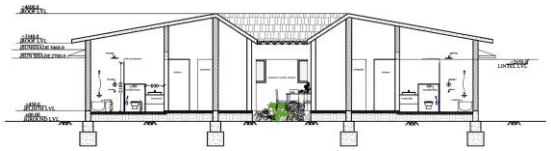




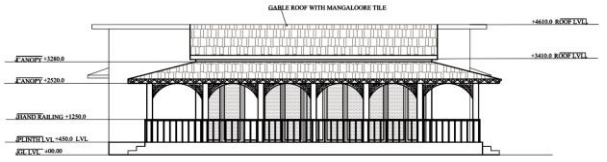
SECTION AA'



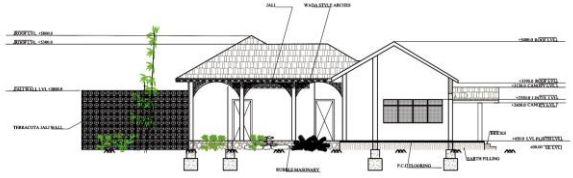
WELLNESS BLOCK



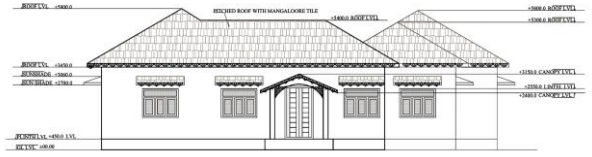
FAMILY VILLA SECTION



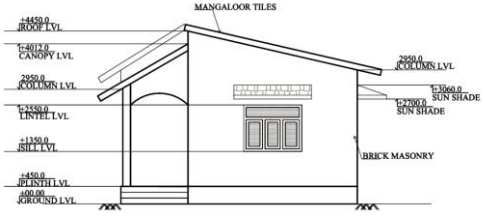
DINING BLOCK SIDE VIEW



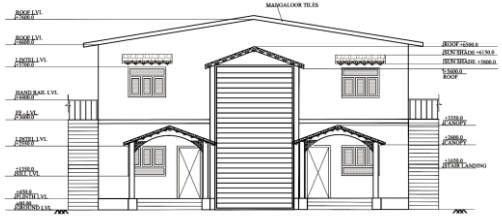
SPA BLOCK SECTION



SPA BLOCK ELEVATION



SUITE ROOM ELEVATION



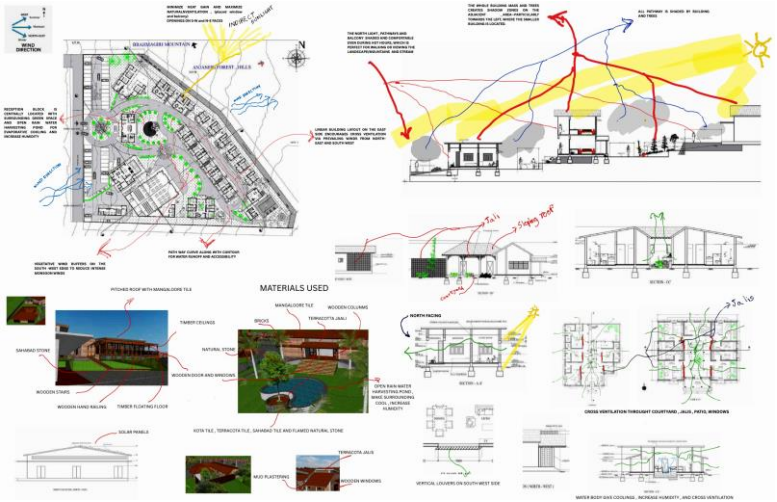
DELUXE ROOM ELEVATION

STUDENT: AFLAH MUHAMMED ASAFALI - 233701266
FACULTY: SHANTANU CHITGOPKAR , BABAR JAVED , SUNIL , ANJANI KUMAR , ANOOP KUMAR

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 2102 ARCHITECTURAL DESIGN AND DETAILING - IV

CLIMATE RESPONSIVE RESORT DESIGN



CLIMATE RESPONSIVE DESIGN DETAILS

MASTER PLAN

MAIN ENTRY AREA VIEW

MAIN ENTRY TOP VIEW

WELLNESS AREA VIEW

DELUXE BLOCK VIEW

RECEPTION BLOCK VIEW

RECEPTION REAR VIEW

STUDENT: AFLAH MUHAMMED ASAFALI - 233701266
FACULTY: BABAR JAVED , SHANTANU CHITGOPKAR , SUNIL , ANJANI KUMAR , ANOOP KUMAR

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

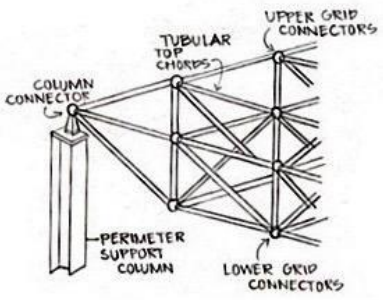
STRUCTURAL STEEL

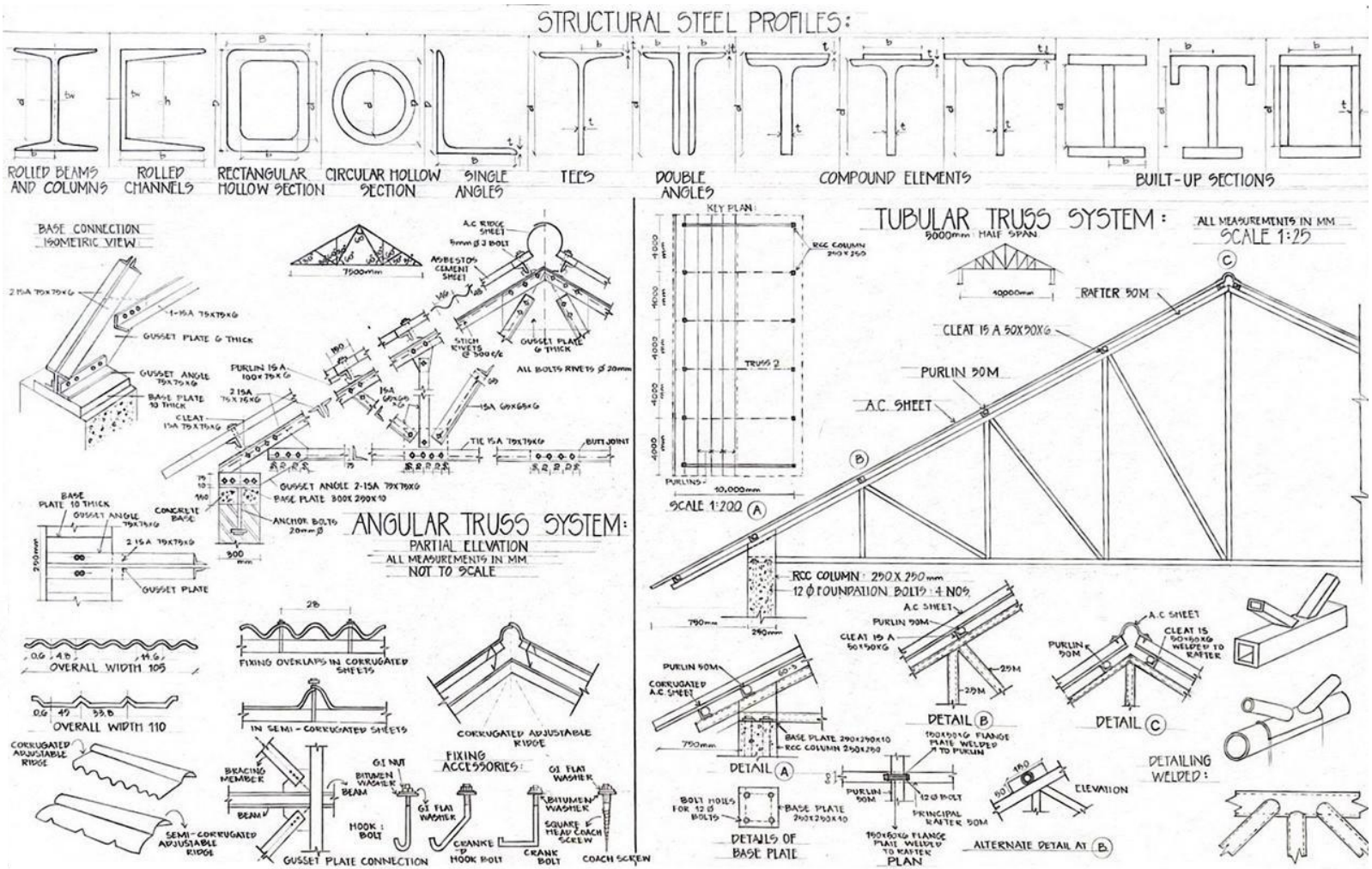
COURSE OBJECTIVES:

To understand Steel as a building material and the involved construction techniques with respect to its chemical, physical properties, classification, composition, and its varied uses to enhance the structural strength, usability, and aesthetic qualities of the spaces inside/ outside the building.

PROJECT BRIEF:

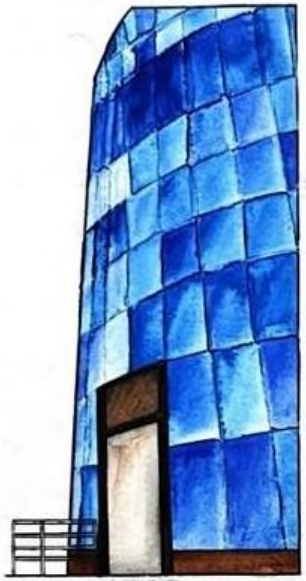
This course intends to introduce us and to create a better understanding of the students to the world of steel, where it teaches us: the several types of commercial steels, their market forms, and how they have been used in the building components as members.





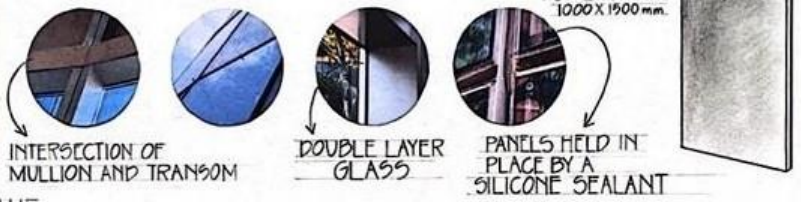
STRUCTURAL STEEL

CASE STUDY:
INNOVATION CENTER:

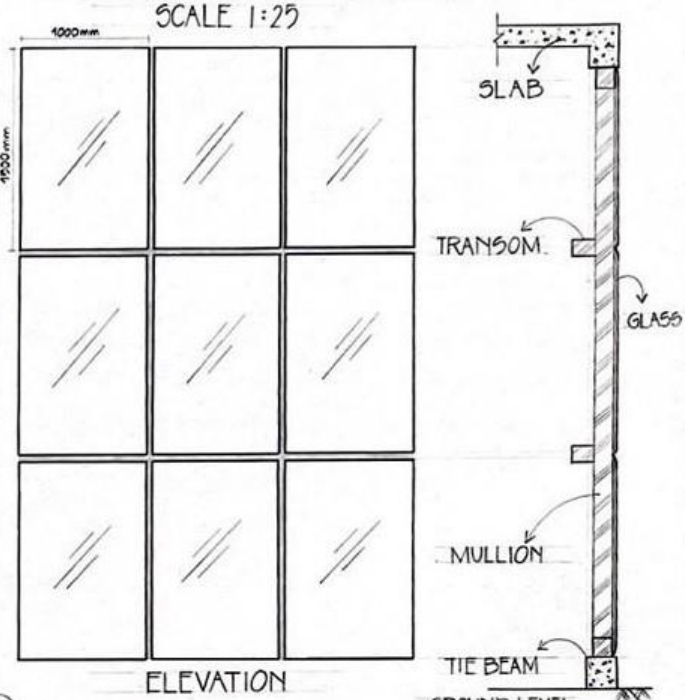


ISOMETRIC VIEW
INNOVATION CENTRE @ MAHE WAS ESTABLISHED IN THE YEAR 2007.
AREA : 16000 sq.ft

FRONT ELEVATIONS

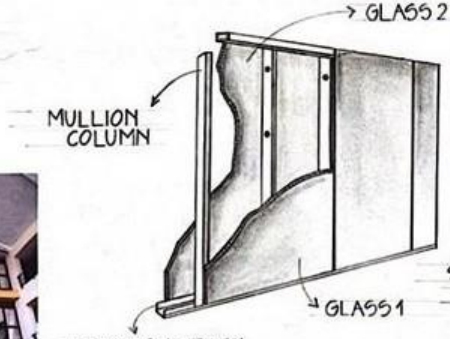


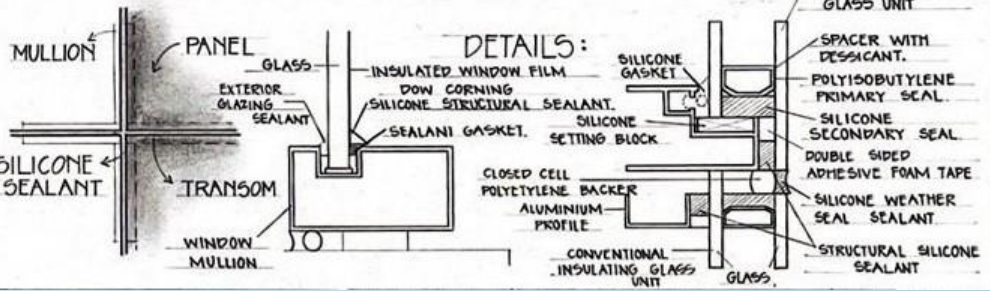
STICK PANEL SYSTEM:
SCALE 1:25



ELEVATION
SECTION

PLAN





DETAILS:

STUDENT: ANUSHA MALAIYA (233701304)
FACULTY: ANJANI KUMAR SHUKLA, BHAGYASHREE, SUMITHRA RAJESH

ARC 2106 BUILDING CONSTRUCTION AND MATERIALS - IV

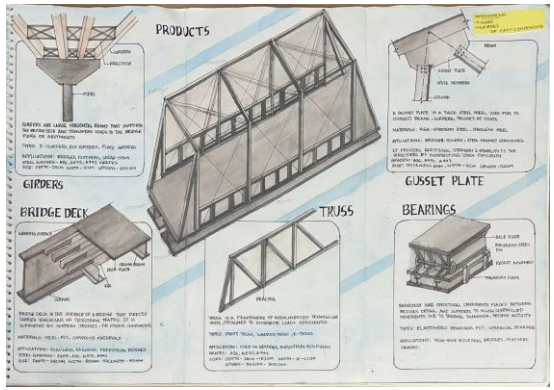
STEEL

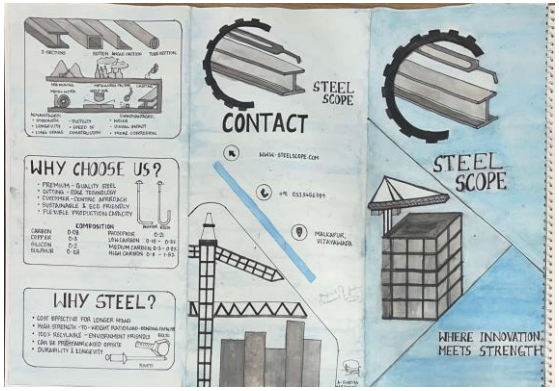
COURSE OBJECTIVES:

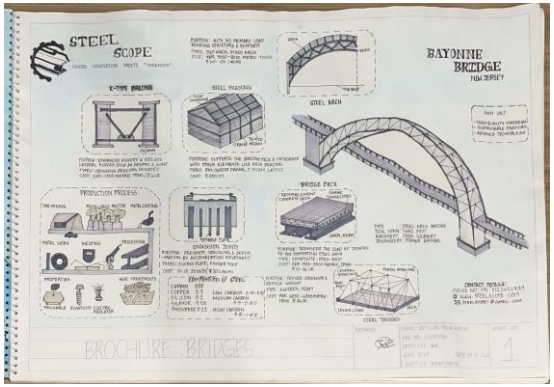
To understand steel as a building material & the involved construction techniques w.r.t chemical, physical properties, classification, composition, and its varied uses to enhance the structural strength, usability, and aesthetic qualities of the spaces inside/ outside the building.

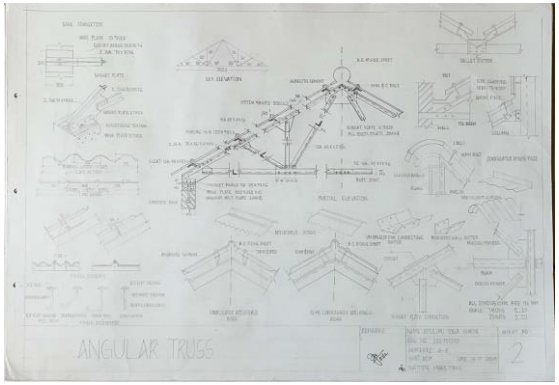
PROJECT BRIEF:

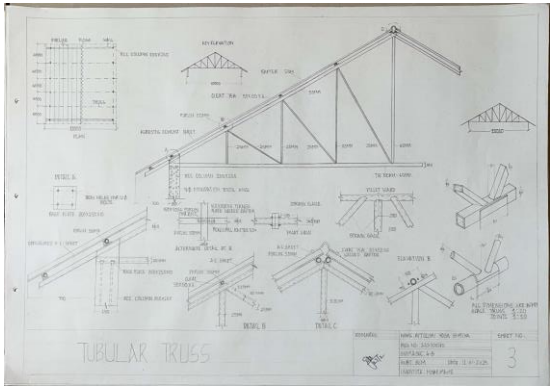
This course intends to introduce and understand the building materials steel and various construction techniques

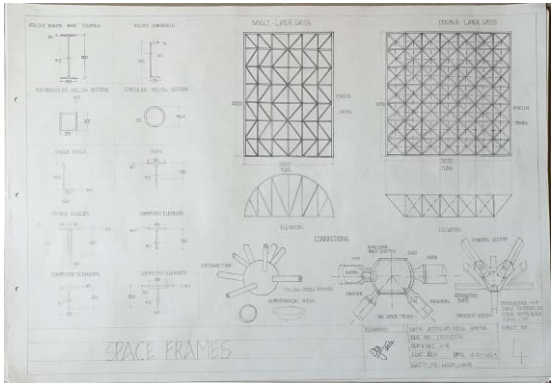








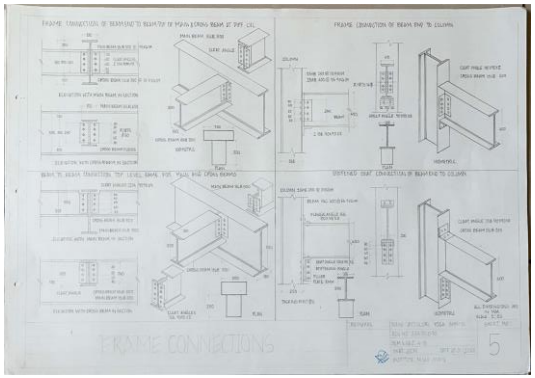


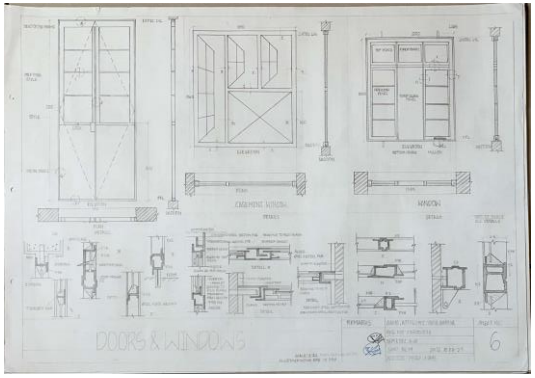


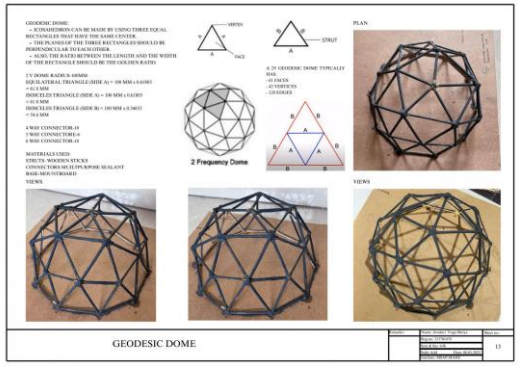
STUDENT: ATTULURI YOGA SHRIYA (233701070)
FACULTY: BABAR JAVED, SUJA T P

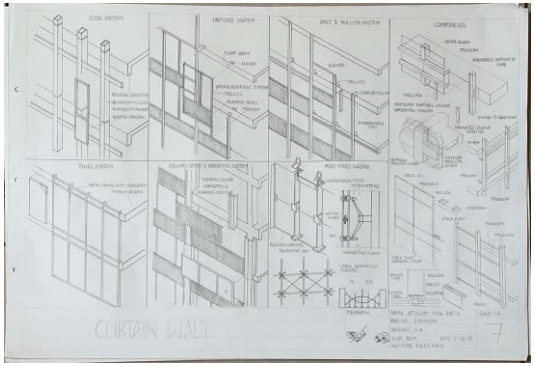
ARC 2106 BUILDING CONSTRUCTION AND MATERIALS - IV

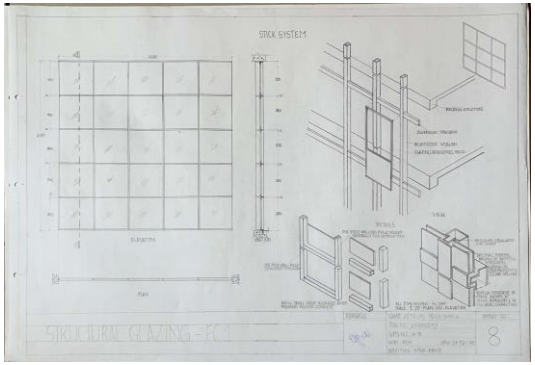
STEEL

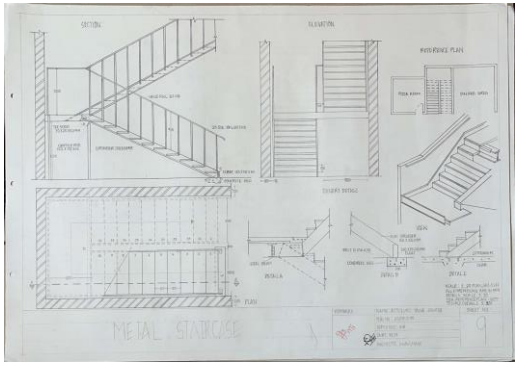


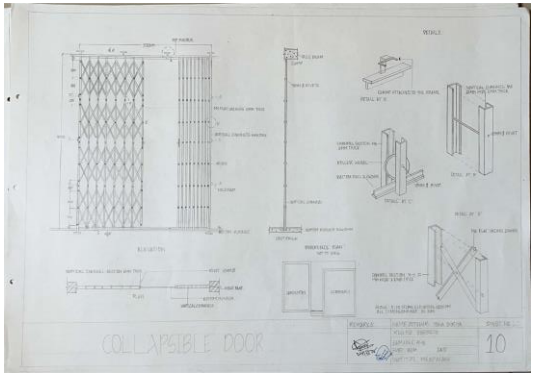


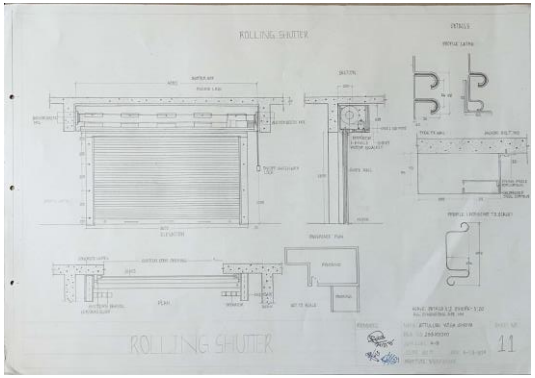


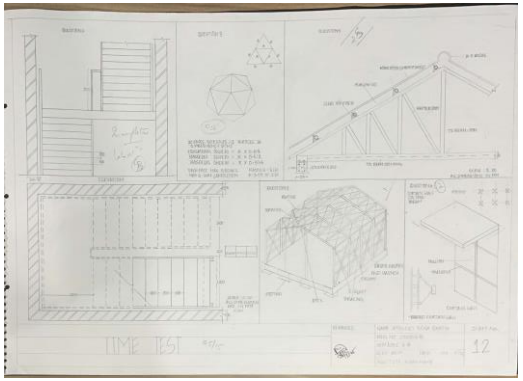












STUDENT: ATTULURI YOGA SHRIYA (233701070)
FACULTY: BABAR JAVED SIR, SUJA T P MAM

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 2110 HISTORY THEORY & CRITICISM - III

ISLAMIC ARCHITECTURE

COURSE OBJECTIVES:

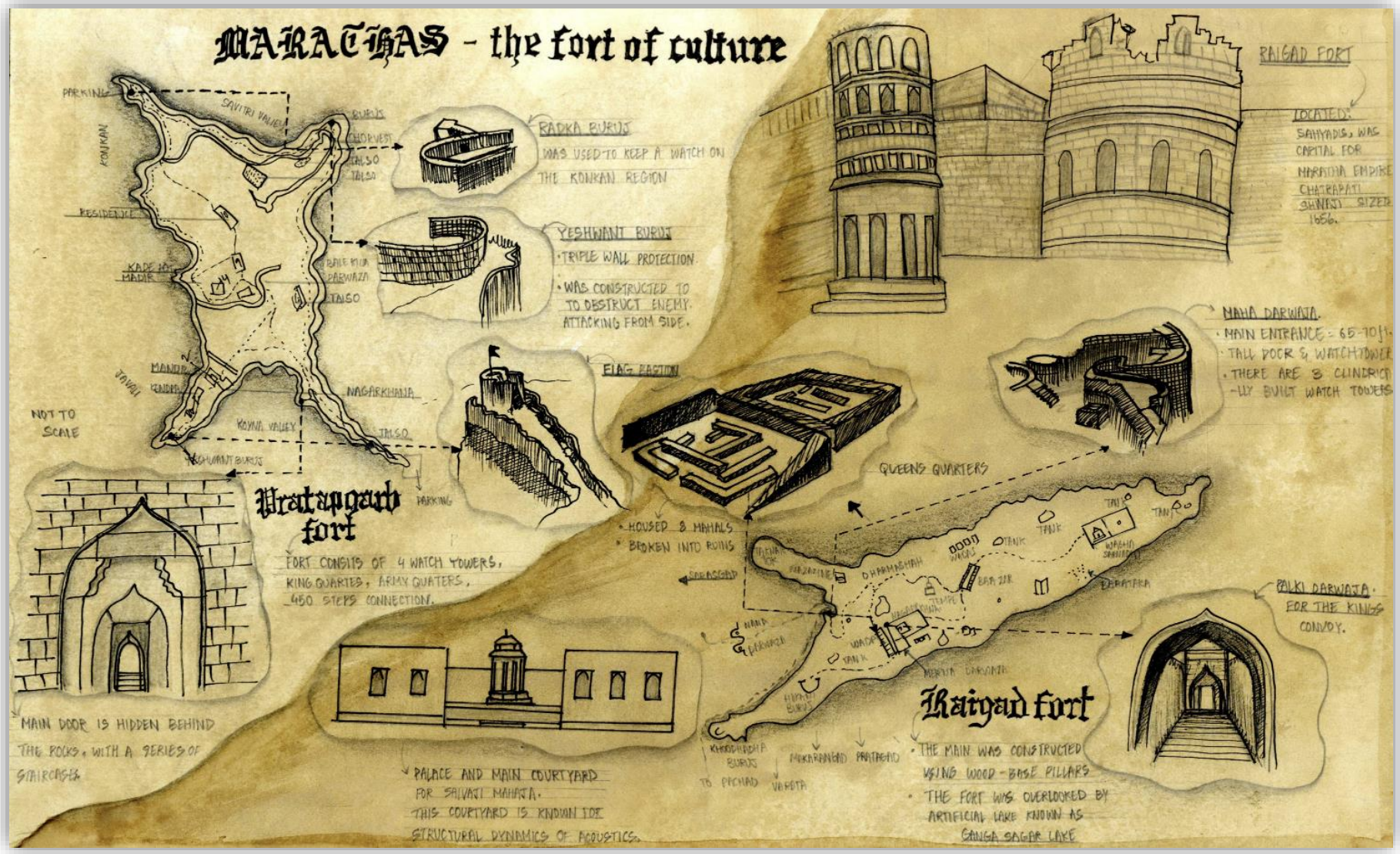
To study the architectural style, with regards to its architectural components, nomenclature and major features of their style being studied. To understand the Indo- Islamic Architecture style and planning of the built environment, techniques and materials used for the construction and their evolution.

PROJECT BRIEF:

This course intends to introduce and understand Indo- Islamic Architecture dated between 600-1336 AD of their components and styles with respect to construction, geographic influence, socio-political background, construction technology, ornamentation and planning of the structure.

STUDENT: THATIKONDA SRIVALLI (233701204)
FACULTY: AR. AKSHATHA RAO

ISLAMIC ARCHITECTURE



BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

3

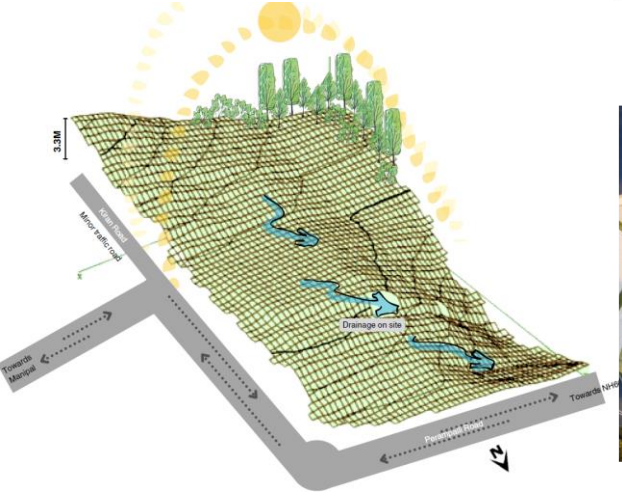
ENVIRONMENT DESIGN

COURSE OBJECTIVES:

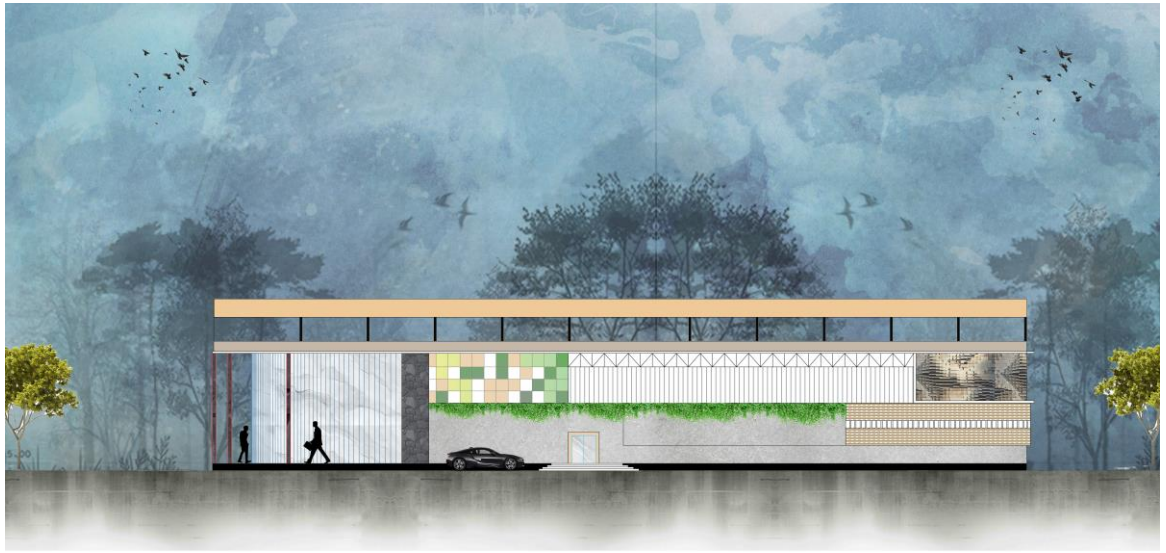
To grasp the concept of green building assessment, it involves analyzing best practices in sustainable and green construction through case studies, proposing sustainable designs. This process includes designing and evaluating projects like commercial and export complexes, student hubs, office buildings, shopping malls, and retail spaces using energy optimization and simulation tools.

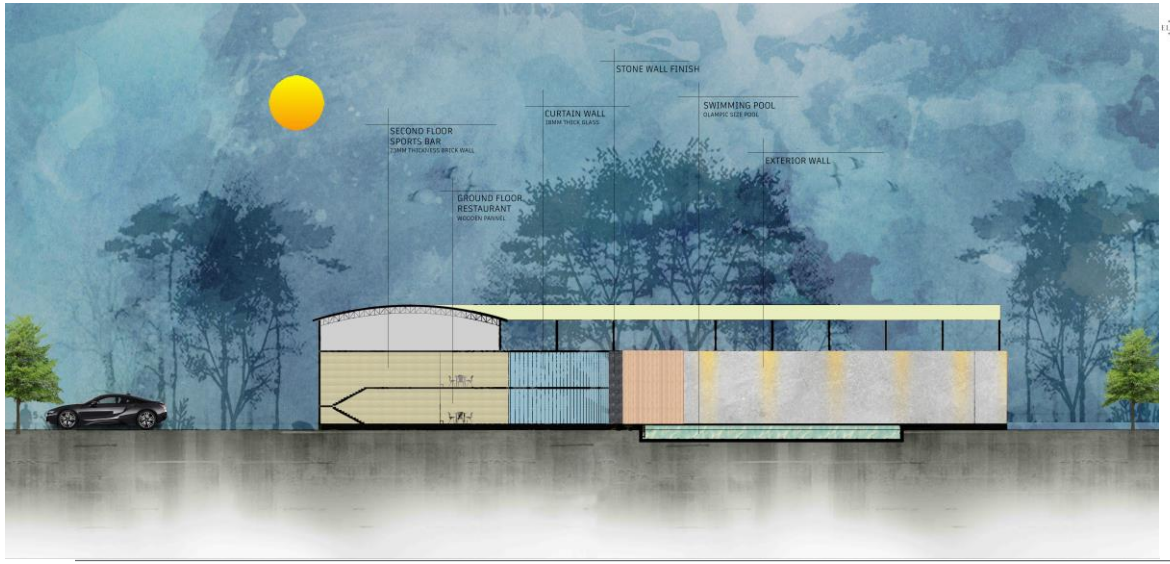
PROJECT BRIEF:

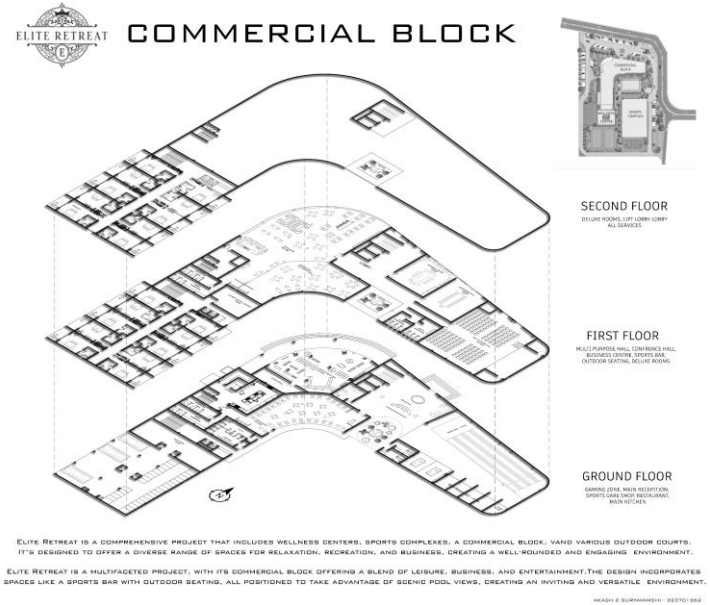
I've designed a 20,000 m² sports complex focused on green, sustainable practices, aiming for LEED certification. The user-friendly design integrates energy efficiency, water conservation, and eco-friendly materials to create a functional, environmentally responsible space.

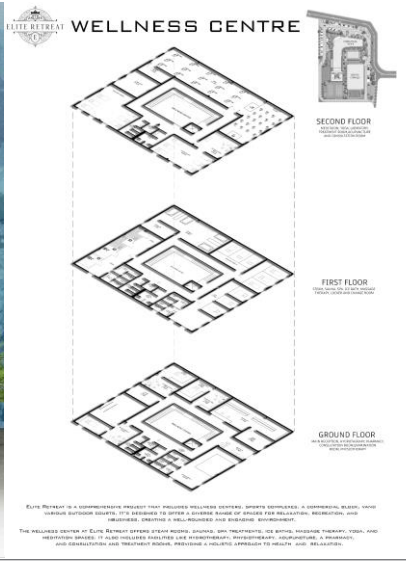


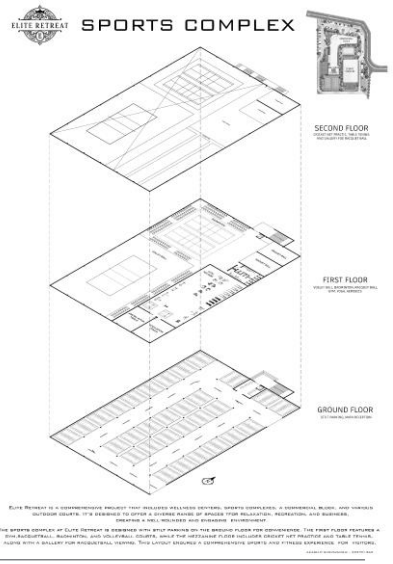
ENVIRONMENT DESIGN











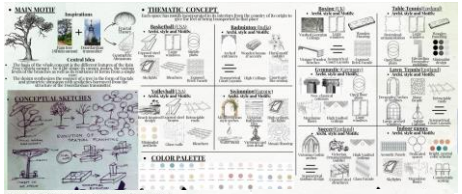
STUDENT: AKASH C SURYAVAMSHI (223701262)
FACULTY: AR.VIDYA SAGAR REDDY, AR. PRADEEP G KINI, AR. RAMNATH NAYAK

ARC 3101 ARCHITECTURAL DESIGN & DETAILING - V

ENVIRONMENTAL DESIGN

PROJECT BRIEF:

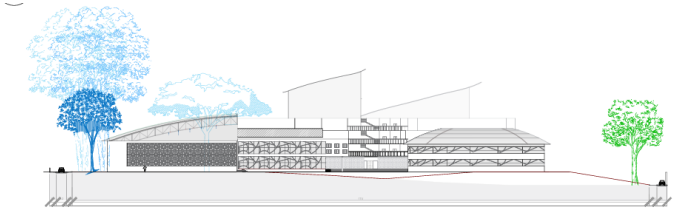
Designing a 22,287.53 m² sports complex that focuses primarily on aspects of sustainability and green building. Central concept for the design is based of "FRACTAL INTRICACIES AND GEOMETRIC MODULATIONS"- an amalgamation of contextual and thematic concepts.



1 MASTER PLAN
Scale: 1:500

VEGETATION DETAILS

NAME	HT.	REPRE.	REASON
Acacia Tree	25m		Erosion control, Shade &Windbreak
Jamaican Cherry Tree	12m		Rapid Growth, Climate Tolerance
Eucalyptus Tree	20m		Carbon Sequestration soil stabilization
Neem Tree	30m		Air Purification
Ixora	3m max		climate resistant low maintenance
Plumbago	2m		Long lasting flowers Climate resistant



SITE SECTION A-A'
Scale: 1:500

SITE SECTION B-B'
Scale: 1:500

MATERIAL DETAIL

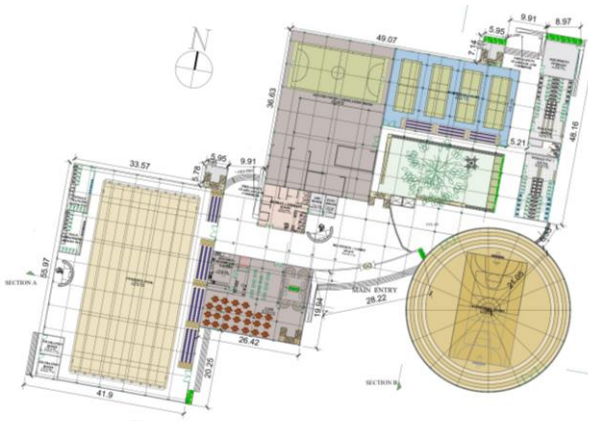
MATERIAL	HAT.	WHERE?.	WHY?
Permeable Pavers		Vehicular pathway inside the site	Stormwater Manag. Reduce HIE
Gravel		Pedestrian Walkway	High durability Low maintenance
Textured Asphalt		Ramp for accessing basement parking	Excellent Traction
Natural Grass		Vegetated areas	Landscaping

HARDSCAPE DETAILS

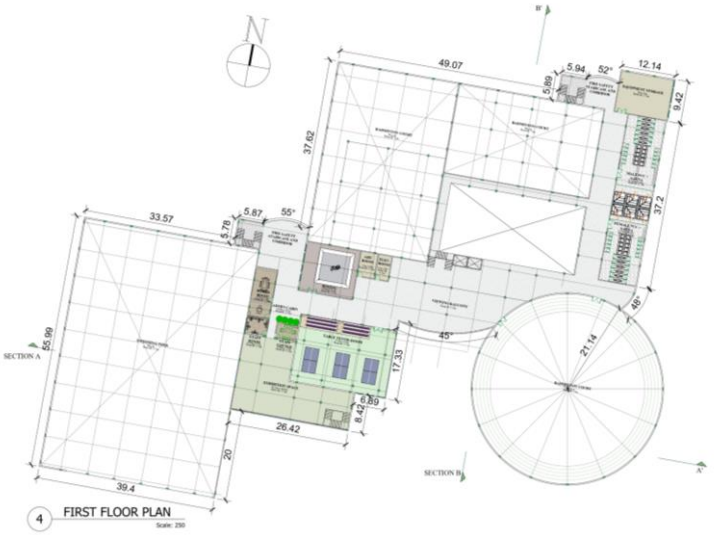
NAME	HT.	REPRE.	MATER
Pergola	4m		Timber and Creep
Fountain	2m		Rcc, Granite and mosaic
Signage	0.5m		Timber
Retaining Wall	1.8m wt		Stone

STUDENT: ANTARLINA BORAH (223701100)
FACULTY: AR. KAILAS M, AR. JOICY KC, AR. JOANNA MARIA MARTIS

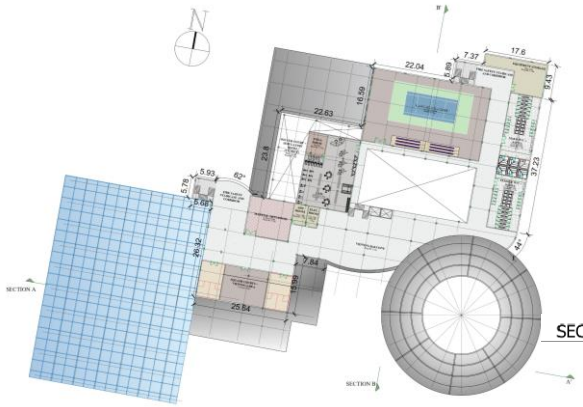
ENVIRONMENTAL DESIGN



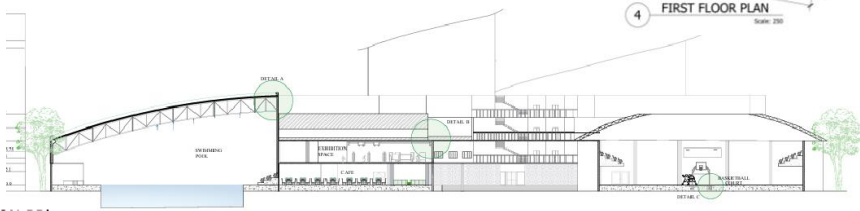
4 GROUND FLOOR PLAN



4 FIRST FLOOR PLAN

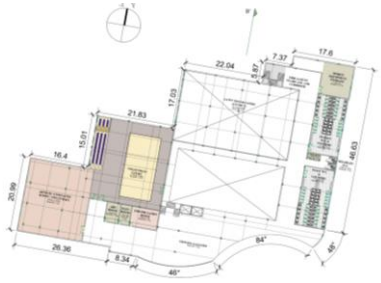


4 SECOND FLOOR PLAN

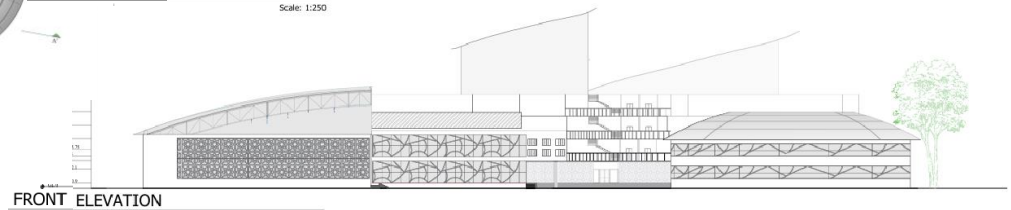


SECTION BB'

Scale: 1:250

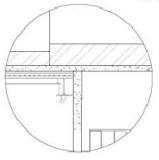


4 THIRD FLOOR PLAN

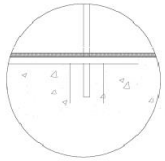


FRONT ELEVATION

Scale: 1:250



DETAIL B



DETAIL C

DETAIL A

STUDENT: ANTARLINA BORAH (223701100)
FACULTY: AR. KAILAS M, AR. JOICY KC, AR. JOANNA MARIA MARTIS

ARC 3103 MEASURED DRAWING

COURSE OBJECTIVES:

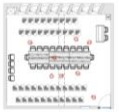
Measured drawing is very important to communicate the understanding of built environment and to convey the scheme of construction and design. In this course students learn the importance and methods of measuring and documenting an existing built environment/ landscape through drawings

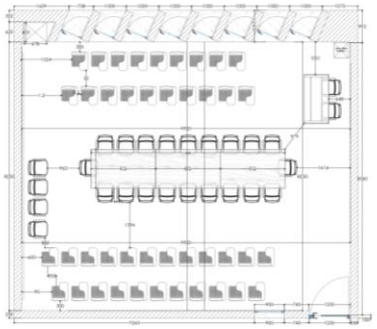
PROJECT BRIEF:

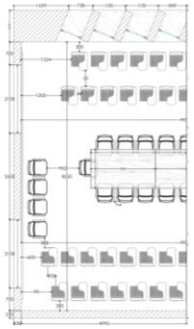
This course intends to choose tools and methodology of measurement, organize collection of secondary information and reconnaissance survey, organize field data collection and develop drawings through them and analyze measured drawing.

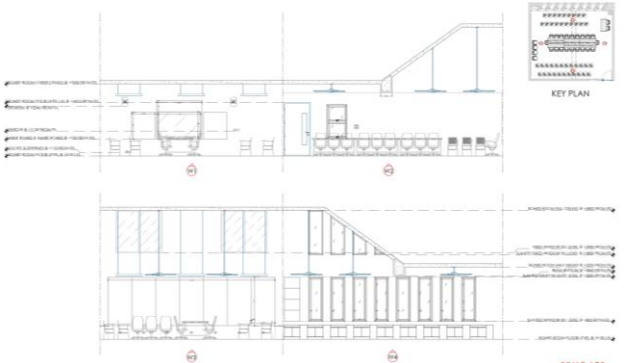


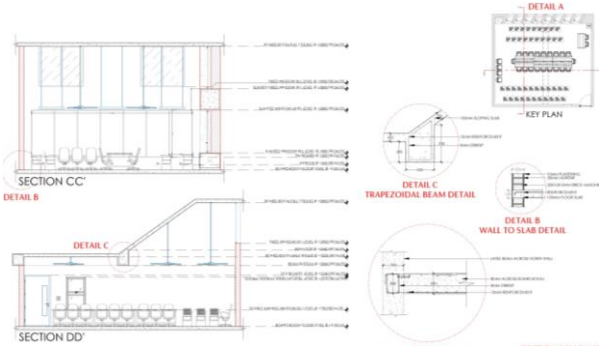


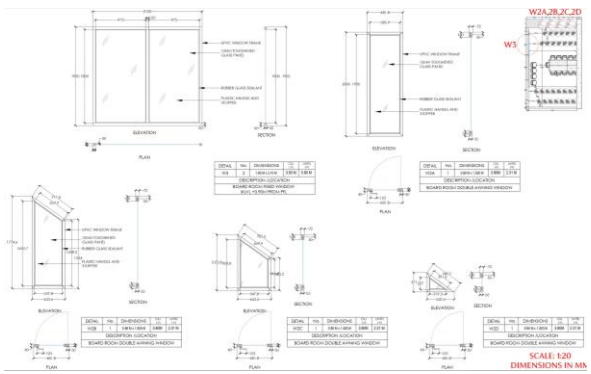



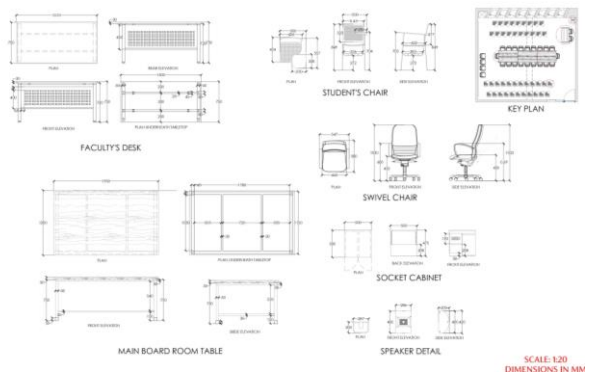


FLOOR PLAN @LVL 0.00


FLOOR PLAN @LVL +2860



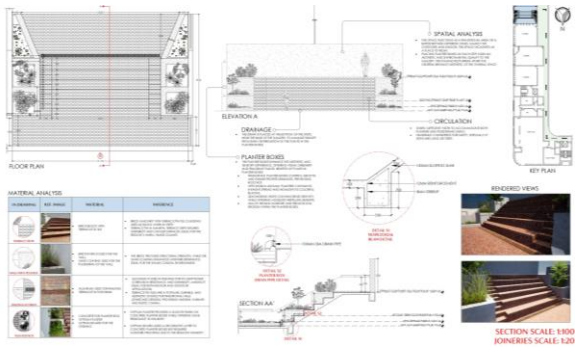


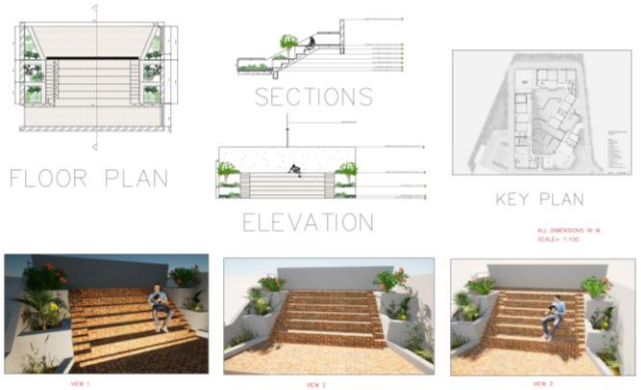


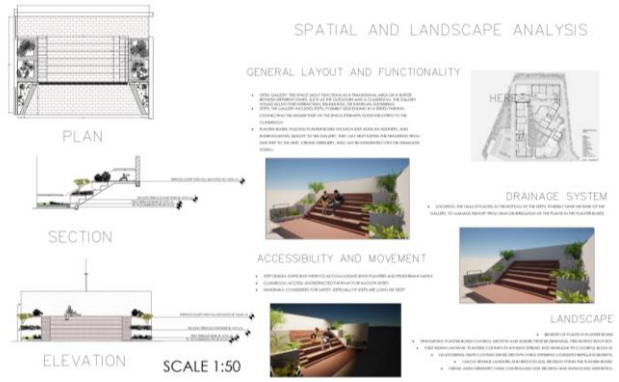


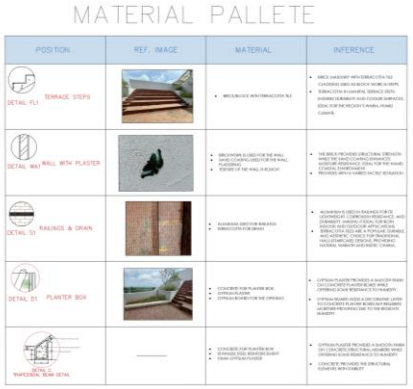
STUDENT: MISHAEL ALEX(223701064), MAHALAKSMY TV(223701124), ARHAAN SRINARAYAN(223701306)
FACULTY: GOWRI SHENOY B, DANNY PINTO

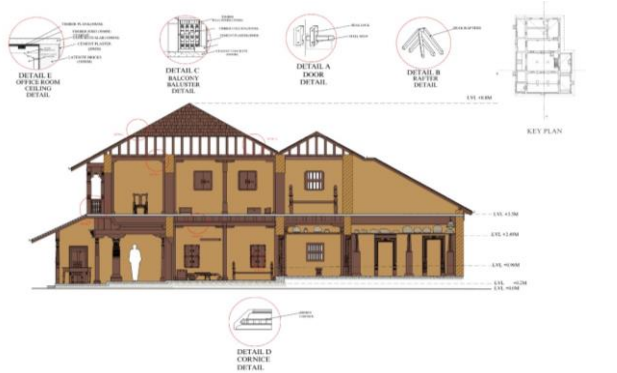
ARC 3103 MEASURED DRAWING- I

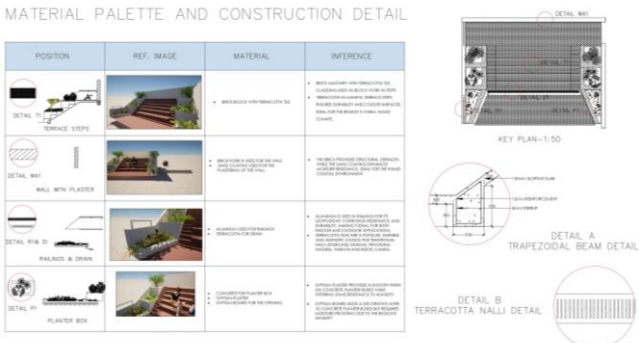




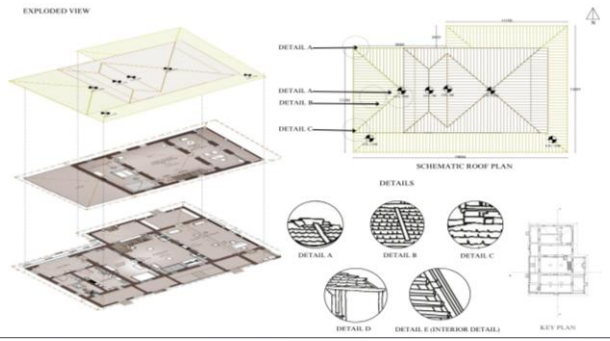








Shringeri House – by class of 3c



STUDENT: MISHAEL ALEX(223701064),MAHALAKSMY TV(223701124), ARHAAN SRINARAYAN(223701306)
FACULTY: GOWRI SHENOY B, DANNY PINTO
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 3103 MEASURED DRAWING

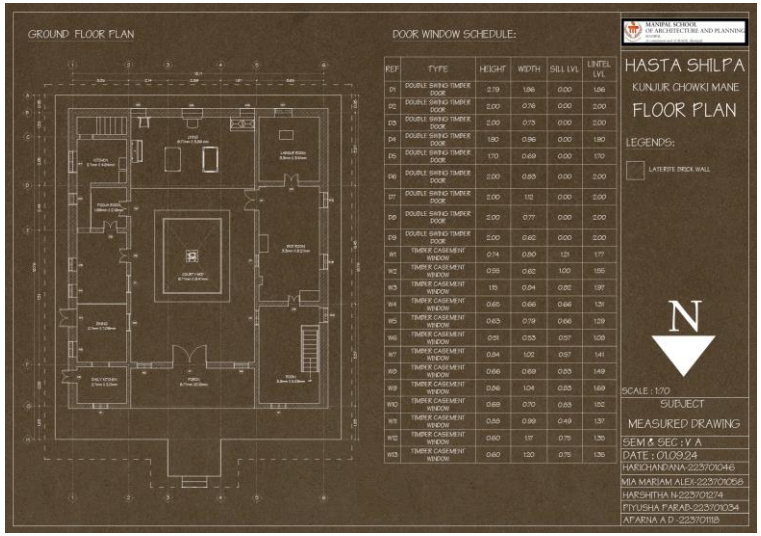
KUNJUR CHOWKI MANE

COURSE OBJECTIVES:

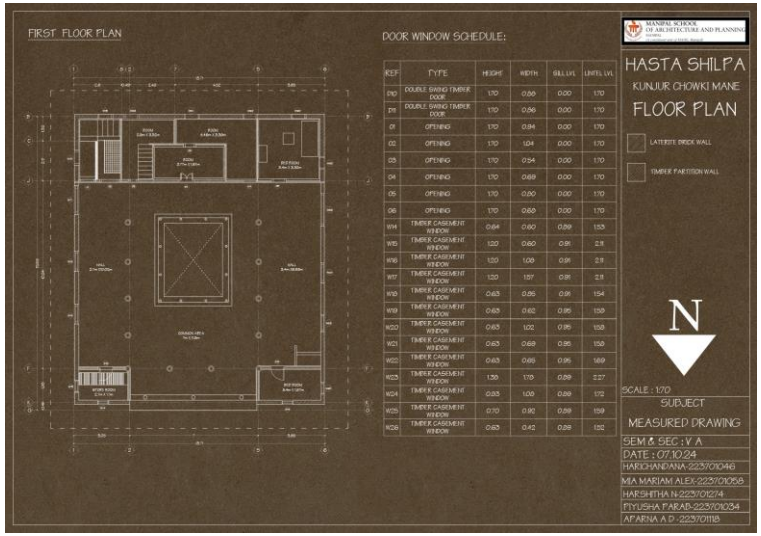
In architecture, measured drawing is a very important medium to communicate the understanding of Built Environment and to convey the scheme of construction and design. In this course students will learn the importance and methods of measuring and documenting an existing built environment through drawings

PROJECT BRIEF:

The Kunjur Chowki Mane was built in the architectural style of Kerala based on the Fifteenth century treatise 'Manushyalaya Chandrika'. The plan of the structure follows a mandala or a grid aligned to the cardinal directions wherein the center of the mandala is left open or not built up, to coincide with the central courtyard. The basic house module is Nalukettu(nalu four. kettu-wings) four blocks or wings of different widths in a descending order, the largest being the southern, and then the western followed by the northern and, the eastern wing being the least

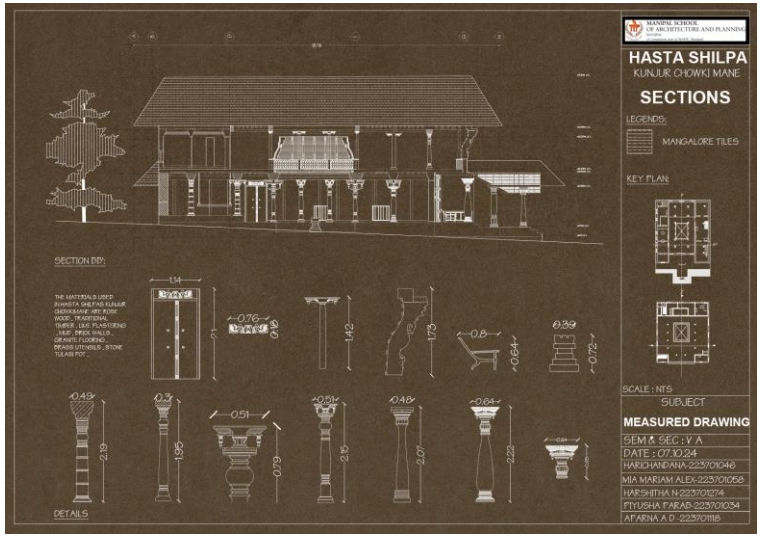


GROUND FLOOR PLAN



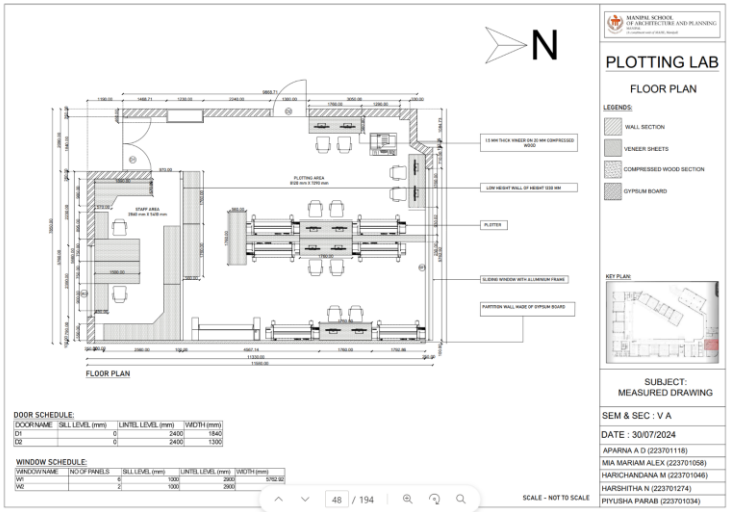
FIRST FLOOR PLAN

ELEVATIONS

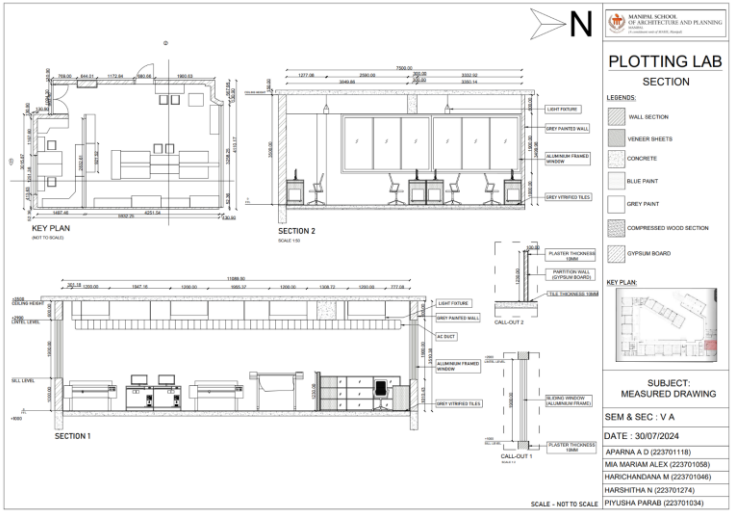


SECTIONS

STUDENT: HARICHANDANA MADDIRALA (223701046)
FACULTY: PROF. JAMBAVATI GOUDA, PROF. KANCHANA PAI



FLOOR PLAN



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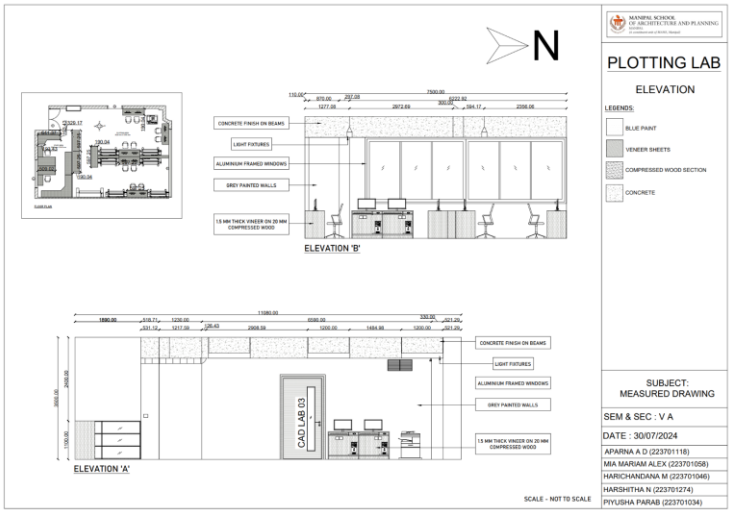
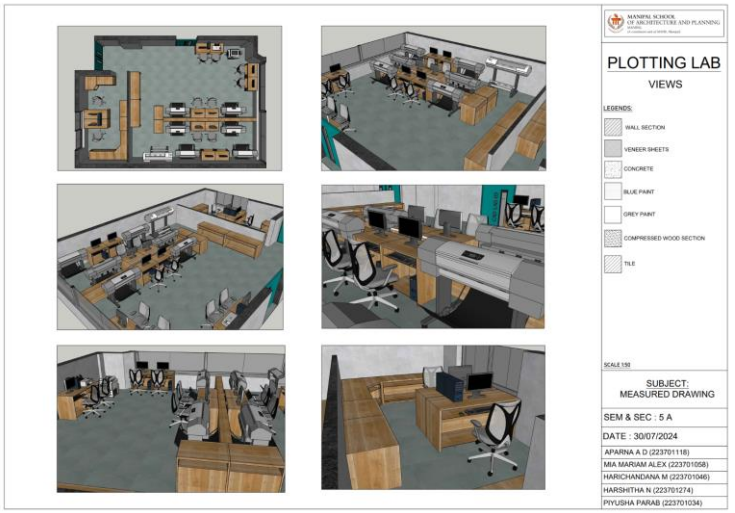


ELEVATIONS



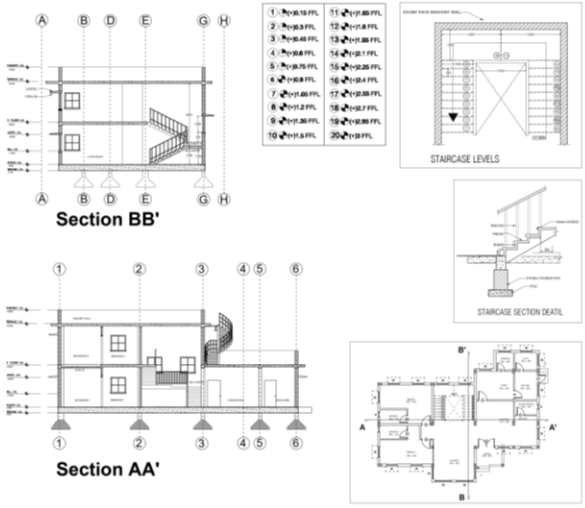
VIEWS

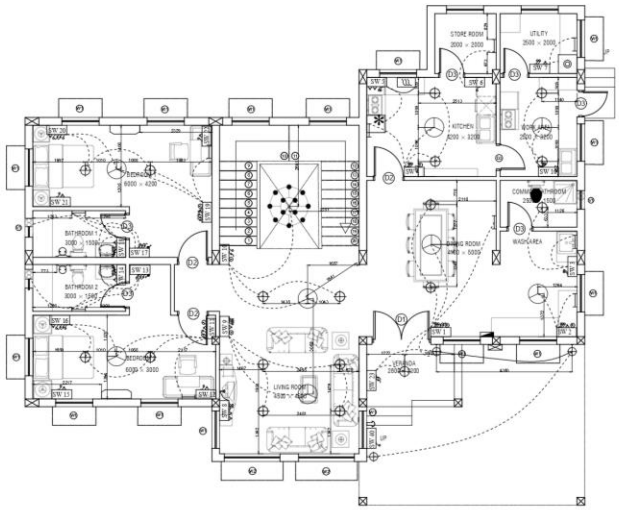
COURSE OBJECTIVES:

The objective is to understand the importance and process of creating Working. This includes producing drawings and developing essential documents such as Centre Line Plans, Floor Plans, Elevations, Sections, and more. Additionally, it focuses on understanding the significance of building engineering services, including electrical and plumbing systems, and preparing related detailed drawings. It emphasizes the importance of site and site services by developing a comprehensive Site Marking Layout.

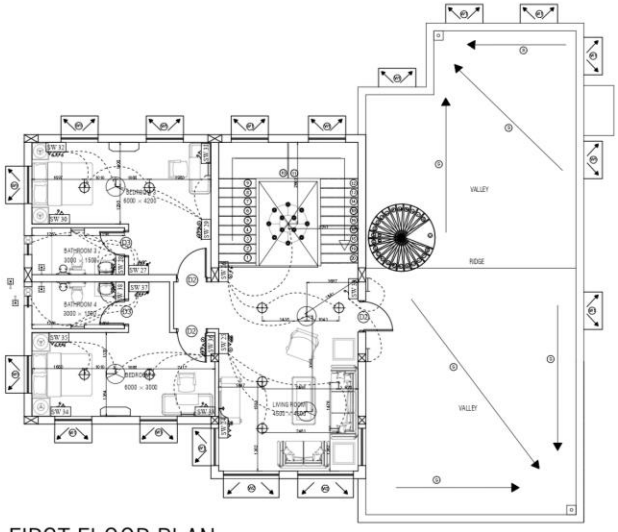
PROJECT BRIEF:

Preparation of working drawing and details for a selected self-designed project through the following drawings: Set-out marking, Centerline, Excavation Layout, Plinth Beam Layout, Floor Plans – Ground Floor, First Floor, Terrace, Sections, Elevations, Detailed Section ,Stairs, Electrical, Plumbing, Kitchen & Toilet, Site Services & Development, Door, and Window details.





GROUND FLOOR PLAN



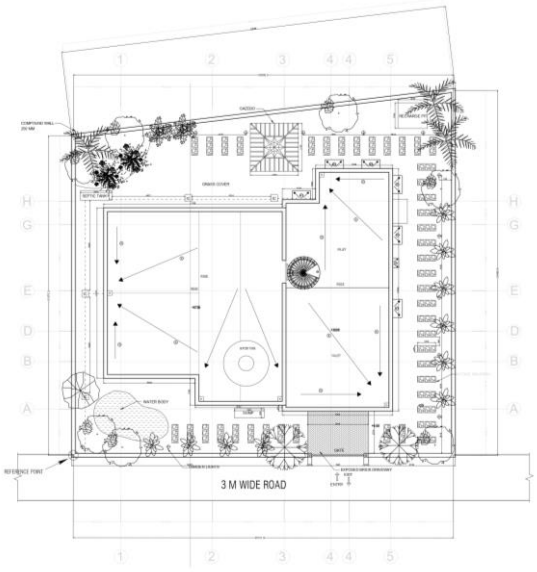
FIRST FLOOR PLAN

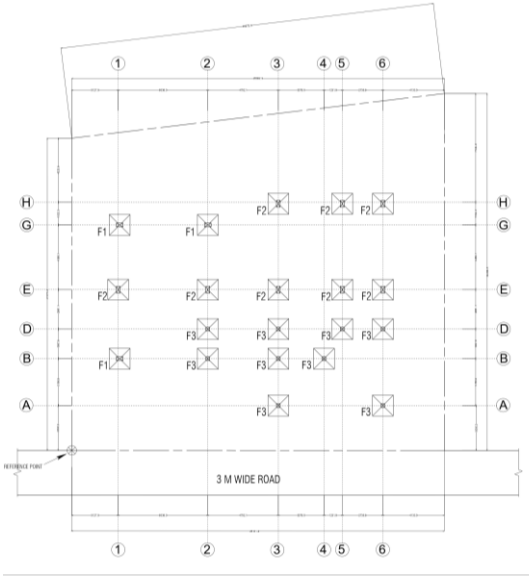
SYMBOL	NAME	NO.
	CEILING FAN HEIGHT – 2.8M FROM FFL	08
	TUBELIGHT HEIGHT – 2.32M FROM FFL	10
	CEILING LIGHT PT HEIGHT – 2.65M FROM FFL	14
	CALL BELL @8'-0" HEIGHT – 1.5M FROM FFL	01
	GEYSER SWITCH IN SWITCH BOARD	04
	ONE WAY SWITCH IN SWITCH BOARD	56
	TWO WAY SWITCH IN SWITCH BOARD	14
	GEYSER PT HEIGHT – 2.6M FROM FFL	04
	LAN IN SWITCH BOARD	01
	HEIGHT – 1.7 M FROM FFL METRE BOARD	01
	DISTRIBUTION BOARD HEIGHT – 1.7 M FROM FFL	01
SW 1	SWITCH BOARD HEIGHT – 1.5M FROM FFL	40
R	FAN REGULATOR IN SWITCH BOARD	05
	WASHING MACHINE HEIGHT – FFL	01
	TV POINT HEIGHT – 1.5M FROM FFL	01
	AIR CONDITIONER HEIGHT – 2.2M FROM FFL	04
	GATE LIGHT HEIGHT – 2M FROM FFL	02
	REFRIGERATOR HEIGHT – FFL	01
	EXHAUST FAN HEIGHT – 2.85M FROM FFL	03
	MICROWAVE HEIGHT – 0.9M FROM FFL	01
	15amp SOCKET IN SWITCH BOARD	11
	WALL MOUNTED LIGHT PT	04

ELECTRIC APPLIANCE LEGEND

DOOR AND WINDOW SCHEDULE

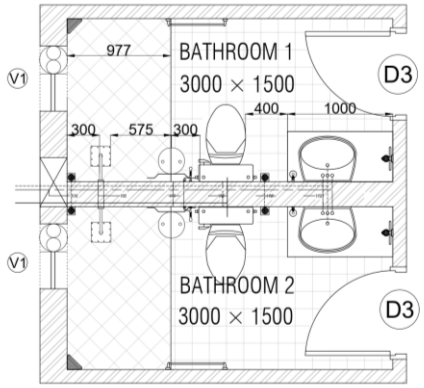
BRICK DETAIL



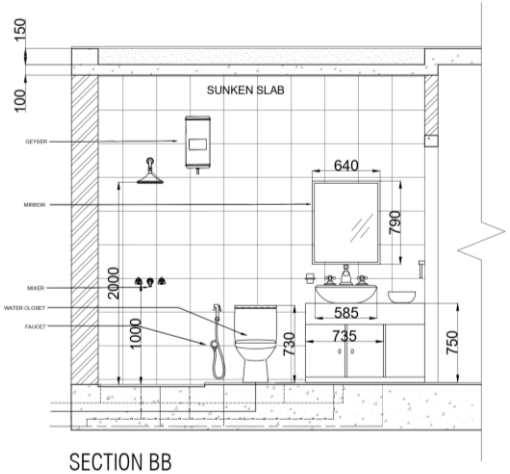


COLUMN AND FOOTING DETAILS

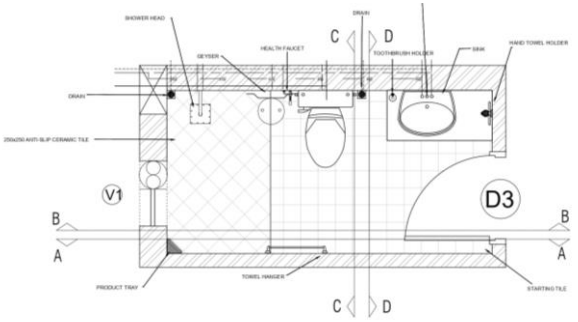
FOOTING SCHEDULE



BATHROOM PLAN



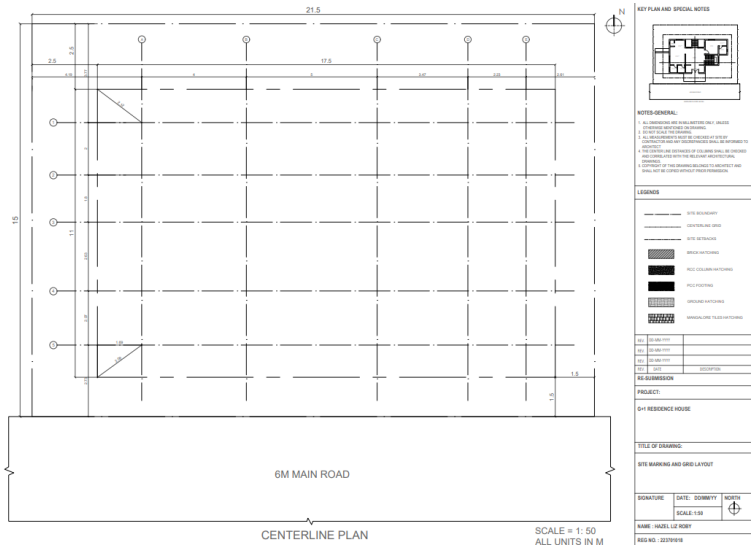
SECTION BB



ARC 3104 WORKING DRAWING

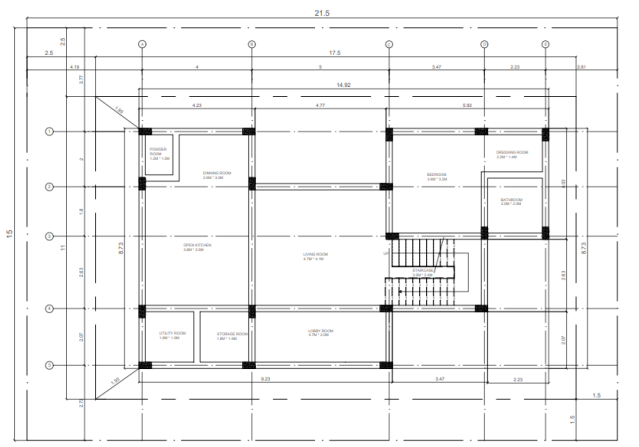
COURSE OBJECTIVES:

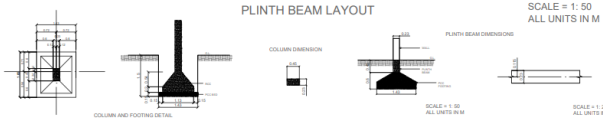
The objective of this course is to develop the skills and techniques of preparation of production drawings by taking an already self designed project of the earlier semester and imparting training of the drafting of working drawing details.

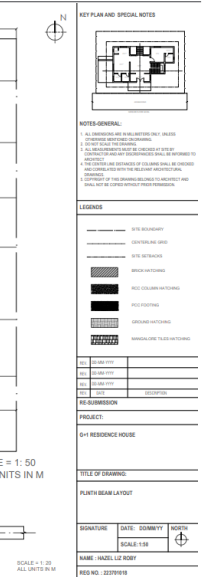


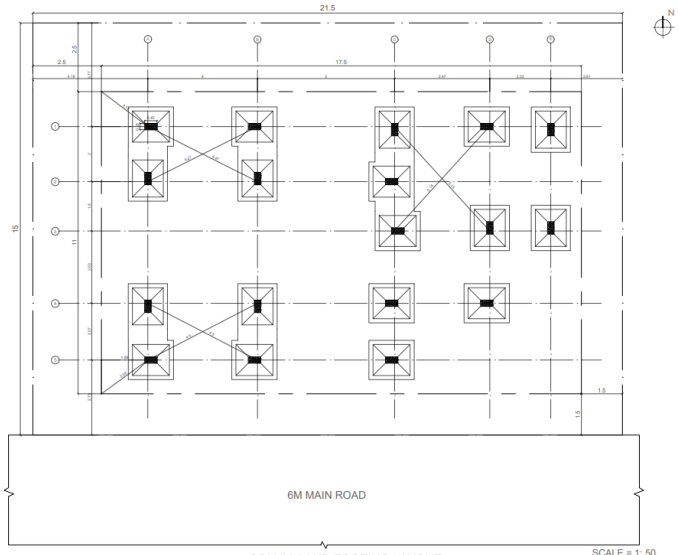
CENTERLINE PLAN

SCALE = 1: 50
ALL UNITS IN M



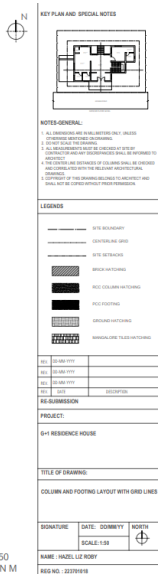


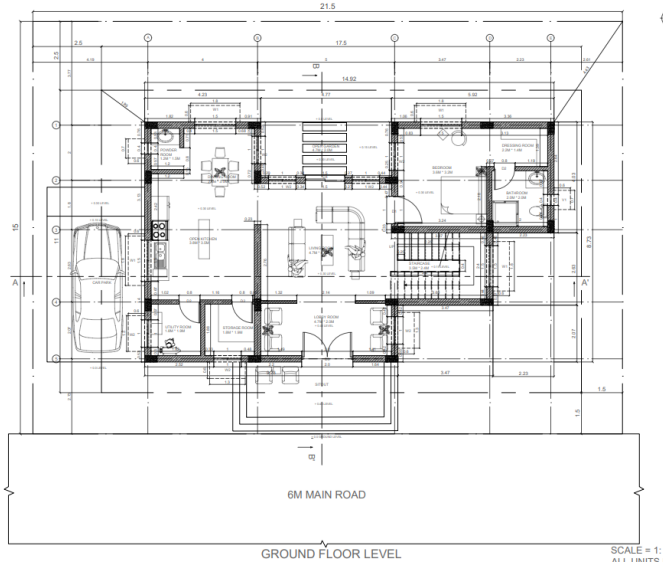




COLUMN AND FOOTING LAYOUT

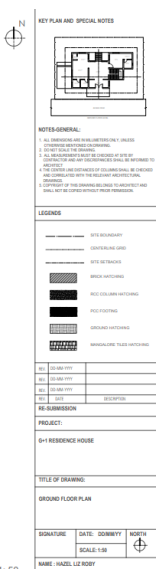
SCALE = 1: 50
ALL UNITS IN M





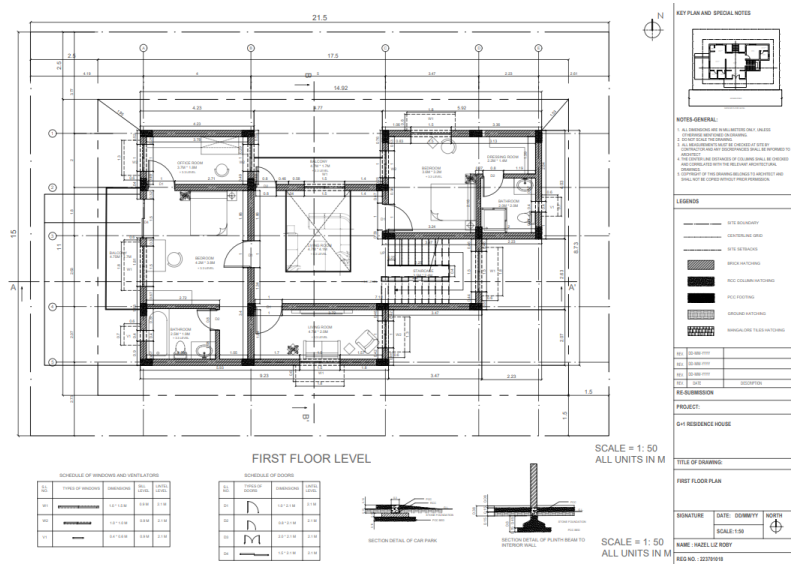
GROUND FLOOR LEVEL

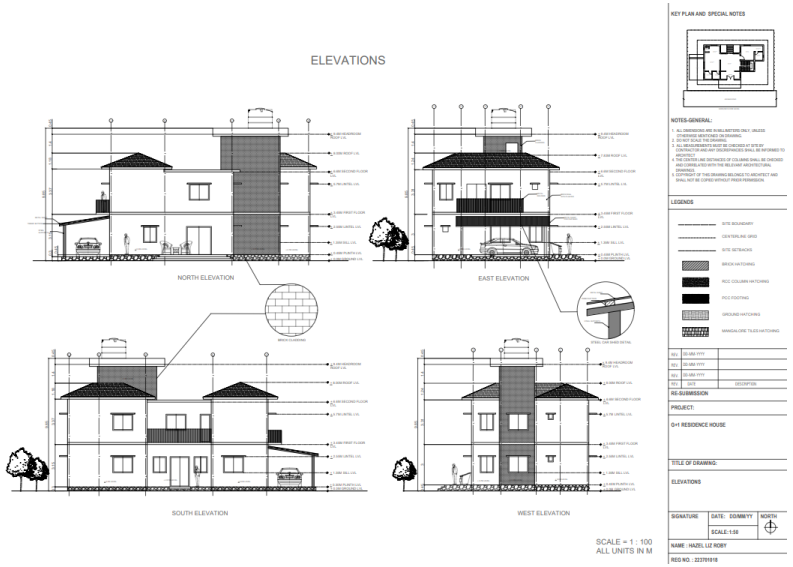
SCALE = 1: 50

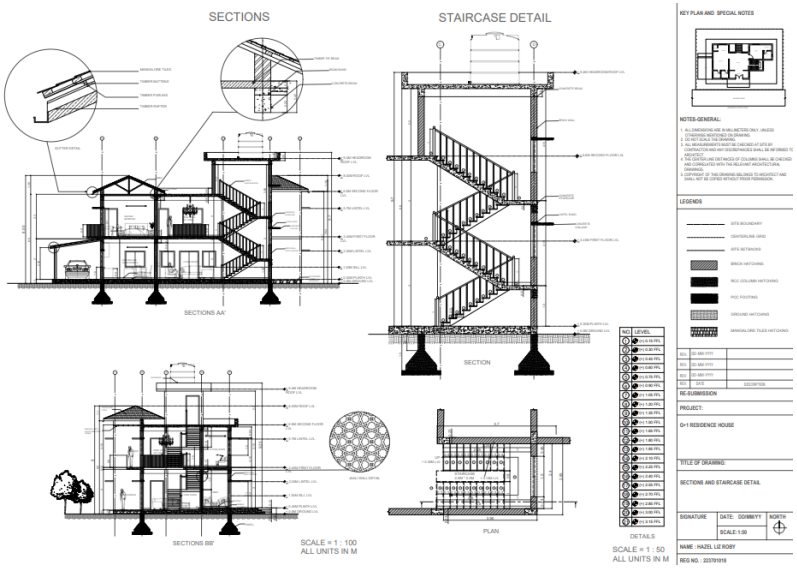


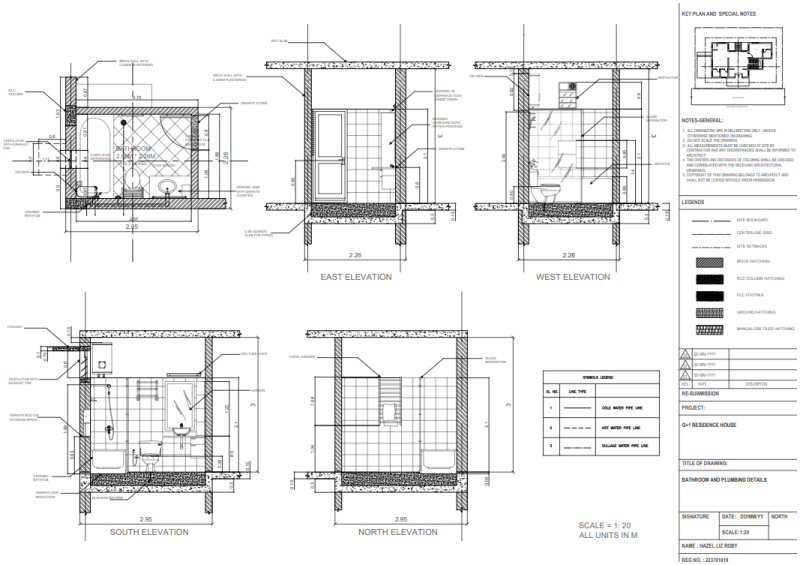
STUDENT: HAZEL LIZ ROBY (223701018)
FACULTY: JAMBAVATI AND JOICY

ARC 3104 WORKING DRAWING



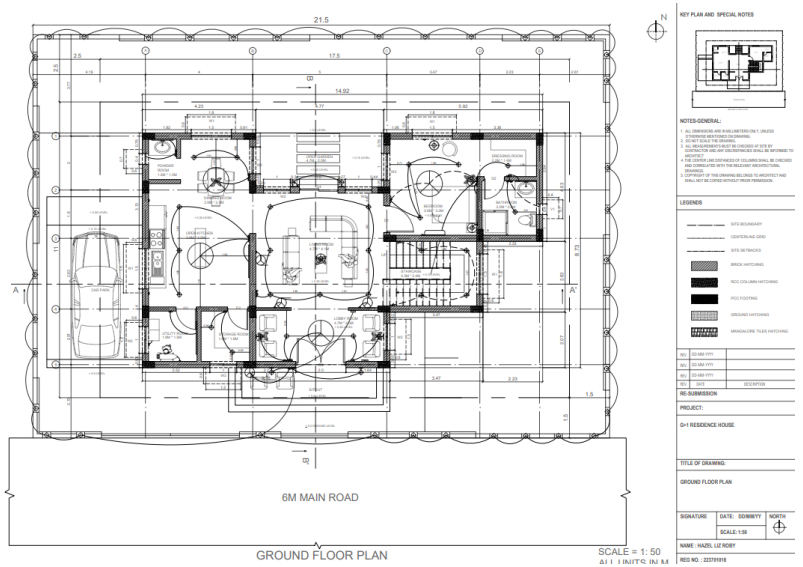


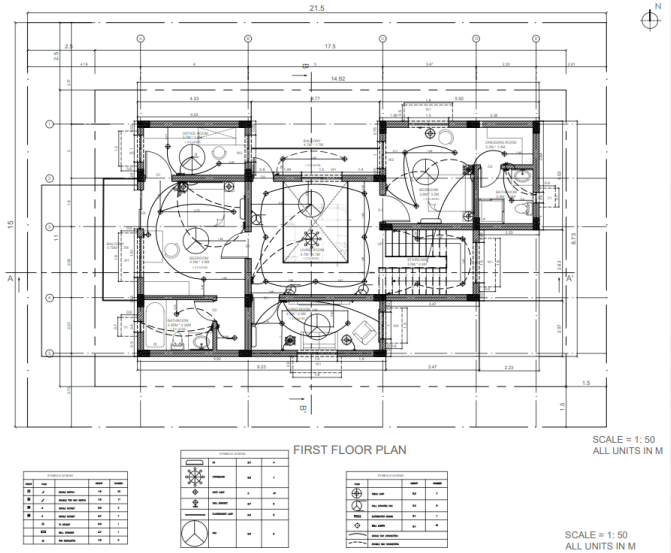


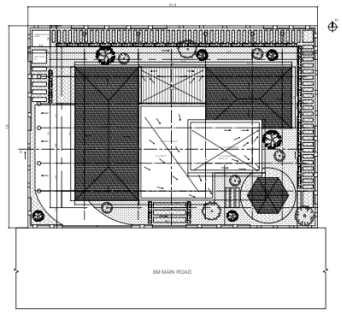


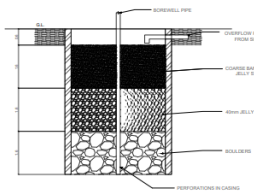
STUDENT: HAZEL LIZ ROBY (223701018)
FACULTY: JAMBAVATI AND JOICY MA'AM

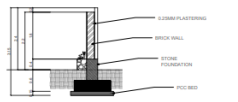
ARC 3104 WORKING DRAWING

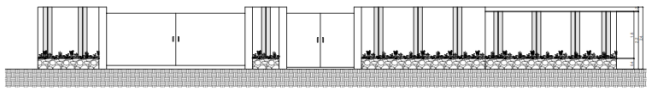


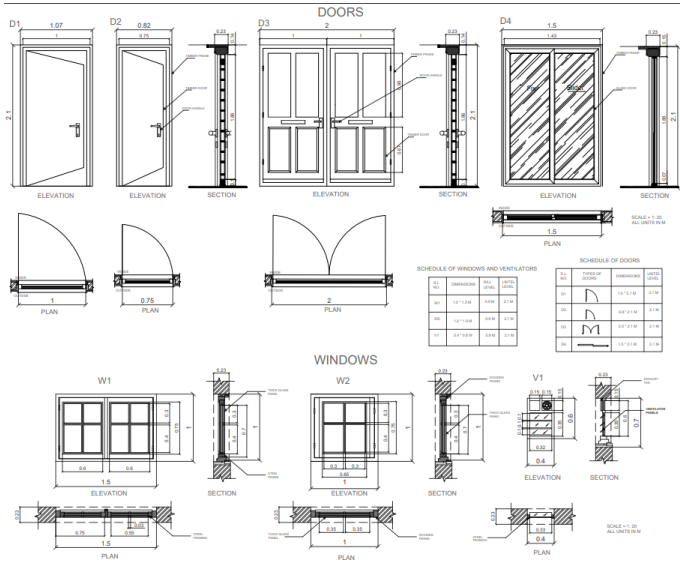












STUDENT: HAZEL LIZ ROBY (223701018)
FACULTY: JAMBAVATI AND JOICY MA'AM

ARC 3106 BUILDING CONSTRUCTION & MATERIALS VI

PREFAB AND PRECAST

COURSE OBJECTIVES:

To study innovative materials such as FerroCrete; Fiber-reinforced concrete; Pre-Cast- Substructure and support system; precast foundations. Roof and wall systems; Glass and Ceramics; other innovative materials-properties and uses. Paints and Varnishes: Types and characteristics.

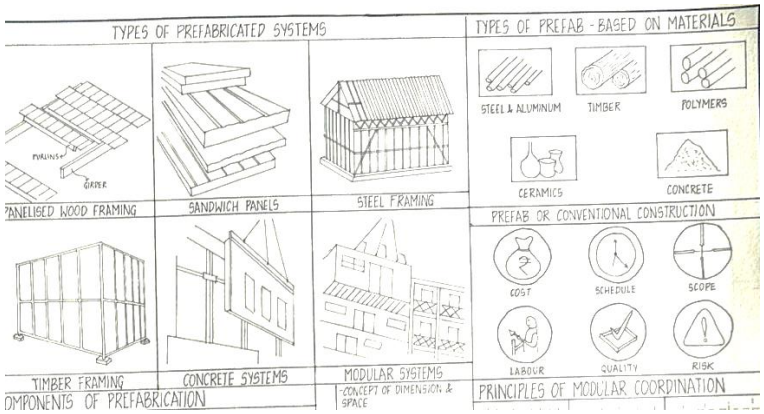
Construction Equipment for various stages inn the process of building construction (pre and during the construction process).

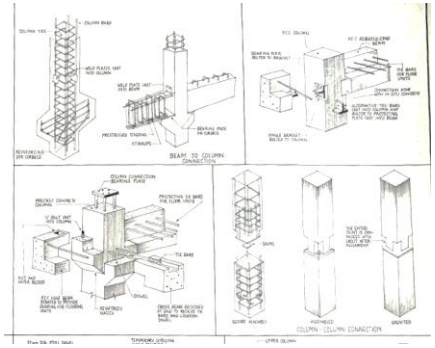
PROJECT BRIEF:

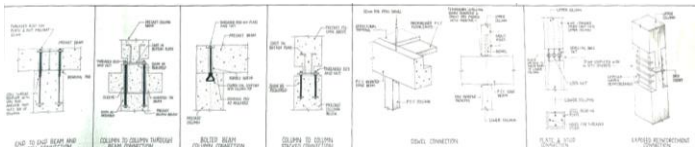
This course intends to compare structural concepts and identify suitable construction system and recommend joinery details for roofing and paneling. To identify Glass and Ceramics as construction materials. Relate types, compositions, physical & mechanical properties.

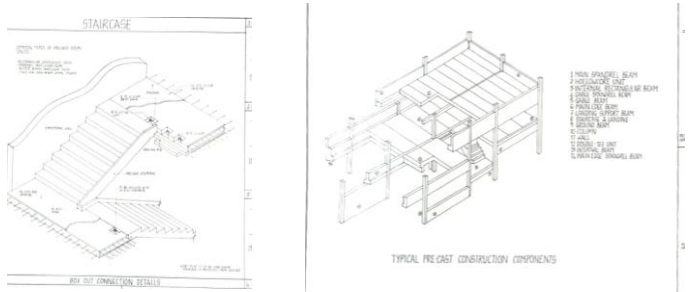
To develop an understanding about advanced materials and the latest technologies.

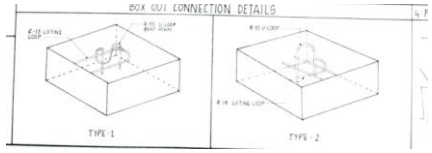
To recommend construction equipment for various stages in the process of building construction (pre and during the construction process). Recommend transportation & erection methods.

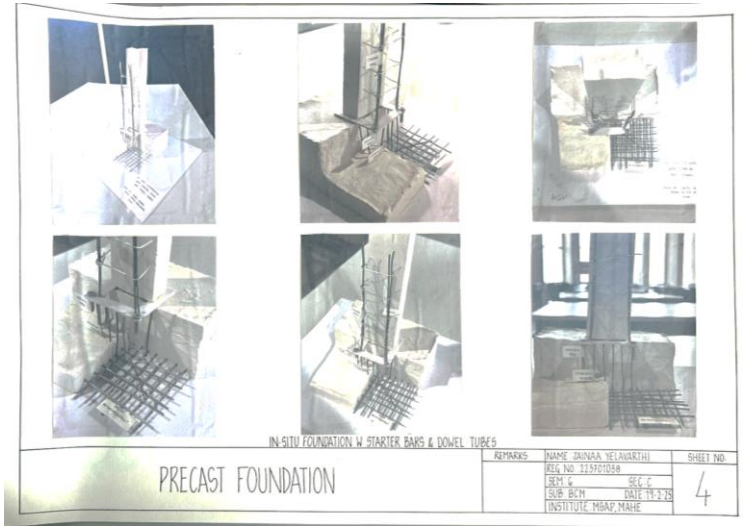












STUDENT: JAINAA YELAVARTHI (223701038)
FACULTY: CHARLINE STELLA SAMUEL, ARUN KUMAR, DANNY PINTO

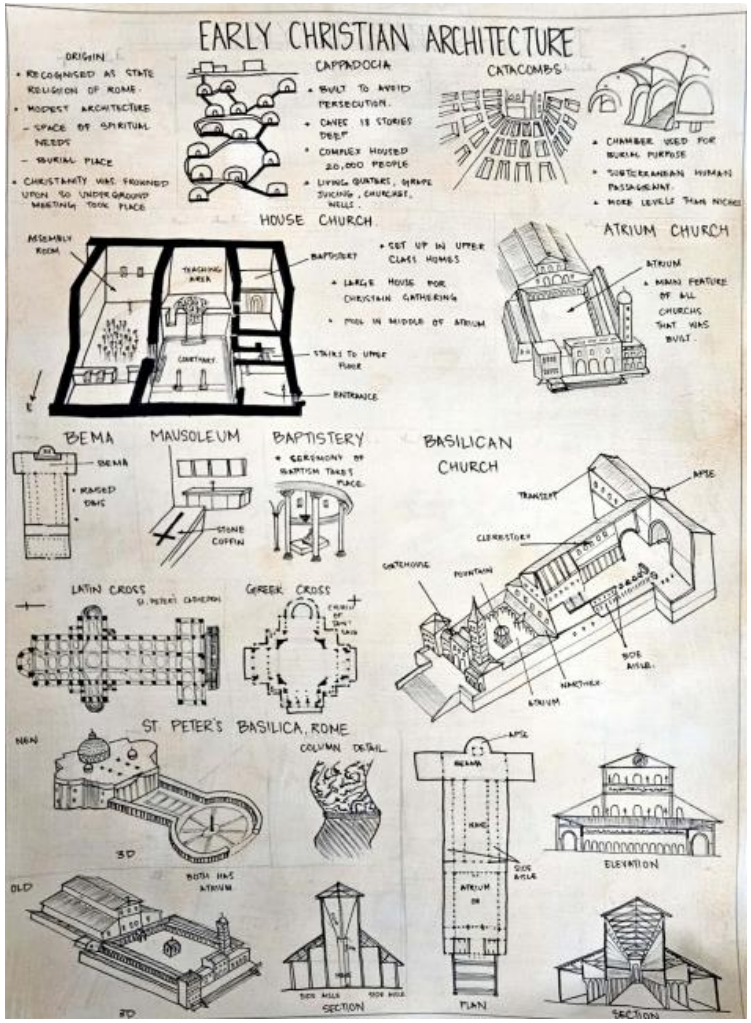
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

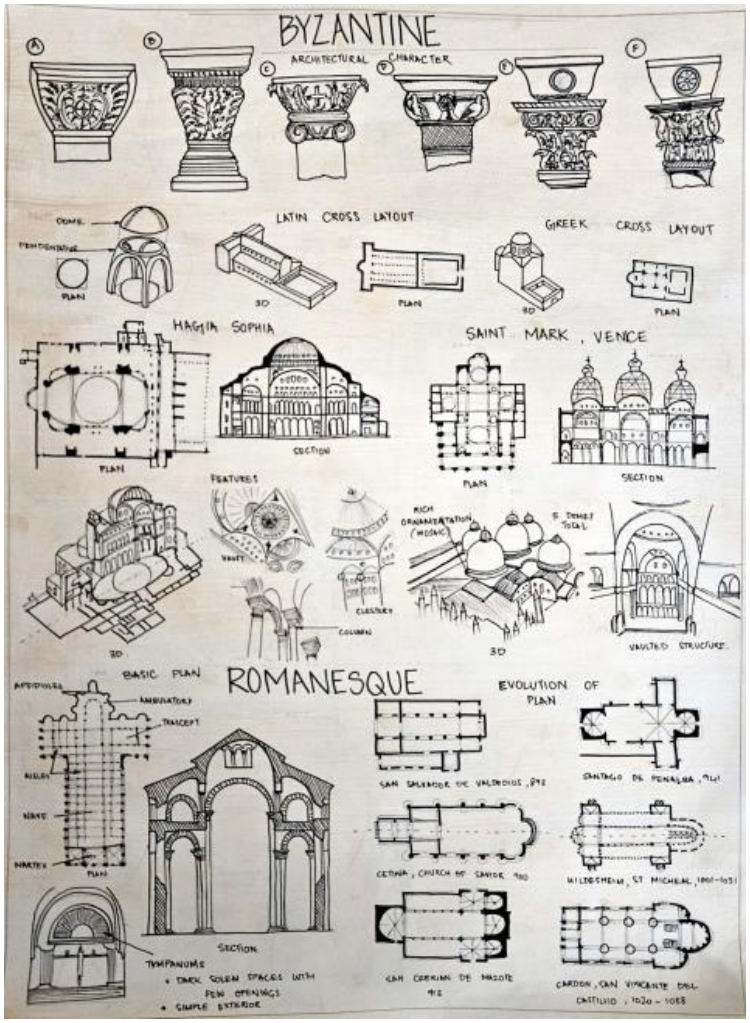
COURSE OBJECTIVES:

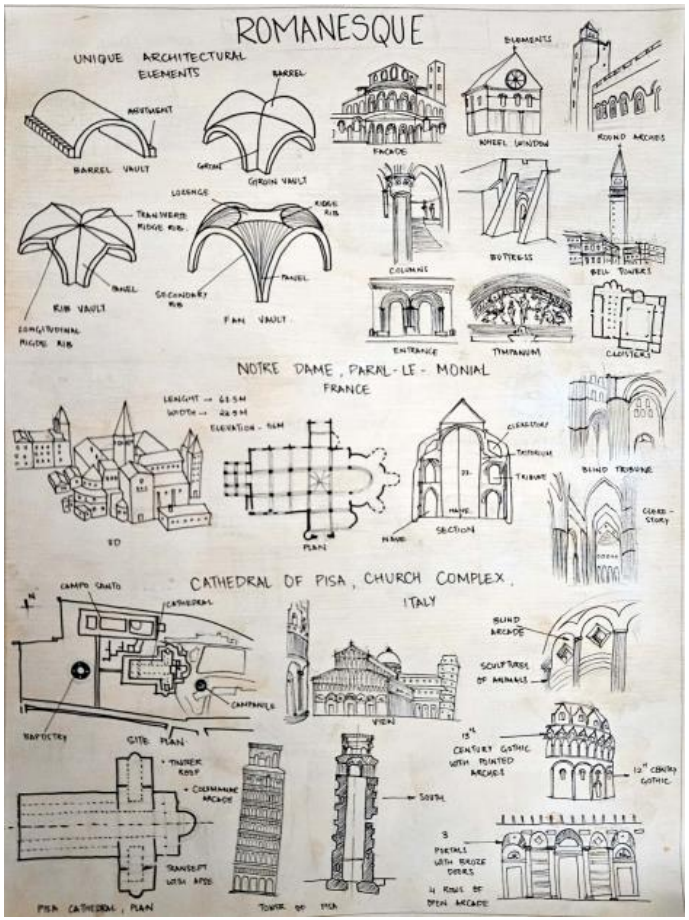
To study the architectural style, with regards to its architectural component, nomenclature and major features of the style being studied. To understand the settlement patterns and their physicality in relation to the geographical, and geological aspects. To understand the built environment, techniques and materials used for the construction.

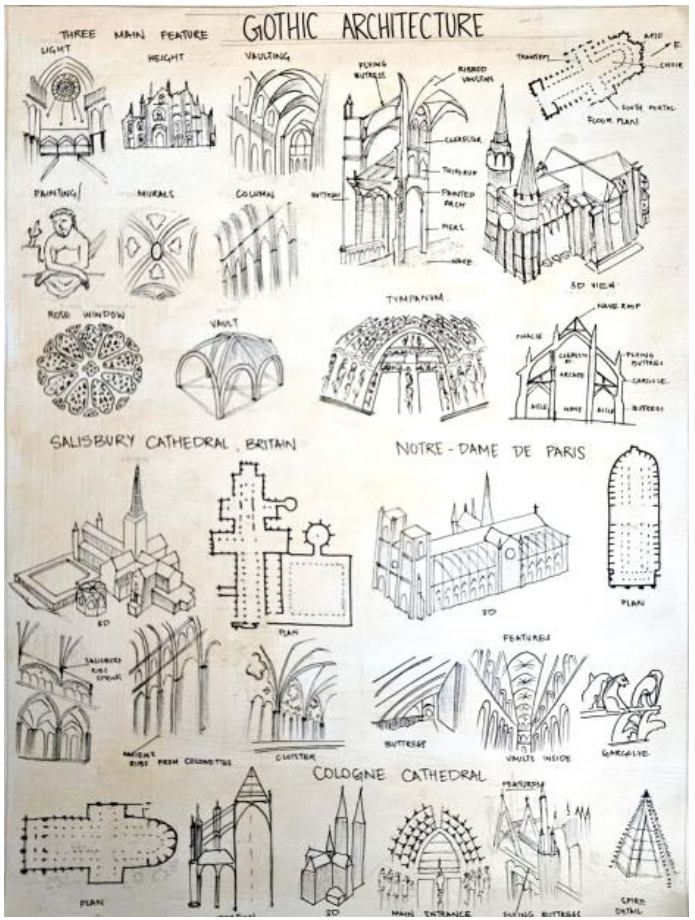
PROJECT BRIEF:

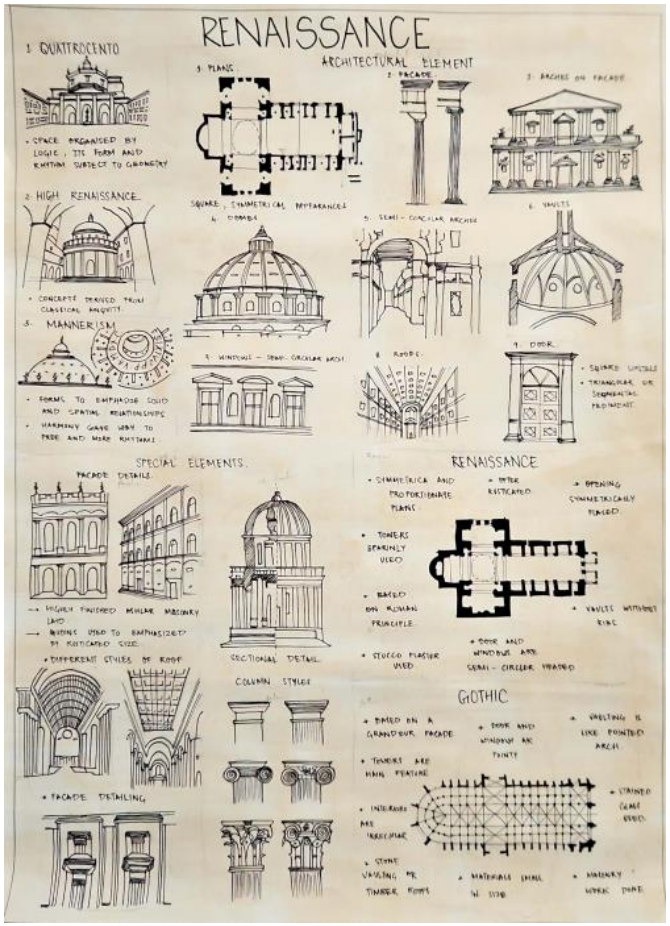
This course intends to introduce and understand ancient civilizations and analyze the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence



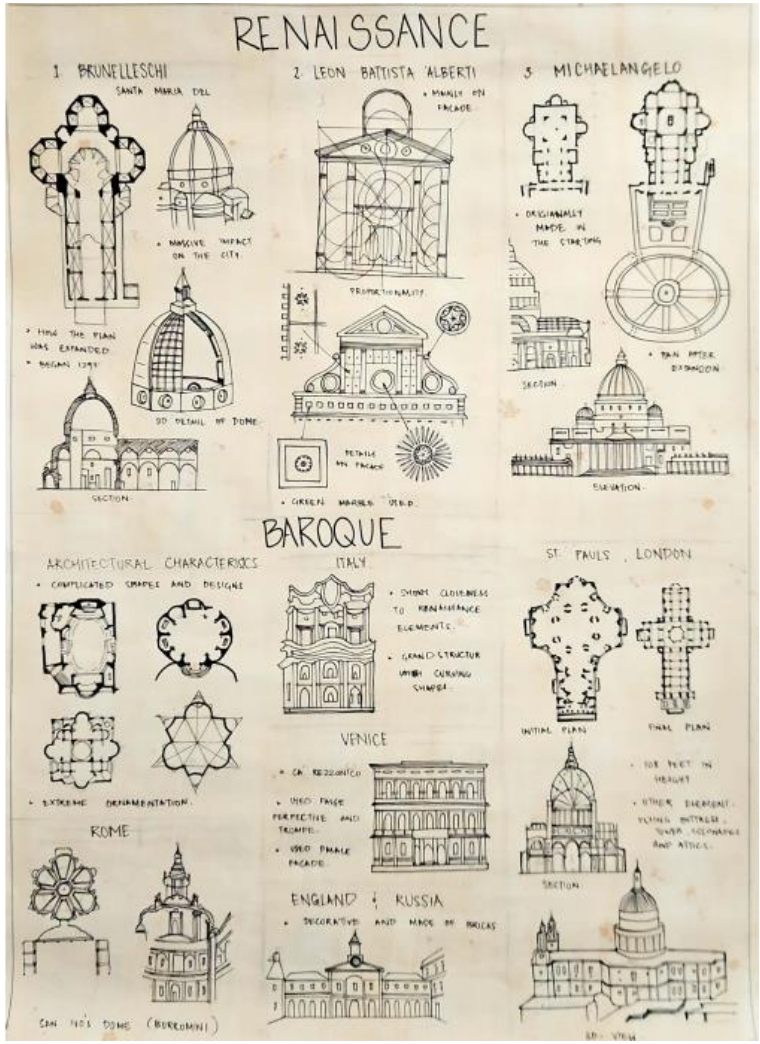


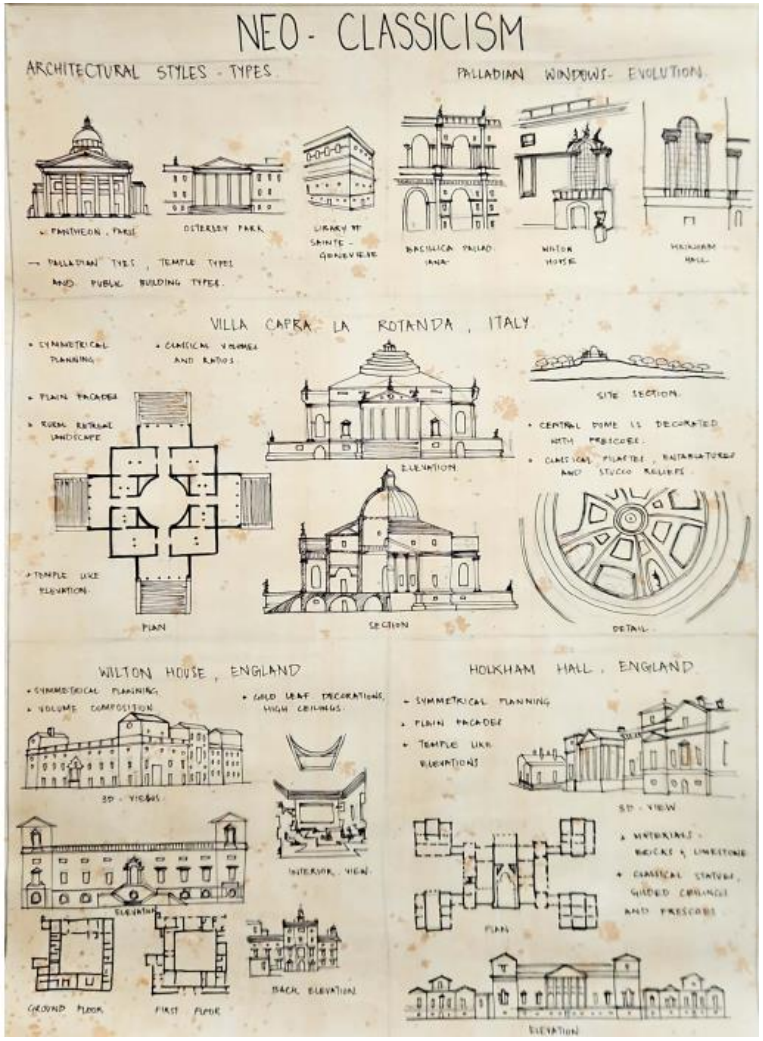






STUDENT: HAZEL LIZ ROBY (223701018)
FACULTY: MONIKA JADHAV


RENAISSANCE
1 BRUNELLESCHI
SANTA MARIA DEL
2 LEON BATTISTA ALBERTI
3 MICHAELANGELO
BAROQUE
ARCHITECTURAL CHARACTERISTICS
ITALY
ST. PAULS, LONDON
VENICE
ROME
ENGLAND & RUSSIA


NEO - CLASSICISM
ARCHITECTURAL STYLES - TYPES
PALLADIAN WINDOWS - EVOLUTION
VILLA CAPRA LA ROTANDA, ITALY
WILTON HOUSE, ENGLAND
HOLKHAM HALL, ENGLAND

ARC 3110 HISTORY THEORY & CRITICISM - IV

EARLY CHRISTIAN ARCHITECTURE

COURSE OBJECTIVES:

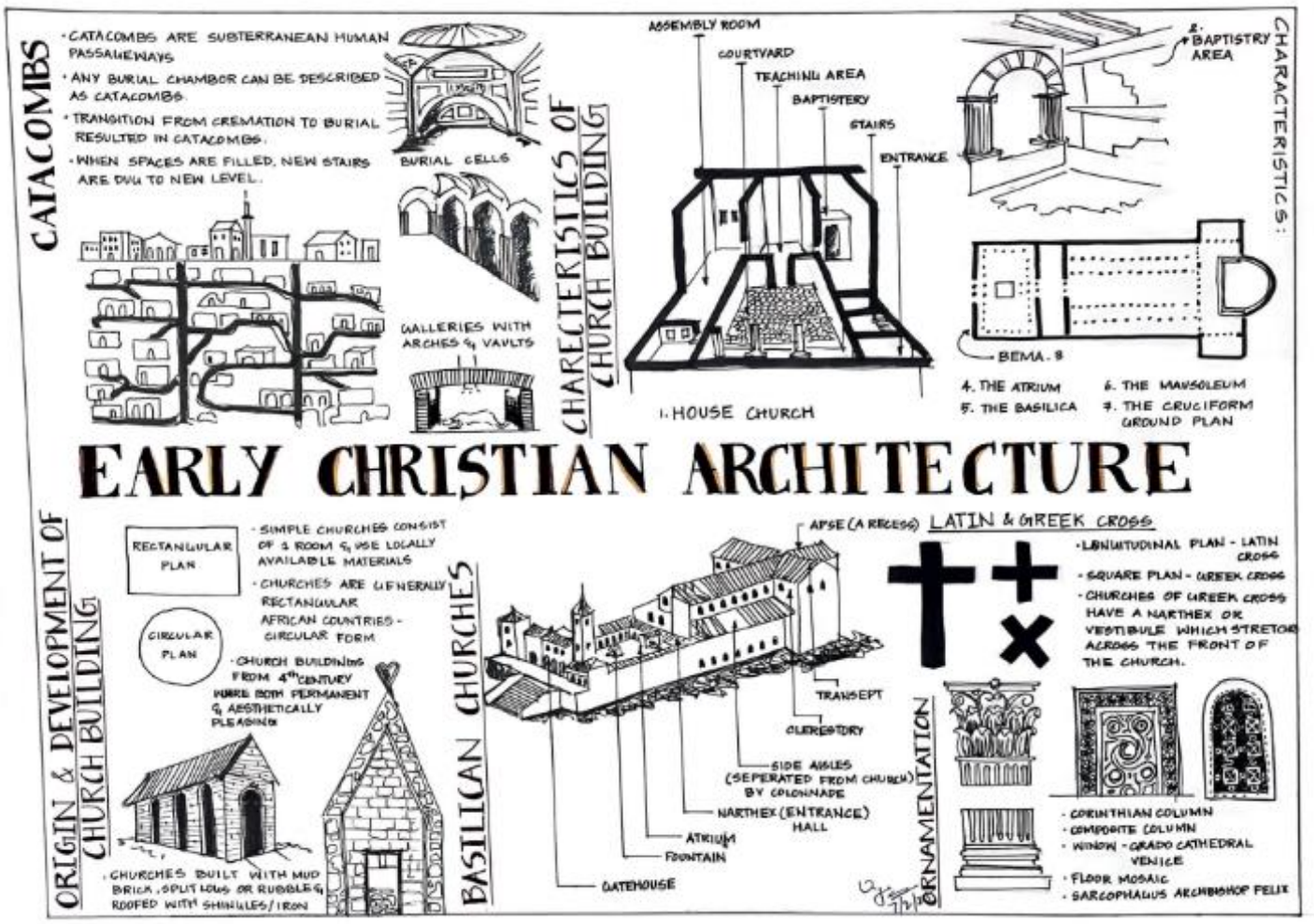
To explain the historical significance and concepts and identify key features of Christian Architecture.

Analyze the evolution of various architectural typologies, components and its styles.

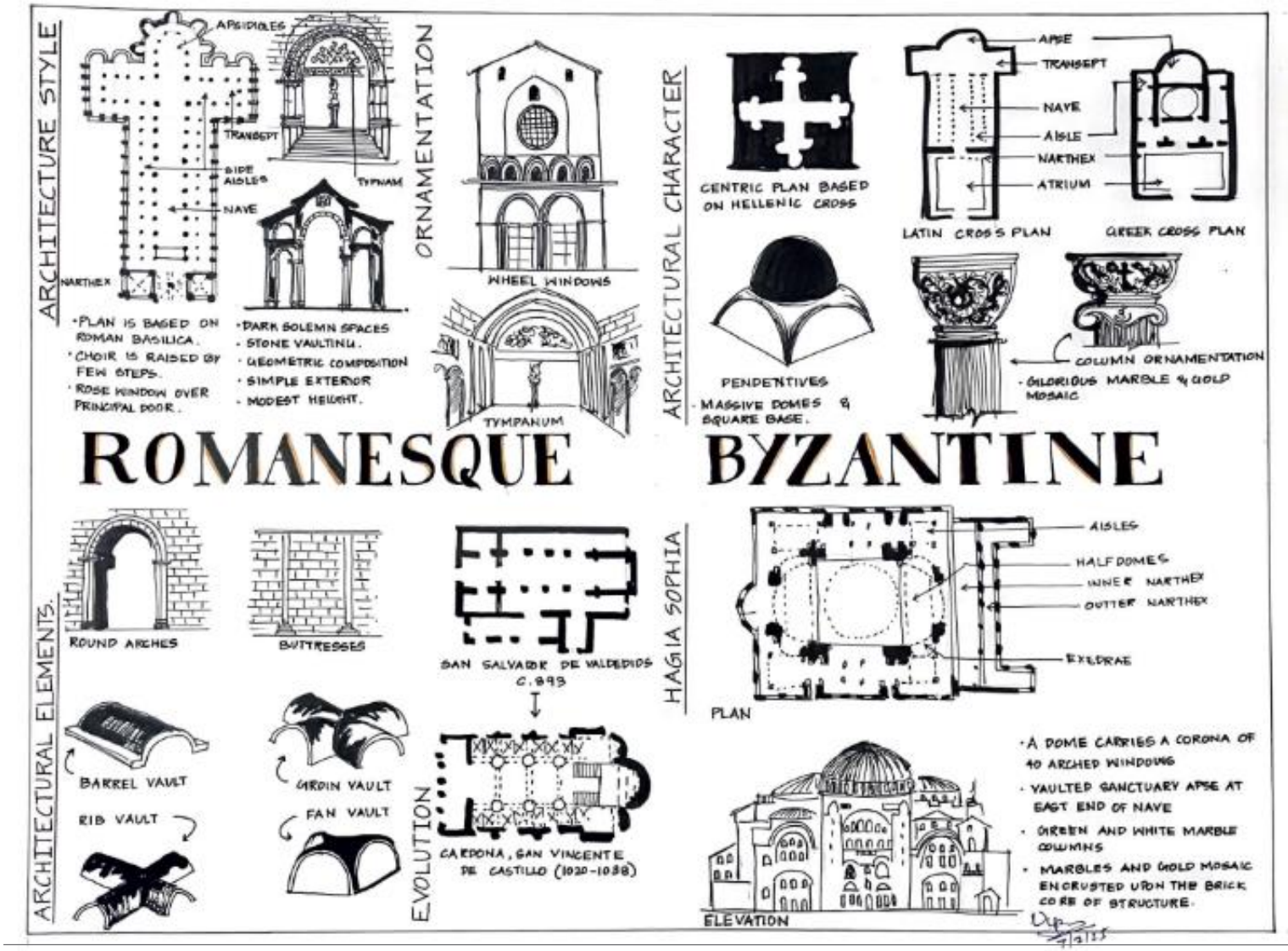
Compare the distinct styles as per significant rulers & periods..

PROJECT BRIEF:

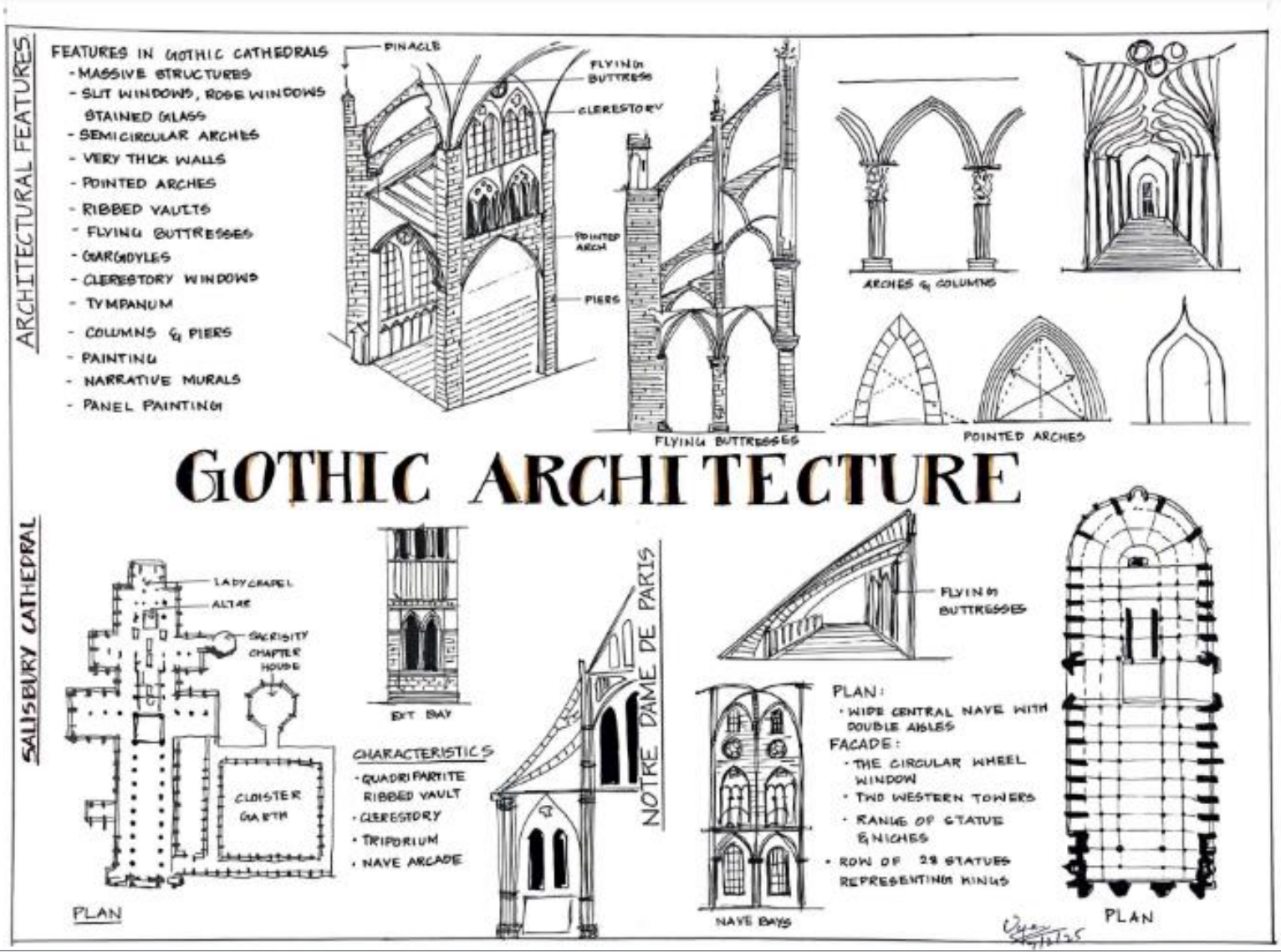
This course intends to introduce and understand ancient civilizations and analyze the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence



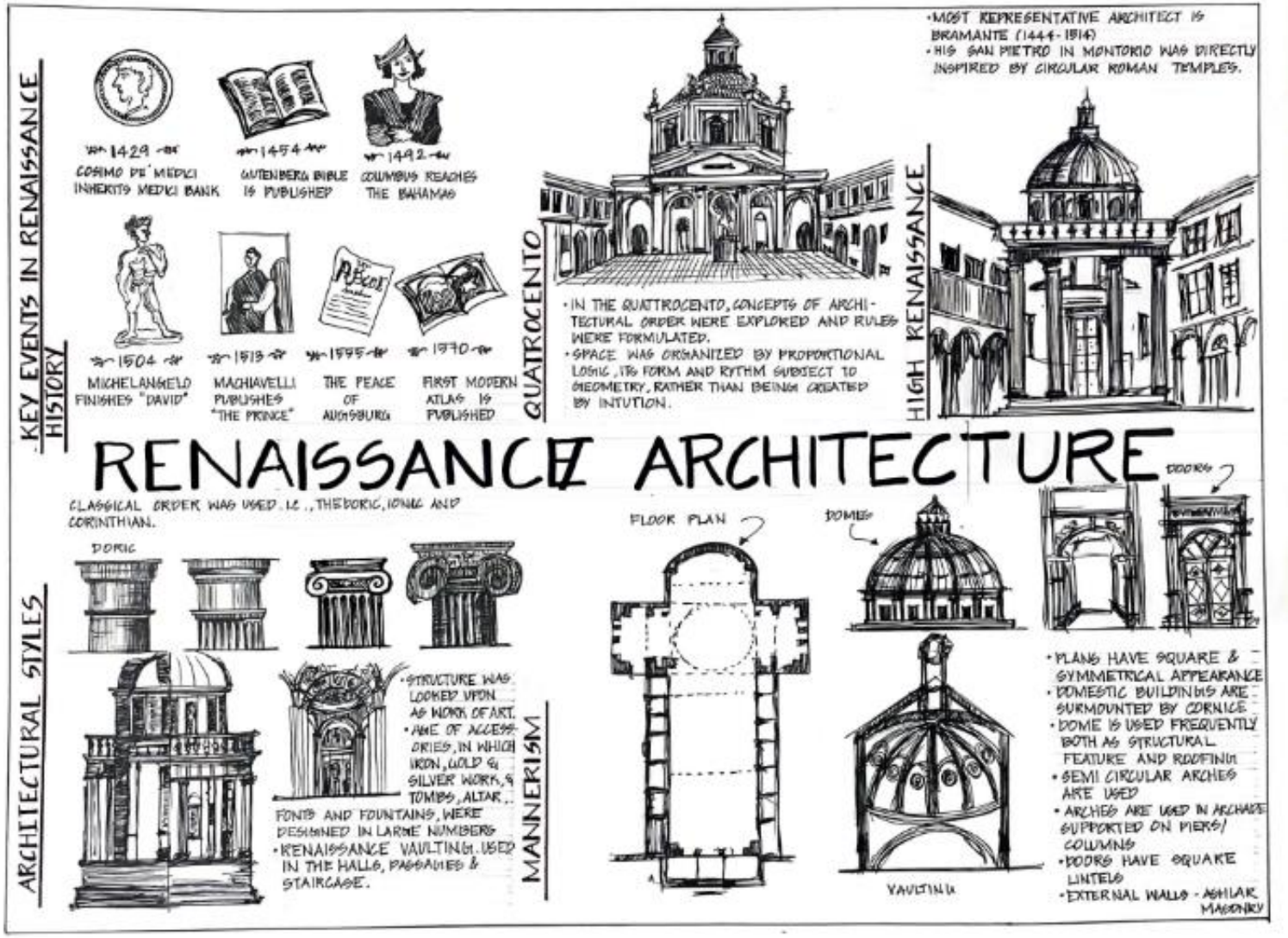
EARLY CHRISTIAN ARCHITECTURE



GOTHIC ARCHITECTURE

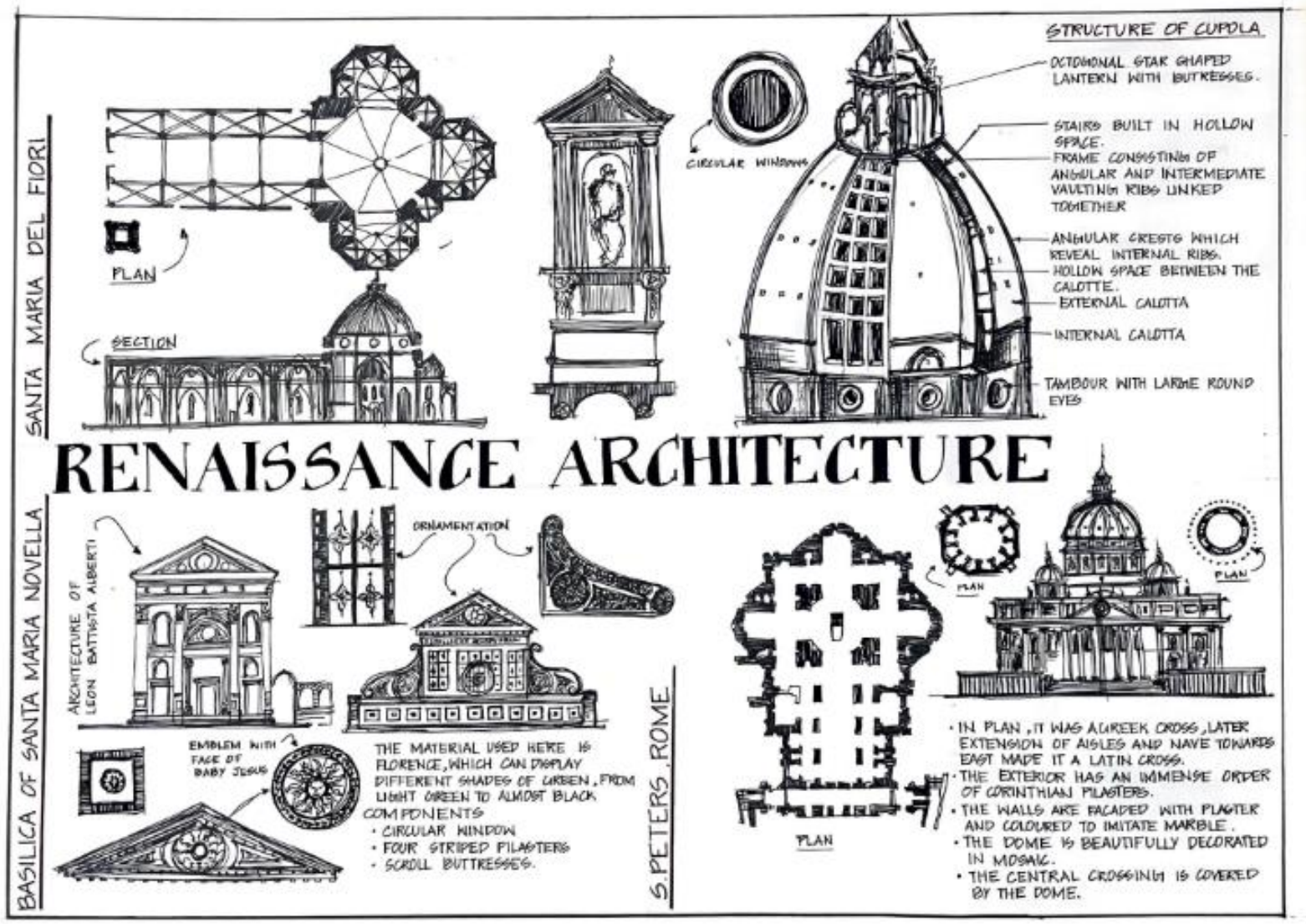


RENAISSANCE ARCHITECTURE

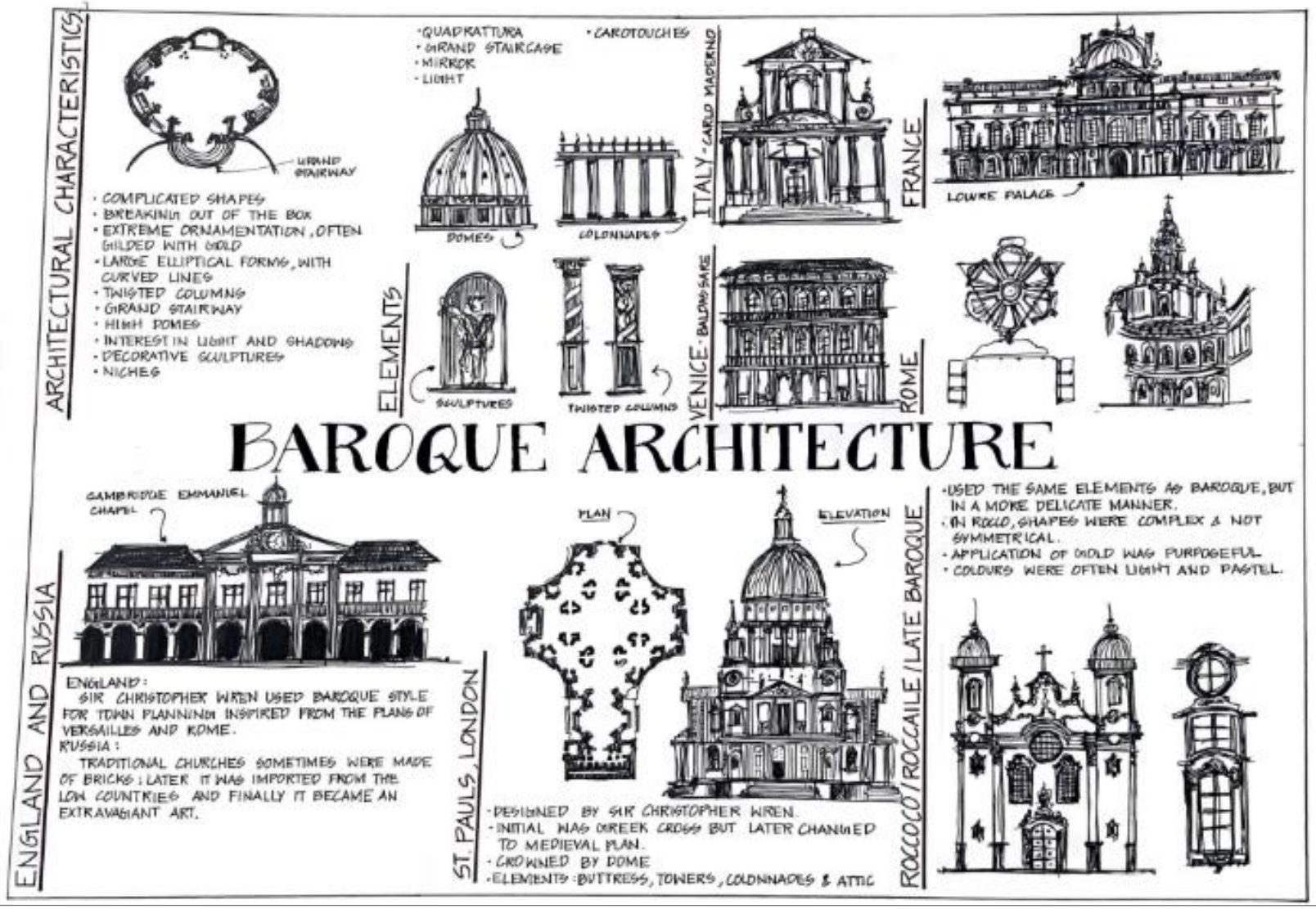


STUDENT: APARNA A D (223701118)
FACULTY: KUMAR VYOMKESH

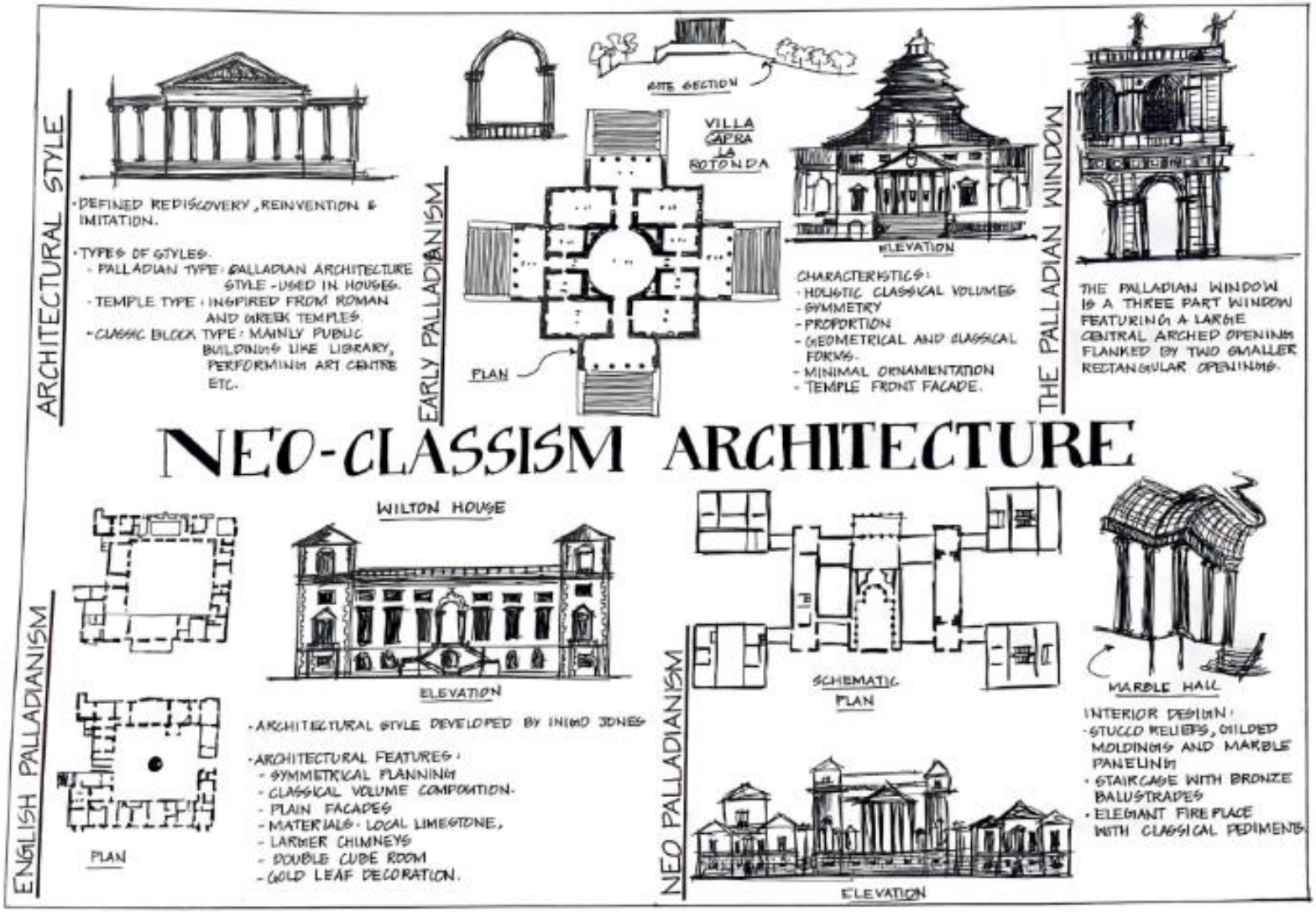
RENAISSANCE ARCHITECTURE



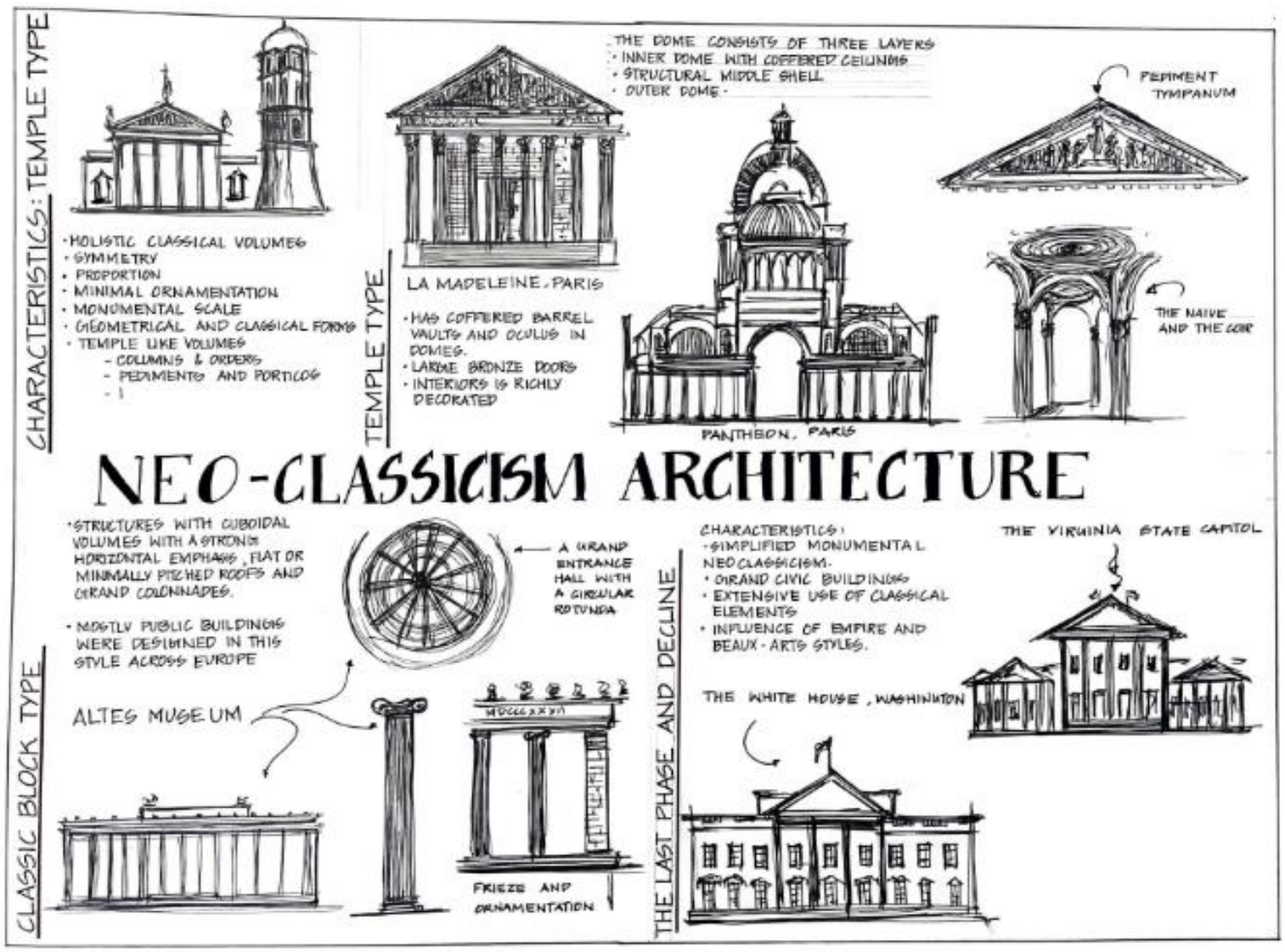
BAROQUE ARCHITECTURE



NEO-CLASSICAL ARCHITECTURE



NEO-CLASSICAL ARCHITECTURE



BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

4

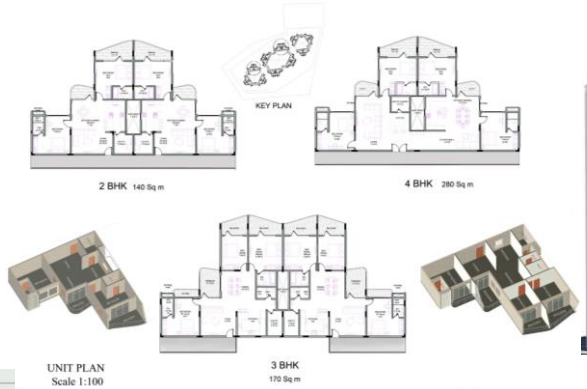
Architecture

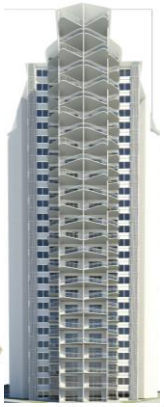
ARC 4101 ARCHITECTURAL DESIGN & DETAILING -VII

HUMAN CENTRIC CAMPUS DESIGN

PROJECT BRIEF:

A gated community project with **a human-centric approach,** prioritizing the wellbeing and experience of its residents. By creating a balanced environment where people can live, socialize, and relax, the project embodies the principles of modern urban living, with a focus on **comfort, sustainability, and social connection.**



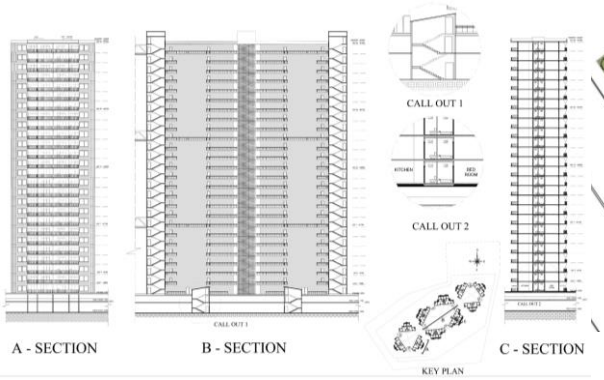


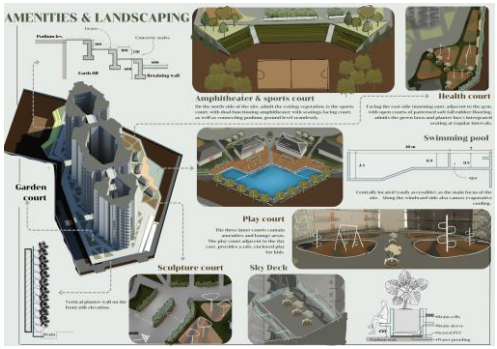
total floor area	3144 + circulation 4608
No of floors	1B +1 S+26F
Built up	119808
FAR	3.9

Site area	30733
ground coverage	17%

		No of ppl	2500	Lpdh	135	
		Day	total L	CUM No	capacity (l Xb3h)	
supply	UGT	1.5	506250	506	4	126.56 12+6+2
	OHT	0.5	168750	169	16	10.547 3*3*2
Fire	OHT		10000	10	8	10 3*3*2
T. grey	OHT	0.5	50000	50	4	12.5 3*3*2
STP -grey		0.5	237500		1	170 7*8*3
STP- black		2	100000		1	290 11*10*3
STP-sec.		0.5			1	65

MASTER PLAN





STUDENT: SAAI NAGA ABIRAMI J (213701212)
FACULTY: Ar. SHANTANU CHITGOPKAR, Ar. IPSITAA

ARC 4101 ARCHITECTURAL DESIGN & DETAILING -VII

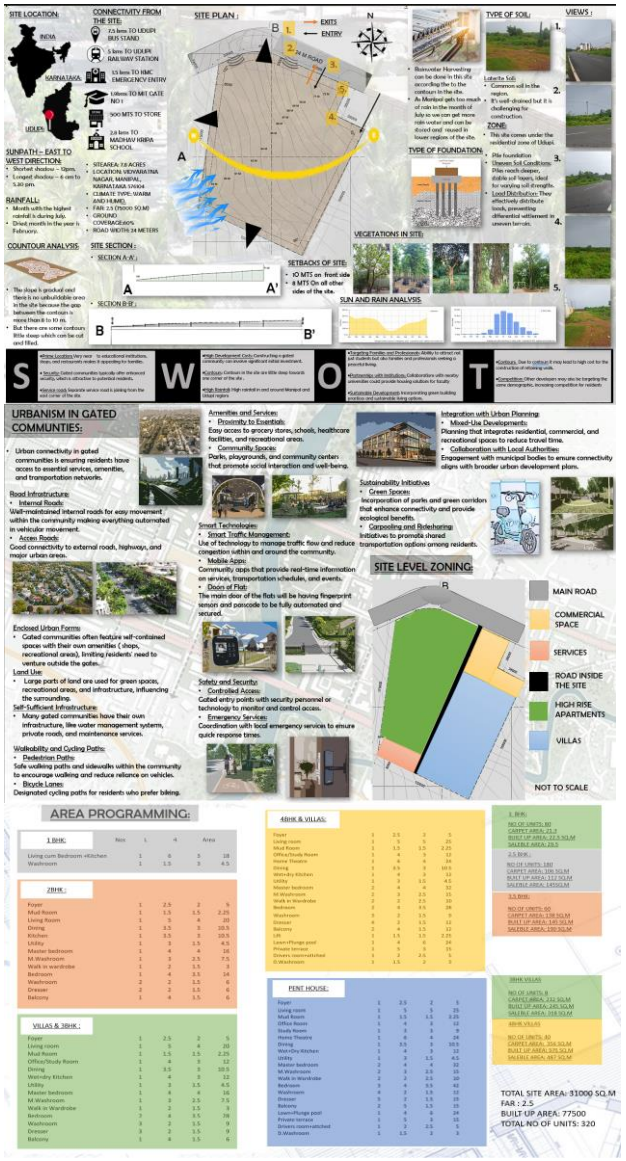
HUMAN CENTRIC CAMPUS DESIGN

COURSE OBJECTIVES:

To classify context oriented design, integrated systems and innovative approaches in campus planning and to design large scale master planning through tools and techniques, parameters of topography ,climate and infrastructure development and making use of environment strategies

PROJECT BRIEF:

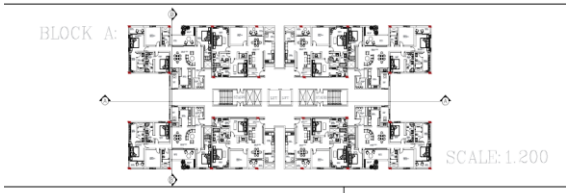
This course helps us to plan the space in the form of function through master planning through the movement and also by form through exploring various different shapes in the building

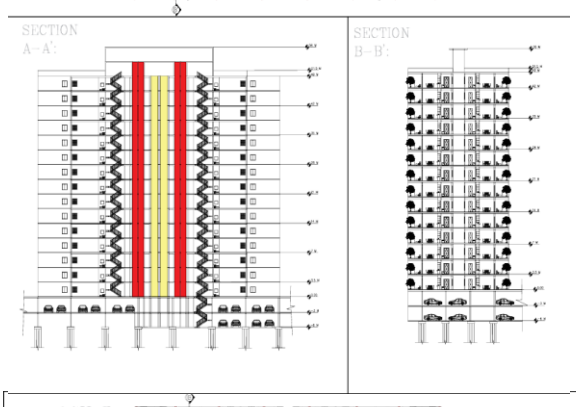


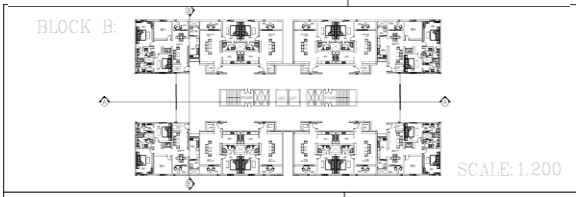
STUDENT: HARSHITH RAHUL S (213701316)
FACULTY: AR. SANJANA SHETTY, AR. LULWA KHALEEL, AR. SUNIL TALITHYA

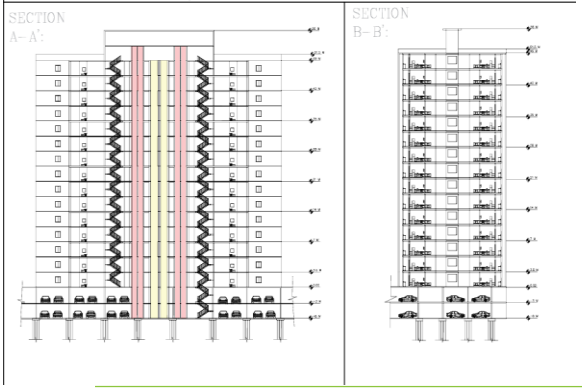
ARC 4101 ARCHITECTURAL DESIGN & DETAILING - VII

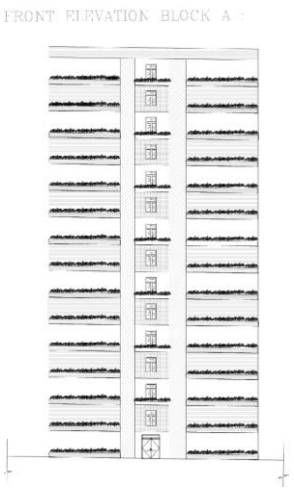
HUMAN CENTRIC CAMPUS DESIGN

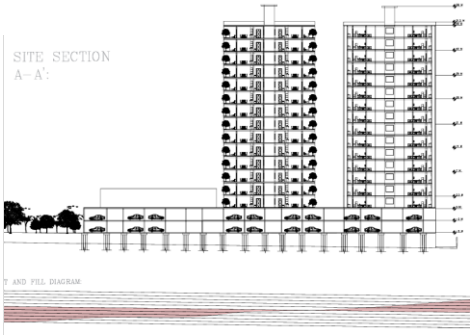


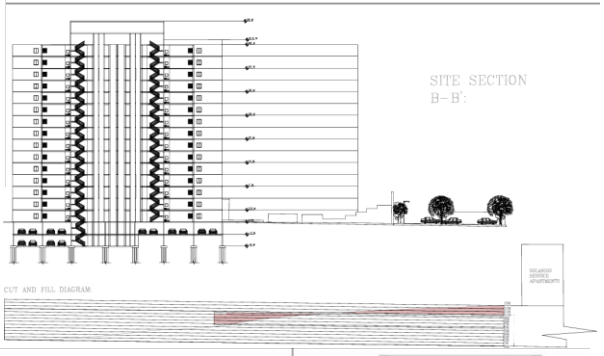


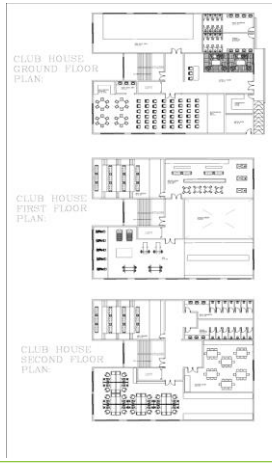


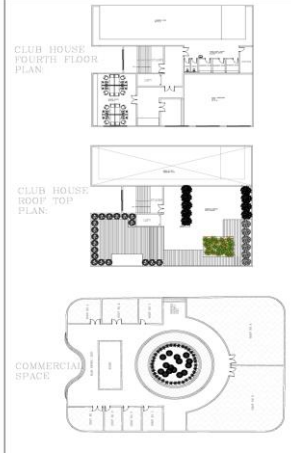


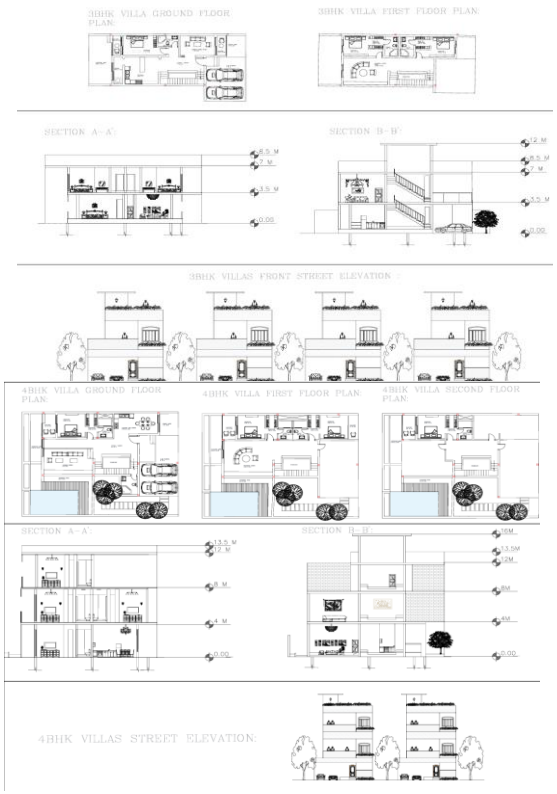












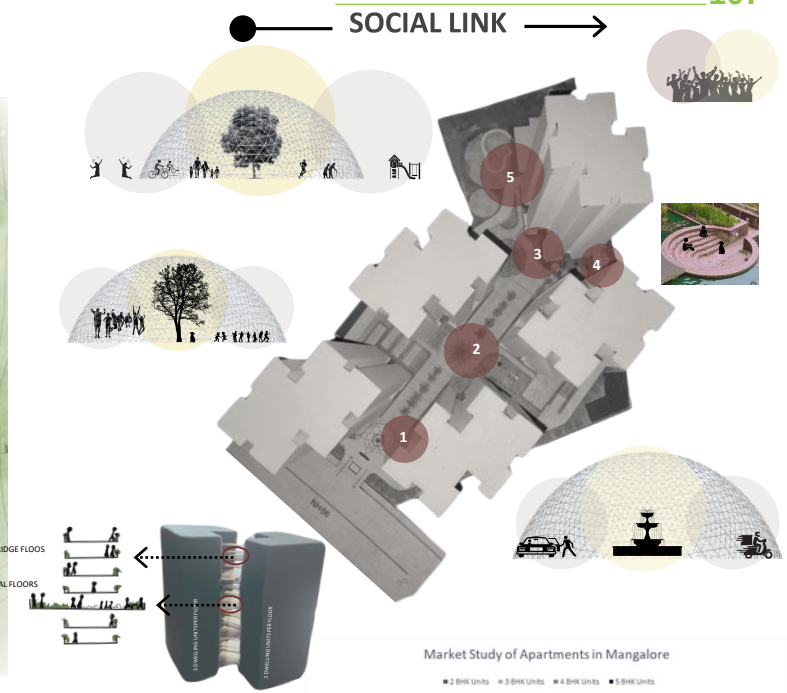
STUDENT: HARSHITH RAHUL S (213701316)
FACULTY: AR. SANJANA SHETTY, AR. LULWA KHALEEL, AR. SUNIL TALITHYA

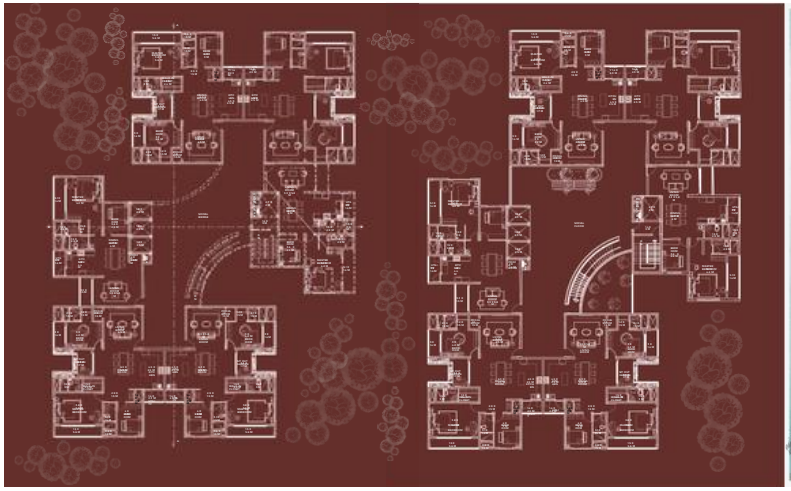
SOCIAL LINK

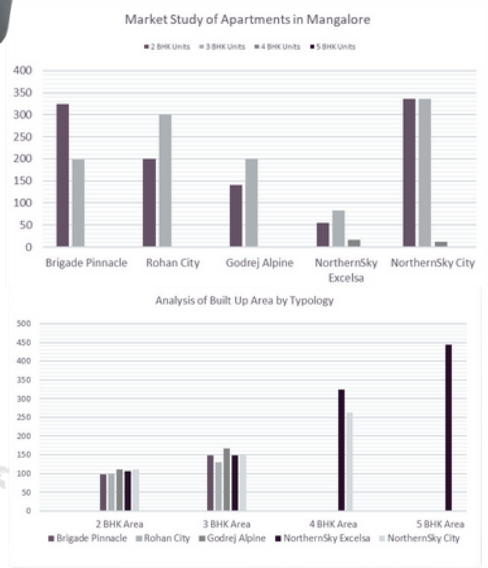
HIG Housing in Mangalore, Karnataka

PROJECT BRIEF:

The design addresses the significant issue of limited neighborhood socialization, moving beyond the conventional view of corridors as narrow circulation spaces. Drawing inspiration from the communal atmosphere and spaces of "Chawls," I developed the concept of "Social Link." This concept focused on creating social nodes at the landscape level while establishing vertical social connections through visual links between common areas on different floors. The design also emphasized breaking the norm of narrow corridors, transforming them into spaces that play a key role in fostering neighborly interactions.



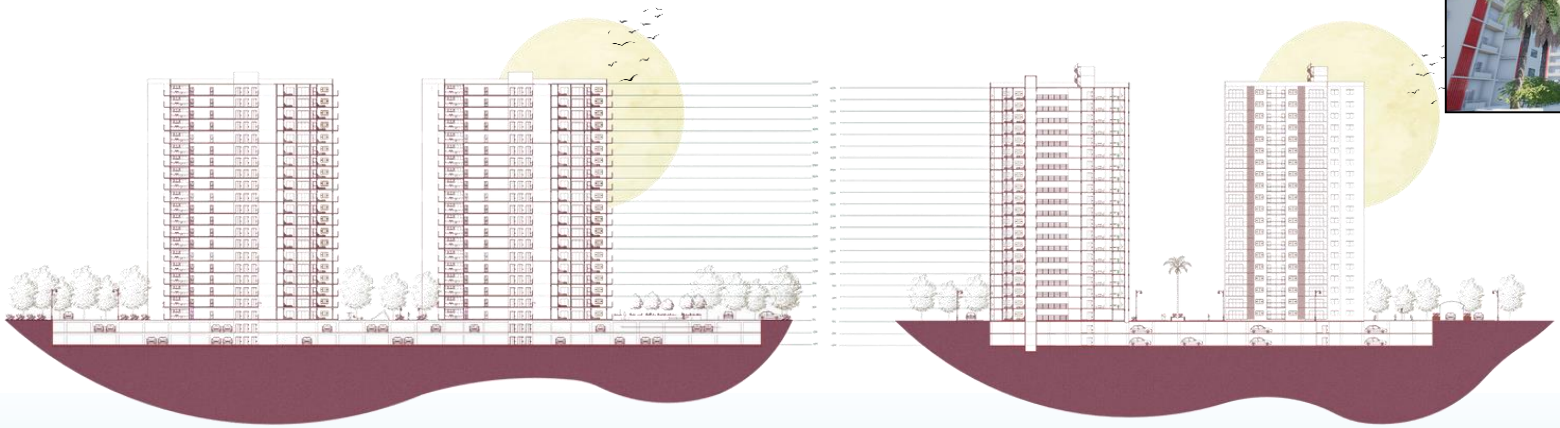


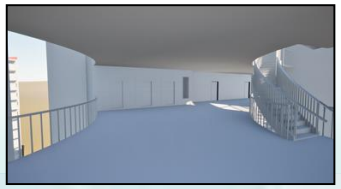


STUDENT: AADITYA KUYYAMUDI (213701228)
FACULTY: SHANTANU CHITGOPKAR, IPSITAA PRIYADARSINI DAS

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

SOCIAL LINK HIG Housing in Mangalore, Karnataka





STUDENT: AADITYA KUYYAMUDI (213701228)
FACULTY: SHANTANU CHITGOPKAR, IPSITAA PRIYADARSINI DAS

ARC 4103 SETTLEMENT STUDIES

STUDY OF CITY KOLKATA

COURSE OBJECTIVES:

To study the knowledge on the evolution of human settlements, settlement patterns and basic services, and the impacts of urbanisation/industrialisation on planning approaches. It also provides with knowledge of land & housing economics, survey and analysis tools, legislation and development control regulations, government & non-governmental organisations, and schemes and programs.

PROJECT BRIEF:

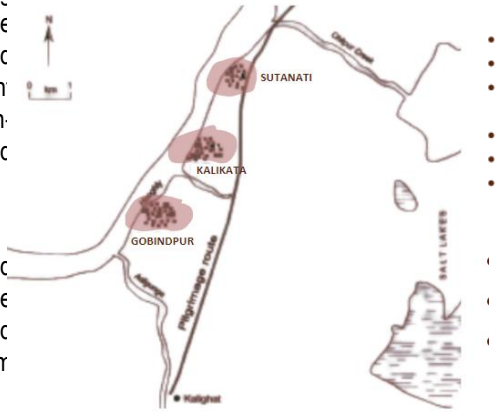
This study entails detailed history and evolution of Kolkata. The next part of the study consists of detailed documentation and analysis of the built form of the stretch from the MIT Junction- Tiger Circle.

The first historic mention of Calcutta found in Ain-i-Akbar in **1596**

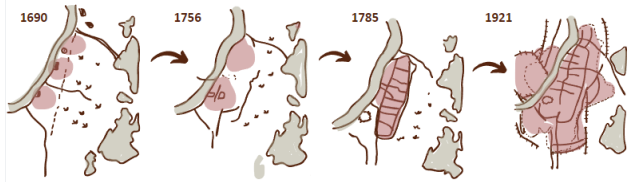
Job Charnock haulted at Sutanati on **August 24, 1690**

Foundations of British Calcutta laid by Job Charnock

- . The permission was granted to the East India company to purchase 3 villages of Sutanati, Kalikata and Govindapur in the immediate neighbourhood of the fort.
- The purchase price in 1690 was Rs. 1300.
- It was in 1690 that Job Charnock realized the potentials of this regions
- He Laid the foundations of British Calcutta on the site of the 3 villages on the eastern banks of the Hoogly river.
- Calcutta grew around the villages of Kalikata, Sutanati, Govindapur and Chitpore on the east bank.
- On the south fringe was Sunderbans, the world's largest estuarine forests.
- Eastwards extended the salt lake – the draining board of Calcutta.



Map showing the three villages



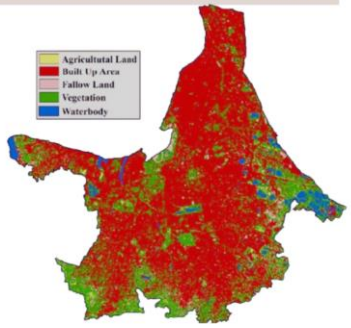
The growth of the city started with the acquisition of the three villages - **Gobindpur, Kalikata** and **Sutatnuti**

The British governement started expanding the city and a **new fort** was planned to be built for the security of the city

Development of areas – **Chowrangi, Baliganj, Tollyganj, Garden Reach** and **Chitpur road**. and the **Fort William** was rebuilt.

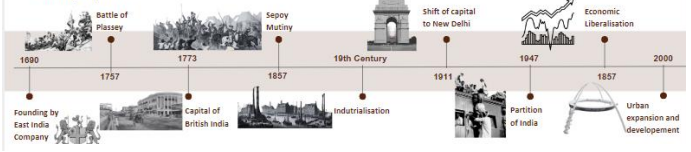
North of the city was congested and the city started growing towards **South** and east as west was the river

CURRENT LAND USE MAP OF KOLKATA

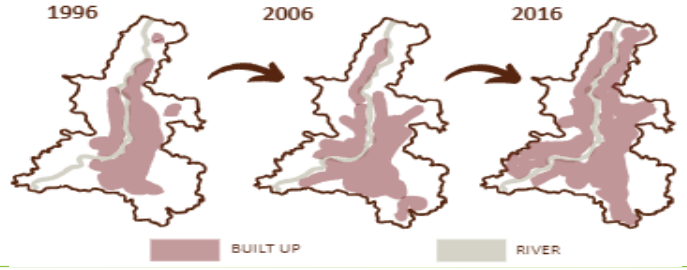


EVOLUTION OF THE CITY

- The evolution of the city starting from acquisition by the East India Company till present date can be understood by understanding the following key events :



URBAN GROWTH OF KOLKATA



NORTH KOLKATA

- Neighbourhood of elite Bengalis, artisans and craftsmen
- Low height buildings with maximum coverage
- The buildings are attatched with no setbacks

CENTRAL KOLKATA

- Established on the site of Gobindpur village.
- Covered between Esplanade and Park Street, it forms the CBD of the city.
- Monumental scale of proportions

SOUTH KOLKATA

- Extends to eastern wetlands and the river in the west.
- Lies on the south of the circular road.
- Preplanned and have a definite control over urban form
- The buildings have proper setbacks on all four sides

CIVIC BODY TO REVISE BLDG RULES

- KMC won't regularise unauthorised construction if the violation is more than 10% of the area allowed to be built
- Set to revise building rules
- KMC has kept completion certificates on hold for hundreds of newly built buildings for violation of rules after the Garden Reach tragedy
- KMC bldgs dept told to offer relief to the owners of small land by relaxing rules so that they can build homes without taking illegal route of constructing a building
- Relaxations will also be given to thika plots

The move comes after Garden Reach crash

If the local police stations don't act fast even after lodging an FIR against illegal constructions, our officials will move to Lalbazar and seek police assistance for demolition of unauthorized buildings

Firhad Hakim | MAYOR

GOVERNMENT RESPONSE

NEW NORMS

- A citizen or a real-estate developer can apply for internal change during construction, stating the nature and purpose of such deviations. A certificate needs to be submitted by a licenced building surveyor, structural engineer or architect
- KMC will allow external deviations during execution of a project if a revised plan is submitted stating the purpose of such changes
- Citizens had no scope of regularizing minor deviations after 2014. But KMC may take stringent action if one takes advantage of such relaxations and flouts rules

- KMC won't regularise unauthorised construction if the violation is more than 10% of the area allowed to be built
- Set to revise building rules
- KMC has kept completion certificates on hold for hundreds of newly built buildings for violation of rules after the Garden Reach tragedy
- KMC bldgs dept told to offer relief to the owners of small land by relaxing rules so that they can build homes without taking illegal route of constructing a building
- Relaxations will also be given to thika plots

HIGH POPULATION DENSITY:

Due to the growing population of Kolkata ,New residential and c**ommercial projects are increasingly being developed in the city's peripheries** like Rajarhat and New Town.

ENVIRONMENTAL ISSUES

Rapid urbanization and inadequate planning have led to the **encroachments of Water bodies** , limited green spaces , and falling of air quality below safe levels.

POLICY GAPS:

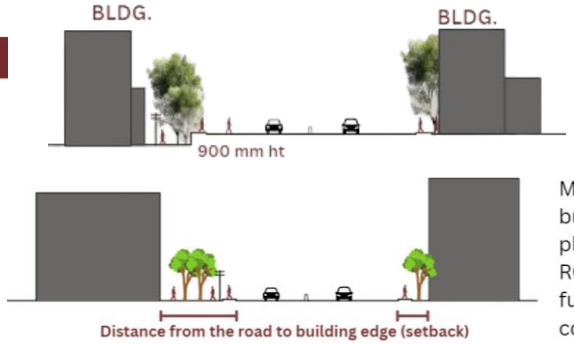
Even though the policies are well thought , the **implementation is often inconsistent**, leading to many issues.

Therefore, as the population increases the challenge is to create a **balance between the city's historical legacy, rapid urbanization and environmental challenges.** While there are efforts to solve these challenges, **effective implementation** of these is needed.

STUDENT: KAUSHANI CHAKRABORTY(213701156), SANGAMITHRA S(213701180)
FACULTY: DR. KIRTI NISHANT NIKAM

STUDY OF A ROAD STRETCH IN MANIPAL – MIT JUNCTION TO TIGER CIRCLE

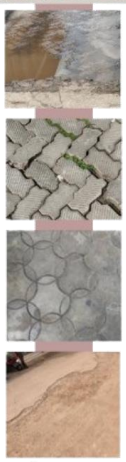
ROAD+BUILDING EDGES



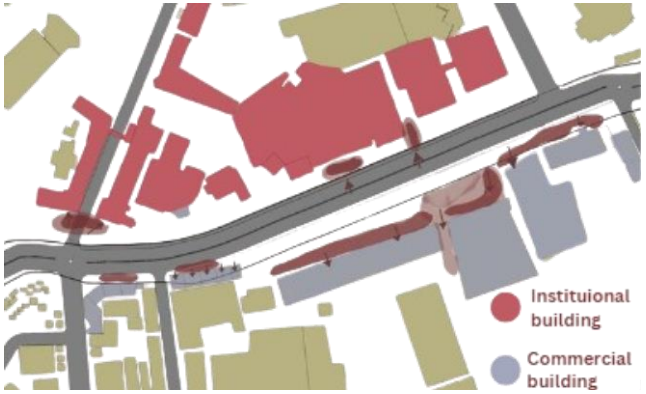
Main landmark buildings are placed after the ROW, to avoid future complications.

FOOTPATH+ROAD STUDY

PRESENT CONDITION

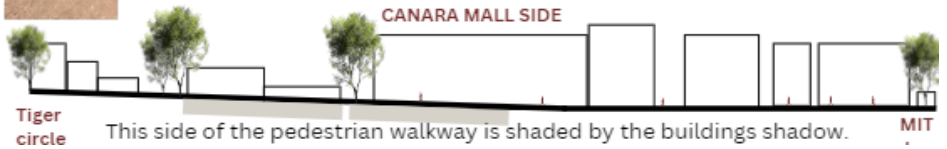


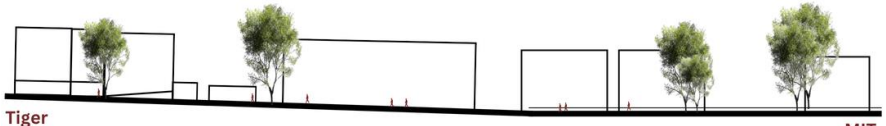
LAND USE AND DENSITY



The two types of building typologies adjacent to this particular stretch is the commercial on one side and institutional on the other.
Areas marked show the congestion zones (vehicular and pedestrian) as all the buildings adjacent to the stretch attract a considerable amount of crowd at almost all times of the day.

KEVIN LYNCH'S 5 PRINCIPLES





STUDENT: KAUSHANI (213701156), SANGAMITHRA S(213701180), JAYOSMITA(213701066)
FACULTY: DR. KIRTI NISHANT NIKAM
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 4103 SETTLEMENT STUDIES

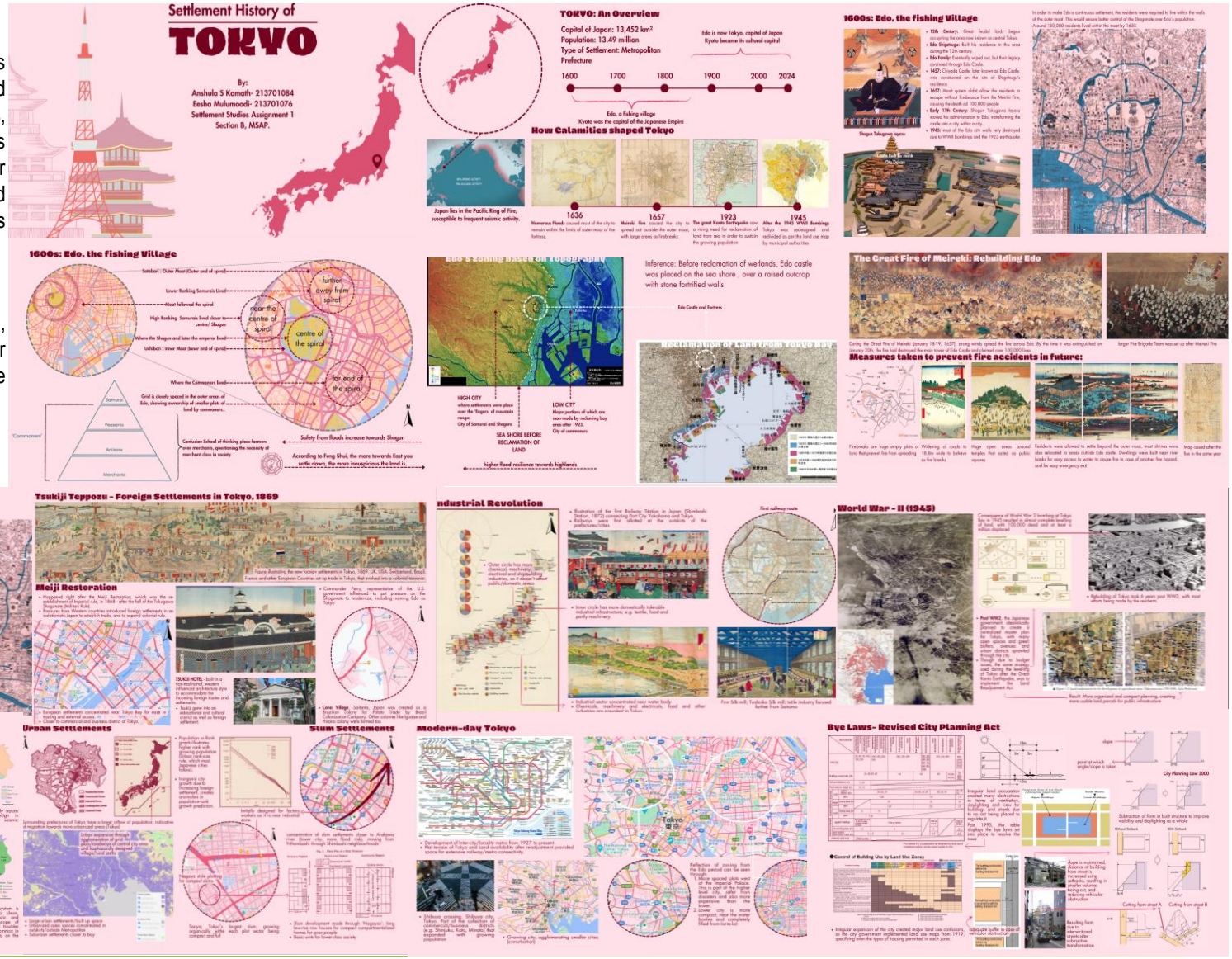
SETTLEMENT MORPHOLOGY OF TOKYO

COURSE OBJECTIVES:

To study the evolution of a city, notably its changes spatiotemporally. The study featured various aspects feeding into these changes, such as the geography and activities influencing the settlement patterns, the major events that produced unanticipated conversions, and the interventions implemented to regulate them.

PROJECT BRIEF:

The project discusses the evolution of Tokyo, Japan. It investigates the origins and major events and regulations that changed the trajectory of settlement.



STUDENT: ANSHULA S. KAMATH (213701084), **EESHA MULUMOODI** (213701076)
FACULTY: AKSHATHA RAO

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

MAPPING OF BUILT ENVIRONMENT: PERMEABILITY STUDY

COURSE OBJECTIVES:

To study the evolution of a city, notably its changes spatiotemporally. The study featured various aspects feeding into these changes, such as the geography and activities influencing the settlement patterns, the major events that produced unanticipated conversions, and the interventions implemented to regulate them.

PROJECT BRIEF:

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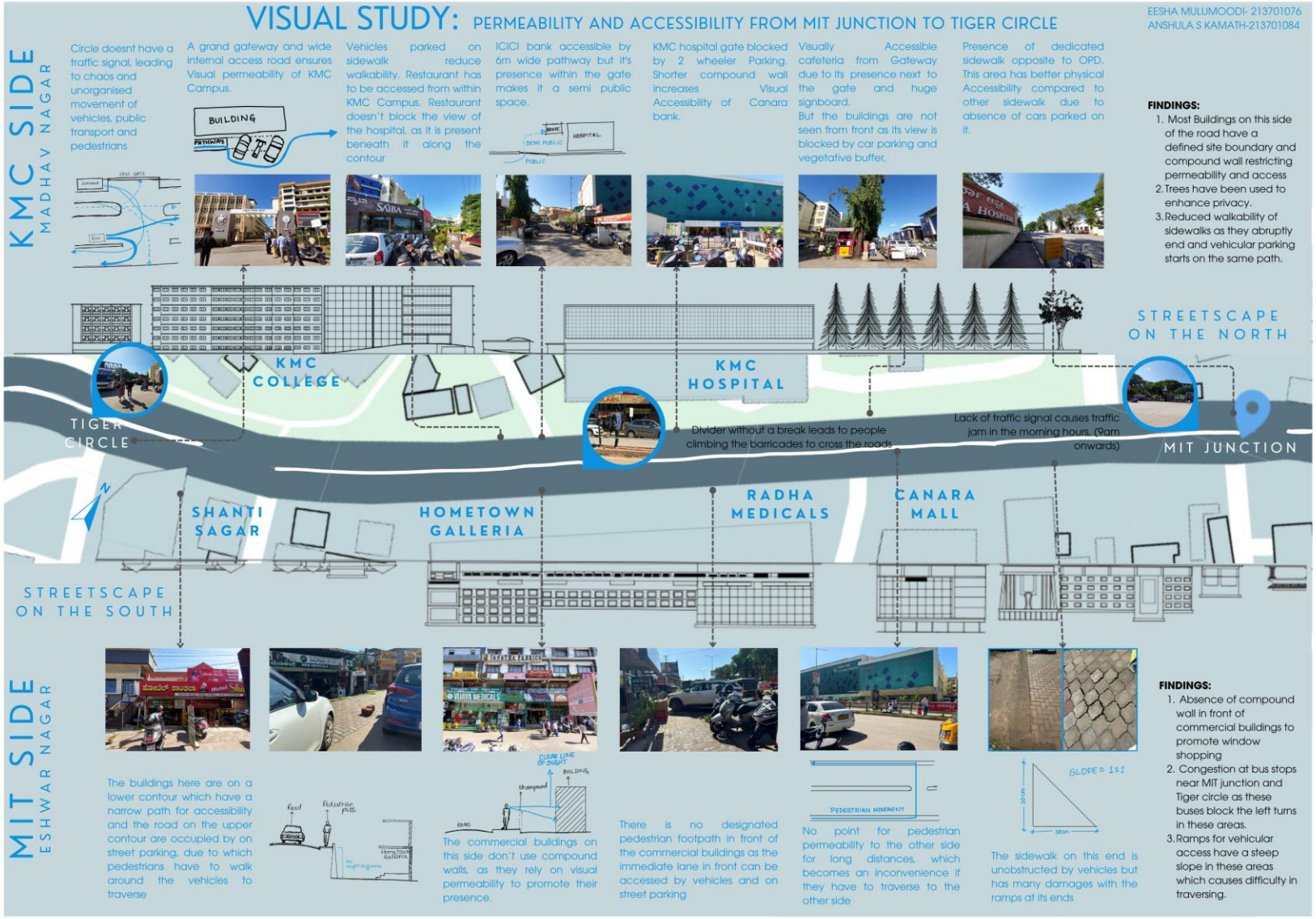


STUDENT: ANSHULA S. KAMATH (213701084), EESHA MULUMOODI (213701076)
FACULTY: AKSHATHA RAO

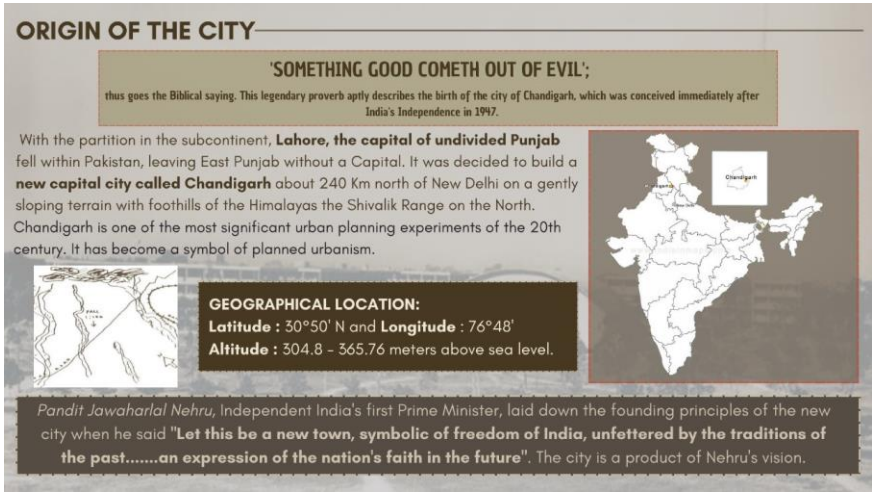
ARC 4103 SETTLEMENT STUDIES

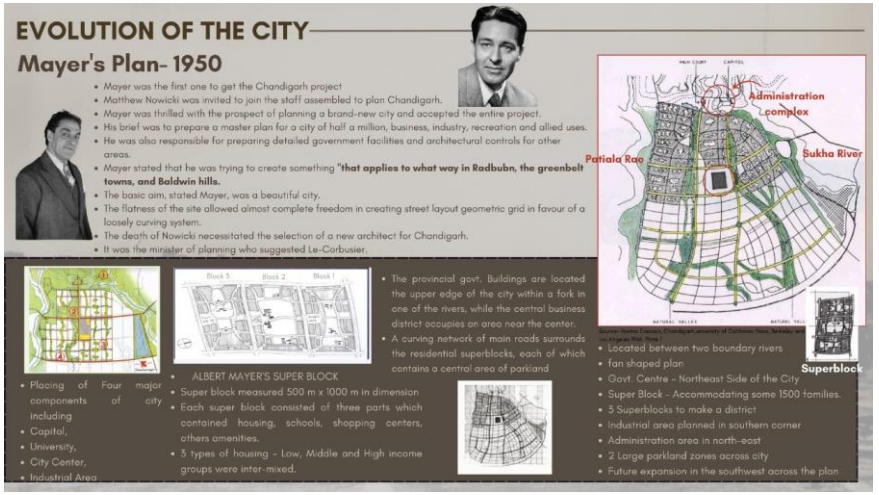
COURSE OBJECTIVES:

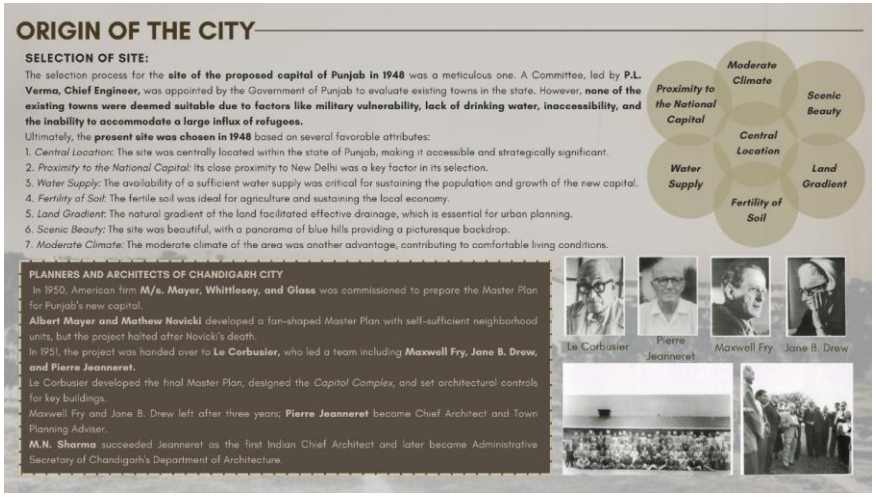
This course provides students with the knowledge on the evolution of human settlements, settlement patterns and basic services, and the impacts of urbanization/industrialization on planning approaches. It also provides students with knowledge of land & housing economics, survey and analysis tools, legislation and development control regulations, government & non-governmental organizations, and schemes and programs.

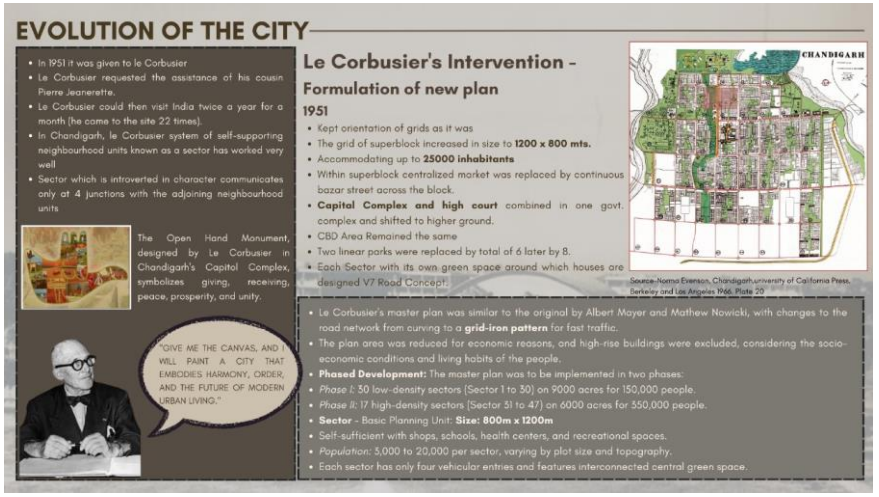
PROJECT BRIEF:

The assignment involves selecting a city and mapping its evolution by analyzing factors that contributed to its growth, along with the impact of current residential bye-laws on the city's- built form. The findings should have detailed city's origin, growth, and development regulations.









STUDENT: VARSHA CHOPRA (213701194) & KANAV SHARMA (213701328)
FACULTY: BABAR JAVED

EVOLUTION OF THE CITY

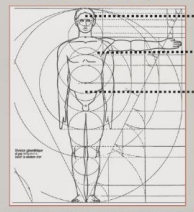
- Planned with focus on urban design, architectural aesthetics, preservation of natural environment, conservation of buildings and open spaces, hierarchical road network.
- Divided the human function into circulation, living, working, care body and spirit with strict zoning.
- City planning was against the traditional Indian cities.
- Replaced the native Indian town plan into superblocks.

- Drawings showing sector 22 with its shopping district running across the sector.
- Total 30 sectors - 24 residential
- 70% building private
- Autonomous unit including housing, school, shops, recreational spaces.
- 3000-25000 accommodating capacity
- Surrounded by high speed roads
- Bus stops every 400mts
- No pedestrian needs to walk more than 10 minutes

Source: Norma Evenson, Chandigarh, university of California Press, Berkeley and Los Angeles 1966, Page 219

- Par linking with Greater Himalayas- a continuous green belt stretching North-East to South-West provided in centre of Sector.
- Green belt to house Education, Cultural, Religious
- and Community Buildings.
- All houses have setbacks (open area) in front and rear
- Though plans of different Sectors are not identical but they follow the same principles

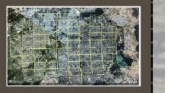
PHILOSOPHY



Capitol(place of power, consists of the High Court, The Secretariat, and the Assembly,
Heart the city centre, i.e. Sector 17 Plaza
Stomach which is the commercial centre of the city i.e. sector 22 and 19
Brain - Capitol Complex
Heart - City centre (Sector 17)
Lungs - Leisure valley
Intellect - Educational Areas
Veins - Circulation System V7
Viscera - Industrial area

- V1 - Connects Chandigarh to other cities
- V2 - Are the major avenues of the city
- V3 - Are the corridor streets for Vehicular traffic only.
- V4-V7 - Are the Roads within the Sectors

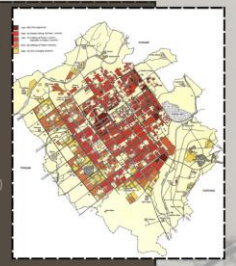
Each sector is designated by number, the capital complex being number 1, with the remaining sectors numbered consecutively begenning at the north corner of the city



EVOLUTION OF THE CITY

THE GROWTH OF CHANDIGARH 1966-96, STARTING WITH SECTORS 1 & 2 IN PHASE 1, & CURRENTLY CONSISTING OF 86 SECTORS

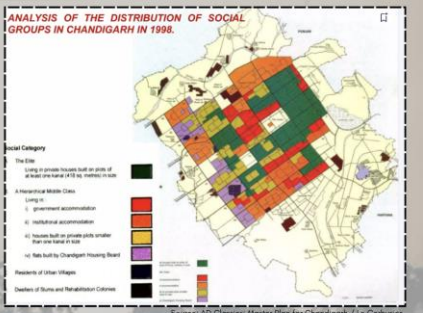
- Upto 1956 (the beginning)
- 1956 - 66 (Partial infilling of phase 1 sectors)
- 1966 - 76 (infilling of phase 1 sectors extension to phase II sectors)
- 1976 - 86 (infilling of phase II sectors)
- 1986 - 96 (The emerging scenario)



The city landscape plan of the first phases, showing the leisure valley & the swaths of green spaces that also act as flood control

The Basic Building Typology is observed as extremely Rectilinear with similar proportions.

In both the developments the smaller individual Residential Units are arranged around central common Green spaces although the shapes are different.



Source: AD Classics: Master Plan for Chandigarh / Le Corbusier

Realisation of the first phase of Chandigarh from 1951-66.

BYE LAWS REGARDING RESIDENTIAL DEVELOPMENT

Zoning and Land Use

Residential Zones: Chandigarh is divided into various sectors, each with designated land use. Residential zones primarily consist of single-family (detached) houses, row houses, group housing societies, and apartments.

Permitted Land Use: Only residential activities are permitted in designated residential zones. Some minor commercial activities may be allowed, such as small shops, but these are subject to specific conditions.

A. Plotted Housing in Sectoral Grid : Volumetric controls for plotted houses in sectoral grid :

Type of house	Max ground coverage	Max FAR
Marla houses of less than 1 kanal (505sqm)	65%(in main building zone) + (rear courtyard)= 70%	2
1 kanal and above but less 2 (505-1011 sqm)	50%	1.5
2 kanals (1011 sqm)	45%	1.25
above 2 kanals	35%	1

B.Group Housing Scheme in Sectoral Grid:- Volumetric Controls applicable on Group Housing Schemes in the sectoral grid :

Parameter	Norms	
Min area of site	1 acre	
Max ground coverage	40% of plot area	
MAX FAR	1.2	
Max height	46' 9" inclusive of parapet of 3' 9"	
Max No. of storeys	4	
Density of dwelling units	Category A B C	Density(units per acre) 25 35 45

Setbacks

Front Setback: The front setback varies based on the road width and plot size but typically ranges from **6 meters to 10 meters.**

Side and Rear Setbacks: Side setbacks are generally **2.4 meters,** and rear setbacks are around **3 meters,** depending on the plot size.

Building Height

Residential Plots: The maximum permissible height for a residential building is **10.36 meters (G+2 floors).**

Stilt Parking: If stilt parking is provided, it may be excluded from the overall height calculation, but the stilt floor height should **not exceed 2.75 meters.**

BYE LAWS REGARDING RESIDENTIAL DEVELOPMENT

Minimum area of the courtyard:-

(a) Interior open space for light and ventilation, the whole or part of one side or one more room intended for human habitation and not abutting on either the front, rear or side open space shall abut on an interior open space whose minimum width in all directions shall be as per table below:

Sr. No.	Height of the building upto in Meters	Interior open space to be left out on all site (front rear and sides in each plot in Meters.)
1	10	3
2	15	5
3	18	6
4	21	7
5	24	8
6	27	9
7	50	10

Note:
- No projection shall be allowed within the maximum width of the courtyard in any direction as mentioned in the table above.
- The Chief Administrator may permit 'Pergola' in the buildings light and ventilation of the building is not affected due to pergola.
- The table shall also be applicable in case of exterior open spaces permitted within the zoning regulations.
- Cutters/Pergola:- Cutters/Pergola upto 9" below RCC slab of the projection at first and second floor level shall be allowed in Frame Control Marla houses provided it is sanctioned in the building plans.

Projection/Cantilever:-

The provisions of projection/cantilever in residential building shall be made as follows:-

Sr. No.	Area of constrcution / cantilever	Norms
1	First and second floor of all marla houses and one kanal houses governed by Frame control / architectural control	Maximum upto 0.91 m. (3'-0") from the building line in the front and rear courtyard and at least 5' away from either side of the building line from the center line of the common wall, subject to structural stability, shall also be allowed.
2	In kanal type buildings governed by zoning plans in all sectors	Maximum upto 6'-0" depth from the face of the wall.
3	In terrace level of all marla type house	Not allowed

Winders and treads in staircases in residential buildings:-

In residential building, winders in staircases shall be allowed as follows:-

Sr. No.	Parameters	Norms
1	Max No. of risers in winder	2
2	Max No. of treads in winder	3
3	Max reduction in width of staircase	3"

Staircase:-

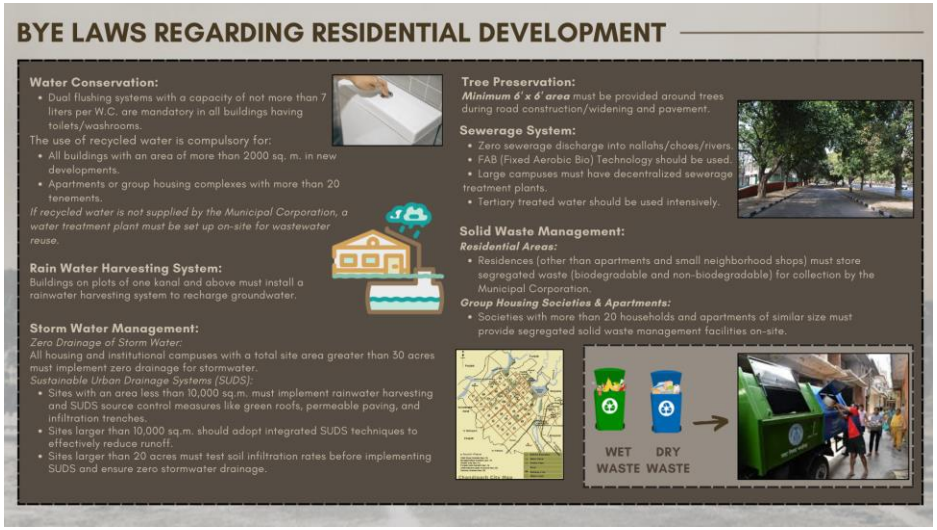
In Residential building, single family or two families residential buildings:-
The norms for residential building, single family or two families as below:-

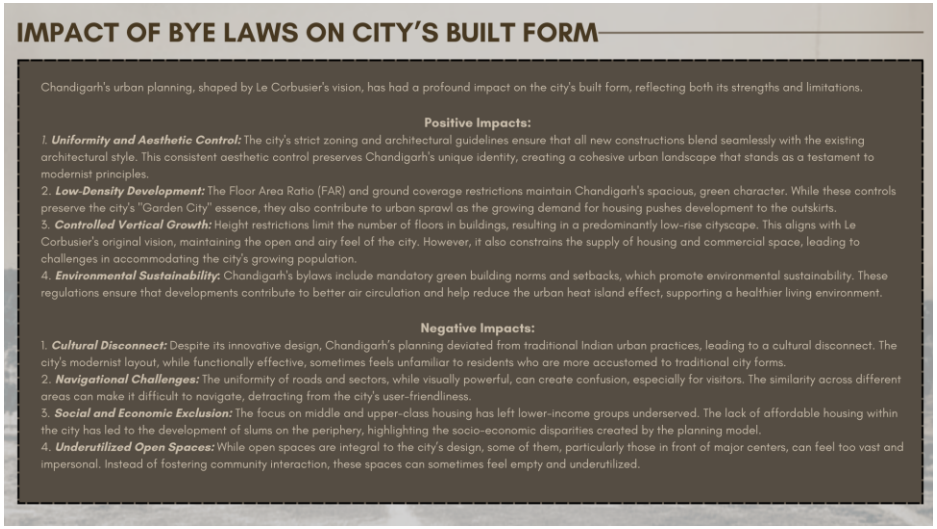
Sr. No.	Area of constrcution / cantilever	Norms
1	Requirement of staircases	Every residential building more than one storey high shall be provided with atleast one staircase
2	Min. width of staircase	85 cms
3	Max. number of risers in one flight	15
4	Min. height of risers	19 cms
5	Min. width of tread	25 cms

In Residential buildings for more than two families:-
Every residential building for more than two families shall be provided with atleast one staircase extending from ground floor level to be highest floor having minimum clear width. The following width in accordance with the following table:-

Sr. No.	Area of constrcution / cantilever	Min
1	Number of users upto 10	0.85cm.
2	Number of users upto 11 to 20	1.1 m
3	Number of users from 21 to 100	1.25 m
4	Increase 1" (2.5 cms) for every additional 15 persons until a maximum of 2.75 mtrs. is reached.	

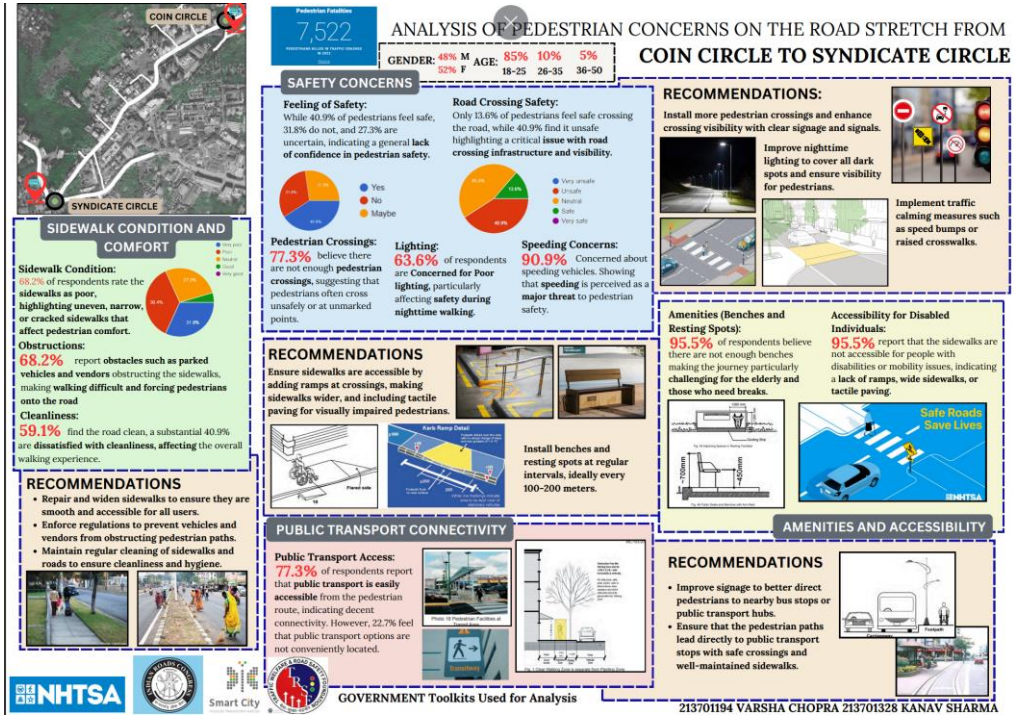
Note:-The staircases shall be constructed of fire resisting materials.





PROJECT BRIEF:

The assignment requires mapping urban attributes of a specific area using survey techniques. The output is an A1 poster illustrating various urban elements, such as visual, permeability, built, perception, and movement studies, based on selected road stretches in Manipal.



ARC 4107 RESEARCH TECHNIQUES

SYMBOLISM OF ARCHITECTURE IN HORROR FILMS

ABSTRACT

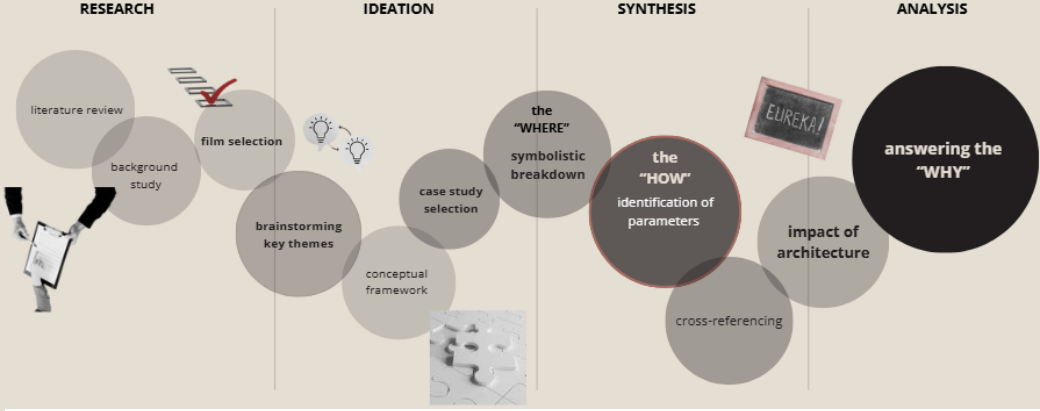
- **Built spaces and sets** play a crucial role in horror films, serving as more than mere backdrops for instilling fear.
- This research explores how **architectural elements and spatial design** contribute to the **psychological and emotional impact of horror narratives**.
- Through an **interpretational analysis of iconic horror films**, we plan to identify **key architectural motifs**—such as the eerie and old mansions, the empty corridors, and the decaying urban environment—and examine their symbolic meanings.

BACKGROUND STUDY

- Evoking emotions in an individual is something films and movies do exceptionally well.
- There is something very appealing in the visual; through carefully crafted scenes, character development, and cinematic techniques such as lighting and camera angles, films create immersive experiences that impact viewers on a deep emotional level.
- This synergy of elements allows films to evoke a wide range of emotions, from fear and joy to sadness and suspense, making them powerful tools for emotional engagement and empathy.

An individual resonates with the visuals

METHODOLOGY



HOW IS FEAR AND ANXIETY INSTILLED IN ONE THROUGH FILMS?

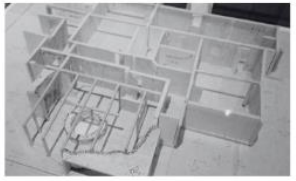
HORROR MOVIE AESTHETICS: XIANGYI FU (RESEARCH PAPER)

USE OF COLOUR

Suspiria

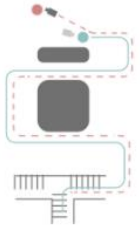
The Shining

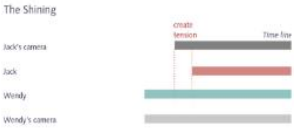
USE OF SPACE



Silence of the Lambs

DESIGN DESCRIPTION





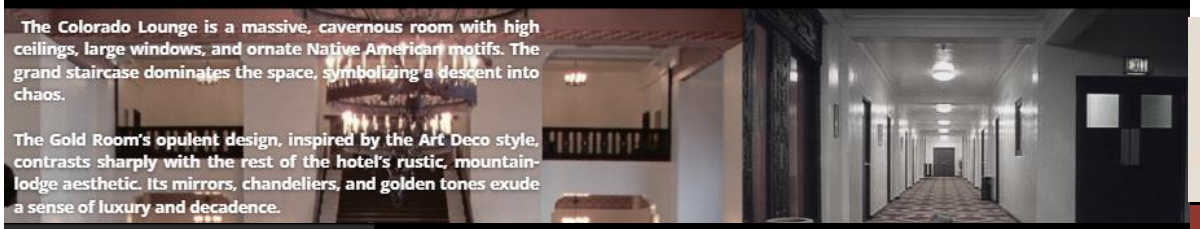
The Shining

STUDENT: PRAGYA SHARMA(213701122) AASHNA KALRA(213701114)
FACULTY: SUNNY DANIEL

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

SYMBOLISM OF ARCHITECTURE IN HORROR FILMS

THE SHINING (1980)



The Colorado Lounge is a massive, cavernous room with high ceilings, large windows, and ornate Native American motifs. The grand staircase dominates the space, symbolizing a descent into chaos.

The Gold Room's opulent design, inspired by the Art Deco style, contrasts sharply with the rest of the hotel's rustic, mountain-lodge aesthetic. Its mirrors, chandeliers, and golden tones exude a sense of luxury and decadence.

SUSPIRIA (1977)

- Suspiria blurs the line between dream and reality, and the architecture plays a large role in this. The building seems to shift, creating a sense of temporal and spatial distortion.
- influence of Art Nouveau in the academy's architecture, particularly how the curvilinear forms and decorative elements add to the film's surreal and gothic atmosphere.

MIDSOMMAR (2018)

Unlike many horror films that depict architecture as separate from nature, Midsommar blends the two. The buildings are constructed to feel as though they belong to the landscape, reinforcing the idea of inescapable fate for the characters.

FRANKENSTEIN

The laboratory where Dr. Frankenstein creates his monster is a central architectural feature. Examine its towering, industrial design, full of strange machinery and scientific equipment, which contrasts with the more domestic spaces in the film.

HAUNTING OF HILL HOUSE

- The house's gothic design, with its ornate carvings, pointed arches, and heavy stonework, contributes to a foreboding atmosphere.

DATA COLLECTION AND COMPARATIVE ANALYSIS

	THE SHINING	SUSPIRIA	MIDSOMMAR	FRANKENSTEIN	HAUNTING OF HILL HOUSE
SPATIAL LAYOUT	**Interior Spaces:** spaces like hallways, rooms, and the maze-like architecture	**Interior spaces of the dance academy:** the grandiose, ornate rooms, corridors and open spaces	**Open, Vast Spaces:** Unlike traditional horror films, Midsommar takes place in wide-open environments	**Laboratory Spaces:** The laboratory is a central architectural feature	**Labyrinthine:** The house has a maze-like interior, where rooms appear detached from each other in illogical ways
COLOUR	Intense, bright and almost **surreal colour palette**. E.g: The Red bathroom	**vivid and saturated**, dominated by bold reds, blues, and greens	**natural light** and a muted yet lush range of greens, yellows and whites, reflecting the rural Swedish setting	**Monochromatic Palette**: the architecture plays a key role in creating contrast through light and shadow	**Dark and Muted Colors:** The interior design of the house is often depicted with dar, muted tones
OVERALL AESTHETICS	Cold, geometric spaces and **eerie symmetry** create a sense of isolation and dread	**Vibrant, saturated colors** evoke a surreal nightmare, blending supernatural horror with fairy-tale-like visuals	**Bright, pastoral and sun-drenched**, it contrasts horror with a peaceful rural setting, unsettling through the eerie beauty of daylight	Gothic, stark, and shadow-filled, **emphasizing a macabre, industrial aesthetic**	Dark, moody tones and oppressive spaces, **using shadow and light to build tension** and claustrophobia
CONTEXT	The Overlook Hotel's isolated and **massive layout** mirrors the protagonist's psychological unraveling	**The gothic, labyrinthine** dance academy with its vibrant and unreal color scheme intensifies the supernatural horror	**The vast, sunlit** Swedish countryside contrasts the traditional dark horror setting, amplifying unease	The Gothic castle and **industrial laboratory** reflect the unnatural and scientific horror of creation	**The house itself becomes a living character** with its decaying interior mirroring the psychological torment of the characters
ARCH. STYLE	The Overlook Hotel blends **Art Deco** and rustic alpine lodge styles, repetitiveness symbolises psychological descent	The dance academy features **Baroque** and **Art Nouveau** styles	**Swedish vernacular architecture**, with wooden buildings and open communal spaces, mirrors the cult hiding sinister rituals	**Gothic revival** architecture dominates the castle, emphasizing darkness	**Victorian Gothic architecture**, with its sprawling, decaying mansion, reflects both the grandeur and the haunted
ICONIC FEATURES	maze-like corridors, grand lobby and the hedge maze are iconic	vibrant stained glass, spiral staircases, and ornate décor reflect surrealism	The communal dining hall and maypole stand out, symbolizing unity and tradition, the yellow pyramid gives a sense of uneasiness	The laboratory with its towering equipment and castle spires represents science's collision with nature	The massive, winding staircase, and dark, oppressive corridors are central to its haunted atmosphere

STUDENT: PRAGYA SHARMA(213701122) AASHNA KALRA(213701114)
FACULTY: SUNNY DANIEL
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 4107 RESEARCH TECHNIQUES

ASSESSING WALKABILITY AND PEDESTRIAN FACILITIES IN INDIAN CITIES: A CASE STUDY OF MANIPAL

PROJECT BRIEF:

This study evaluates walkability in Indian cities, focusing on Manipal, Karnataka. Rapid urbanization has prioritized vehicles over pedestrian safety, leading to reduced walkability. Using survey data from university students, the research highlights the need for better pedestrian infrastructure, such as wider footpaths, green spaces, and improved lighting. Findings suggest that enhancing these facilities can reduce vehicle dependence and promote sustainable urban development. The study offers design solutions and policy recommendations that can be applied to other Indian cities, fostering more pedestrian-friendly environments.

WHAT SETS EUROPEAN STREETS APART FROM INDIAN STREETS?

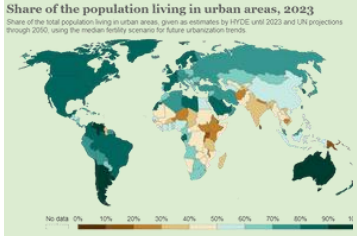
Walkability can be linked to the quality of the built environment, the urban form and connectivity, safety and desirability to walk, and infrastructure accessibility.

Hundreds of tourists from all over the world visit and stroll the streets of Barcelona.

V/S

Women trying cross a busy road in Mumbai.

REASON? ANS: RAPID URBANIZATION



According to the United Nations survey, by 2050 nearly 70% of the global population will live in cities

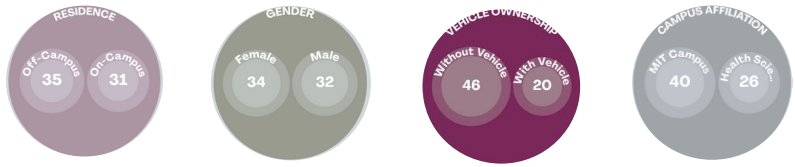
This is leading to increased pressure on urban infrastructure, and lack of planning for future can lead to collapse of infra and chaos

EFFECTS: CURRENT STATE OF INDIAN STREETS






THE METHOD: SAMPLE DESIGN



SAMPLING METHODS:

- Preliminary Study **(Non-Probability Convenience Sampling)**: Online surveys.
- Structured Analysis Phase **(Stratified Sampling)**

FINDINGS FROM SAMPLING

EASE OF WALKING IN TIGER CIRCLE

EASE OF WALKING IN SYNDICATE CIRCLE

EASE OF WALKING FROM MAHE EDU TO COIN CIRCLE

EASE OF WALKING FROM MIT GATE 1 TO SP

STUDENT: AADITYA KUYYAMUDI & T. POORNA ISHITHA
FACULTY: Dr. SASMITA CHAND

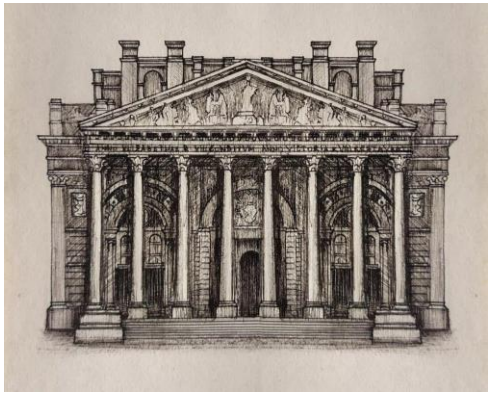
INDUSUTRIAL REVOLUTION & LATE MUGHAL PERIOD-

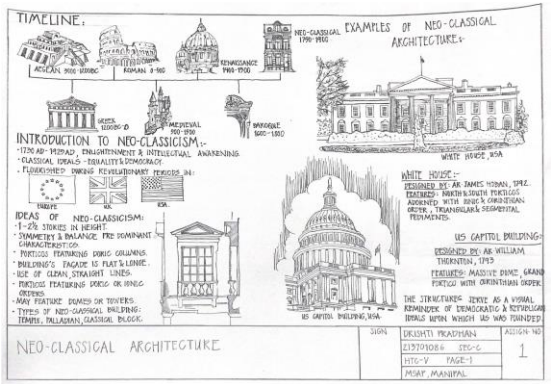
COURSE OBJECTIVES:

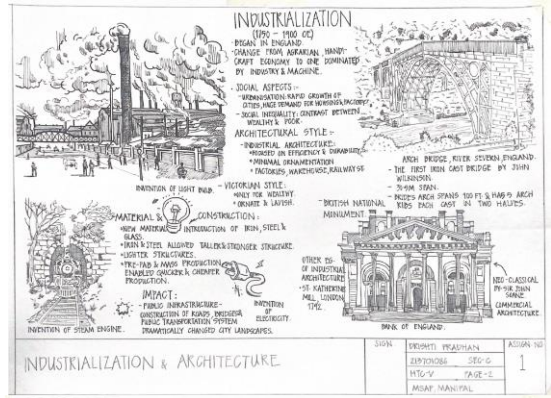
To study the concepts of transitional architecture from Neo-Classical era to Industrial Revolution worldwide and in India. The course also aims to comprehensively understand the prevailing conditions in the later half of the 19th century, that brought about the influence in architectural style, planning, material selection etc. creating modern, post-modern and various schools of architecture. Learn about pioneer master architects who contributed greatly and were influential in the architectural styles mentioned above.

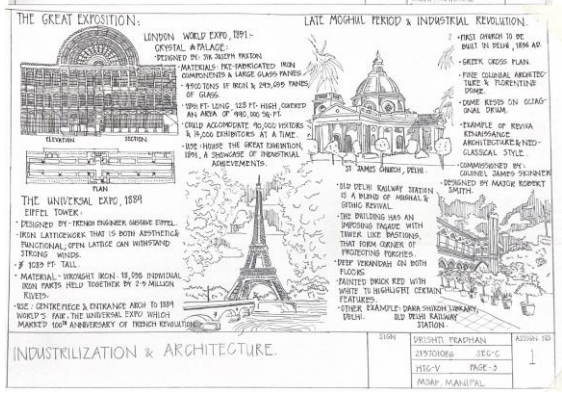
PROJECT BRIEF:

To analyze and evaluate the architectural styles from neo-classicism, industrial revolution, and late Mughal period and the paradigm shift due to these periods with sketches and write ups.

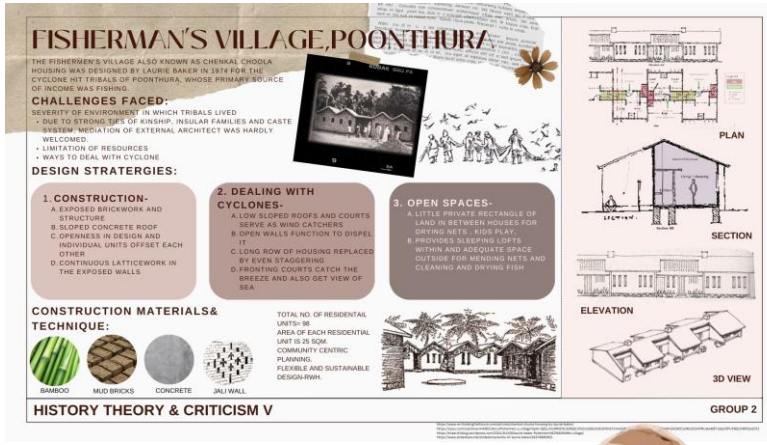








INDIAN MASTER ARCHITECT- LAURIE BAKER



PROJECT BRIEF:

To analyze and evaluate the architectural styles of post-liberalized era and various other styles and movements in architecture that arose after decline of modernism. A digital group presentation of works of one well-known Indian Master Architect.

ARC 1109 HISTORY THEORY & CRITICISM - V

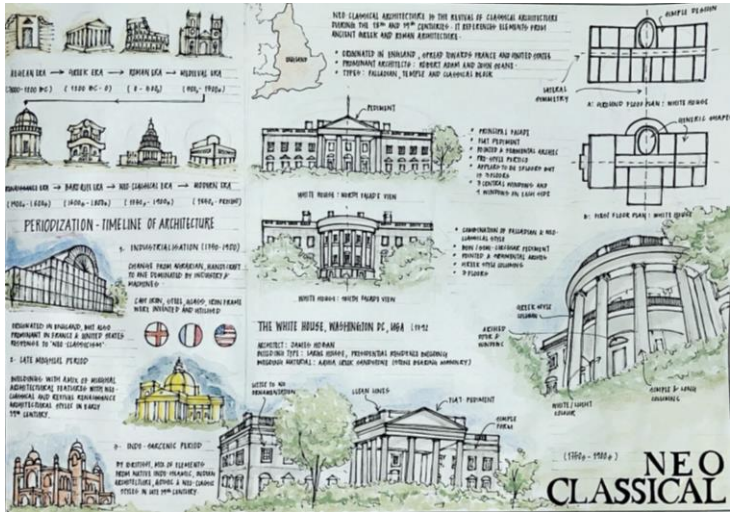
MODERNISM & POST-MODERNISM

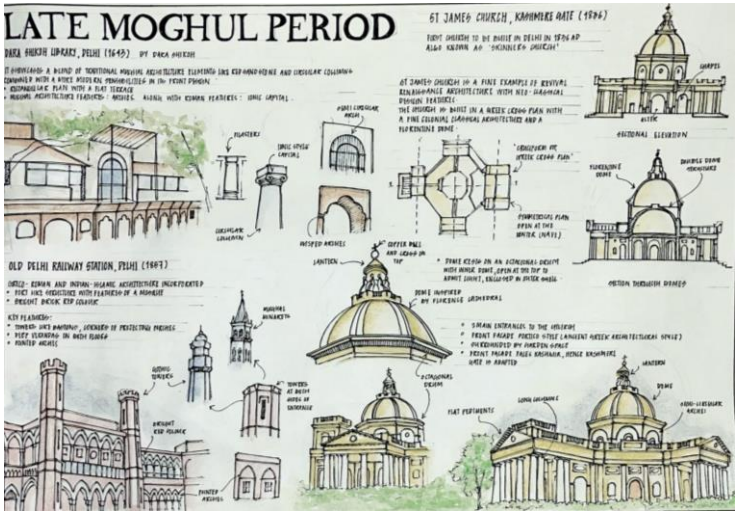
COURSE OBJECTIVES:

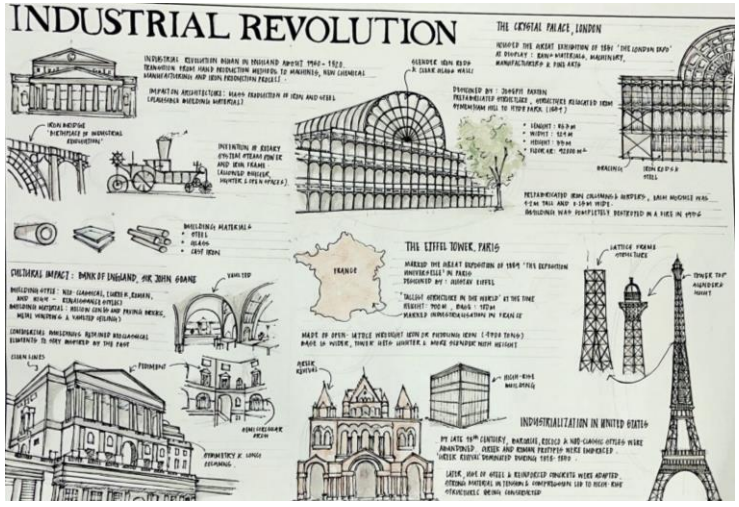
This course focuses on exploring transitional architectural concepts from the Neo-Classical era to the Industrial Revolution globally and in India. It seeks to provide an in-depth understanding of the conditions in the latter half of the 19th century that significantly impacted architectural styles, planning approaches, and material choices, leading to the development of modern, post-modern, and other architectural movements. Students will also study the work of pioneering master architects who played a major role in shaping these influential styles..

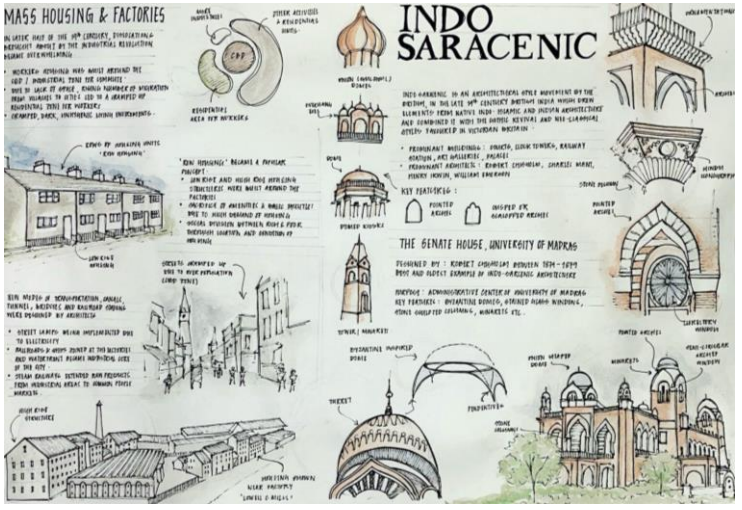
PROJECT BRIEF:

The aim is to conduct a comprehensive analysis and evaluation of various architectural styles that emerged from the Neo-Classical period, the Industrial Revolution, and the late Mughal era. This involves examining the defining characteristics, design principles, and cultural influences of each period. Additionally, the course will explore the significant paradigm shifts that these architectural styles introduced, leading to lasting impacts on design and construction practices. Through sketches and detailed write-ups, students will gain a deeper understanding of how each style reflects the socio-economic and cultural transformations of its time, ultimately shaping the trajectory of architectural history.

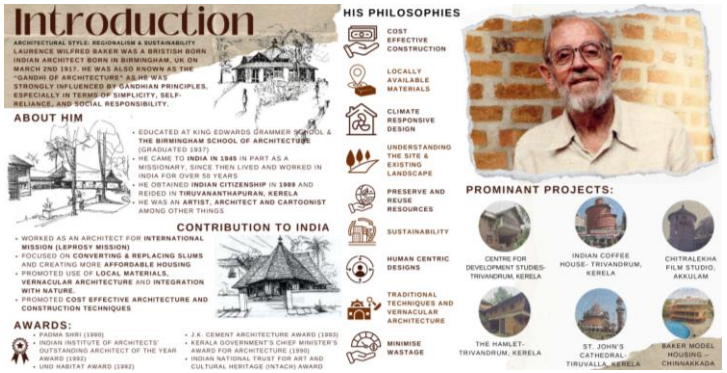


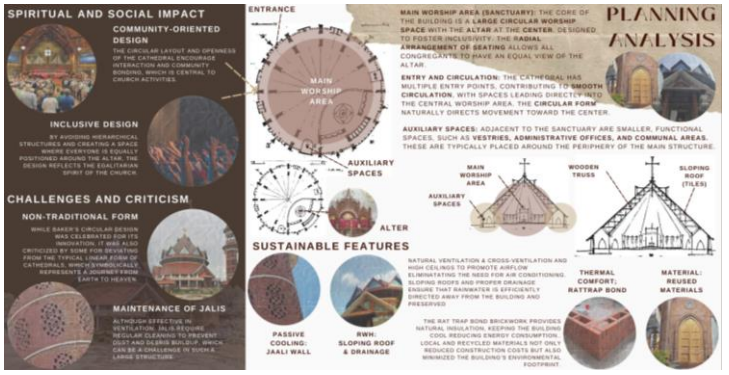


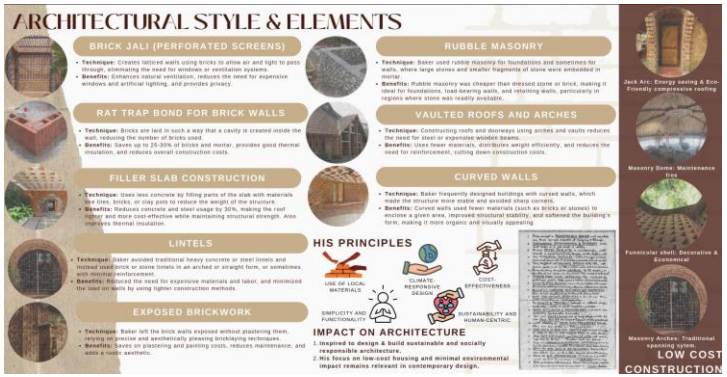


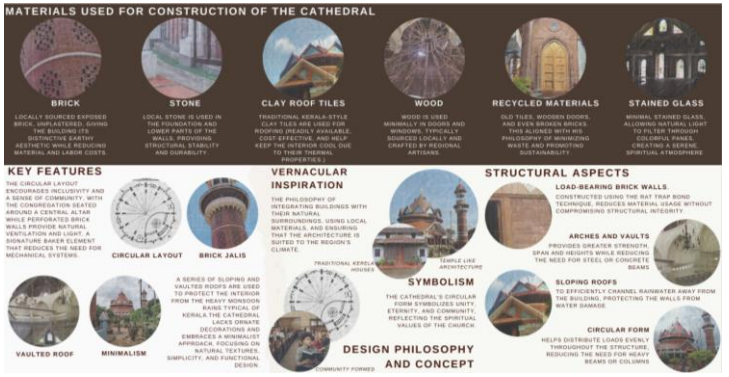


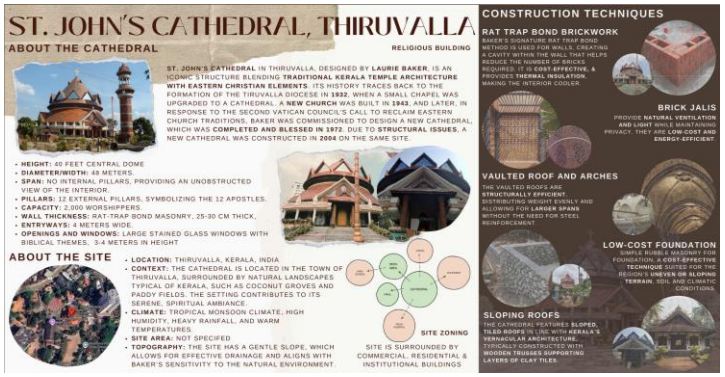
MODERNISM & POST-MODERNISM

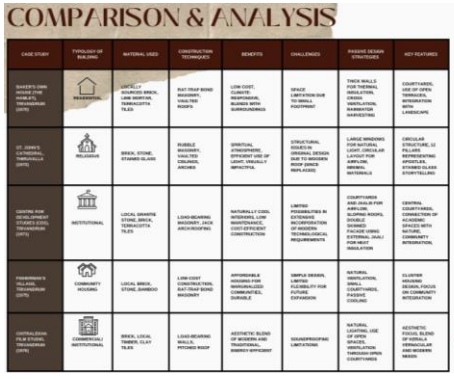












INDUSTRIAL REVOLUTION

COURSE OBJECTIVES:

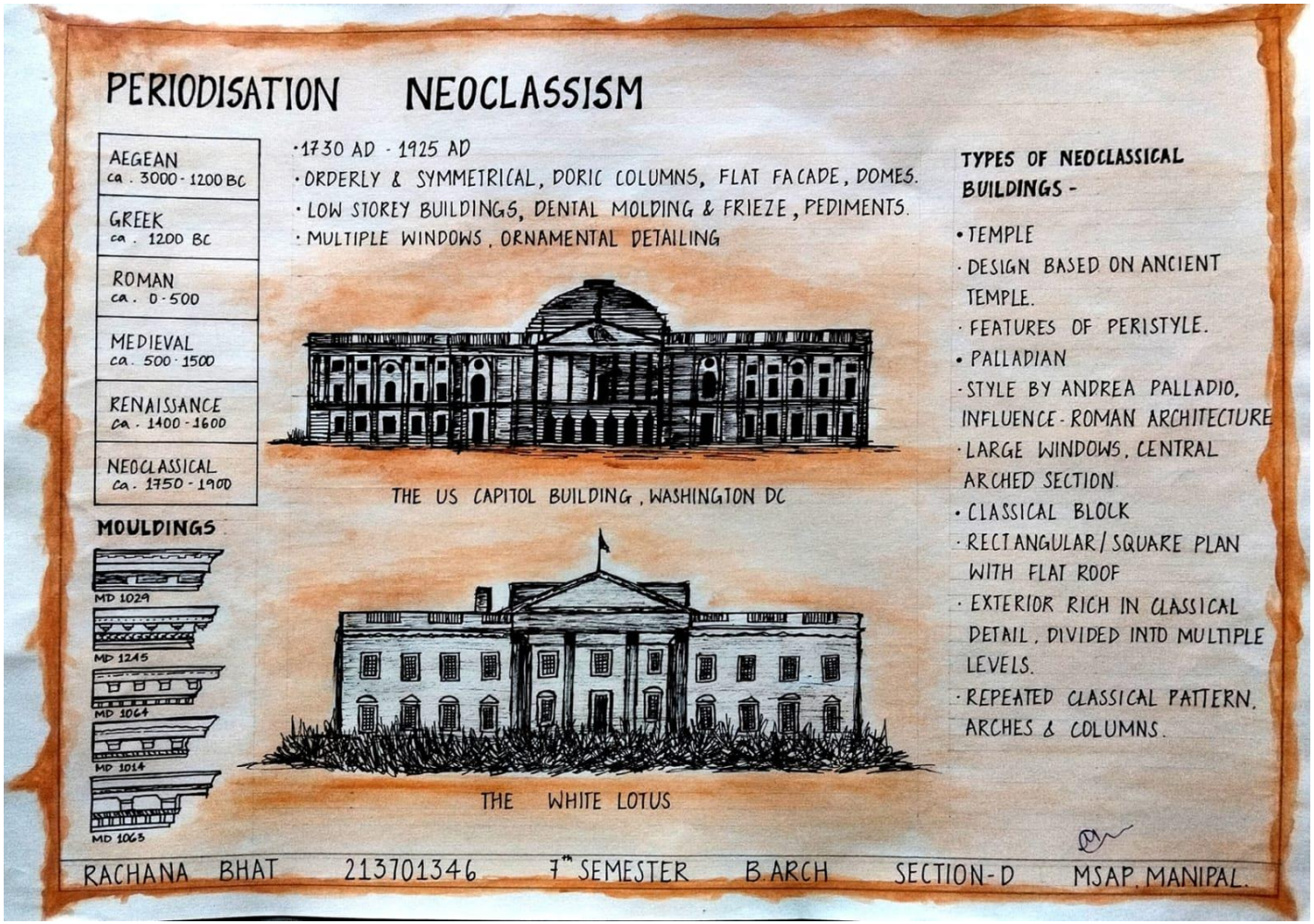
To study the concepts of transitional architecture during the Industrial Revolution worldwide and in India.

To understand the thought that evolved in the post -industrial era across the world and India and the importance of evolution of contemporary architecture as a result of various influences like socio/ political/ cultural aspects.

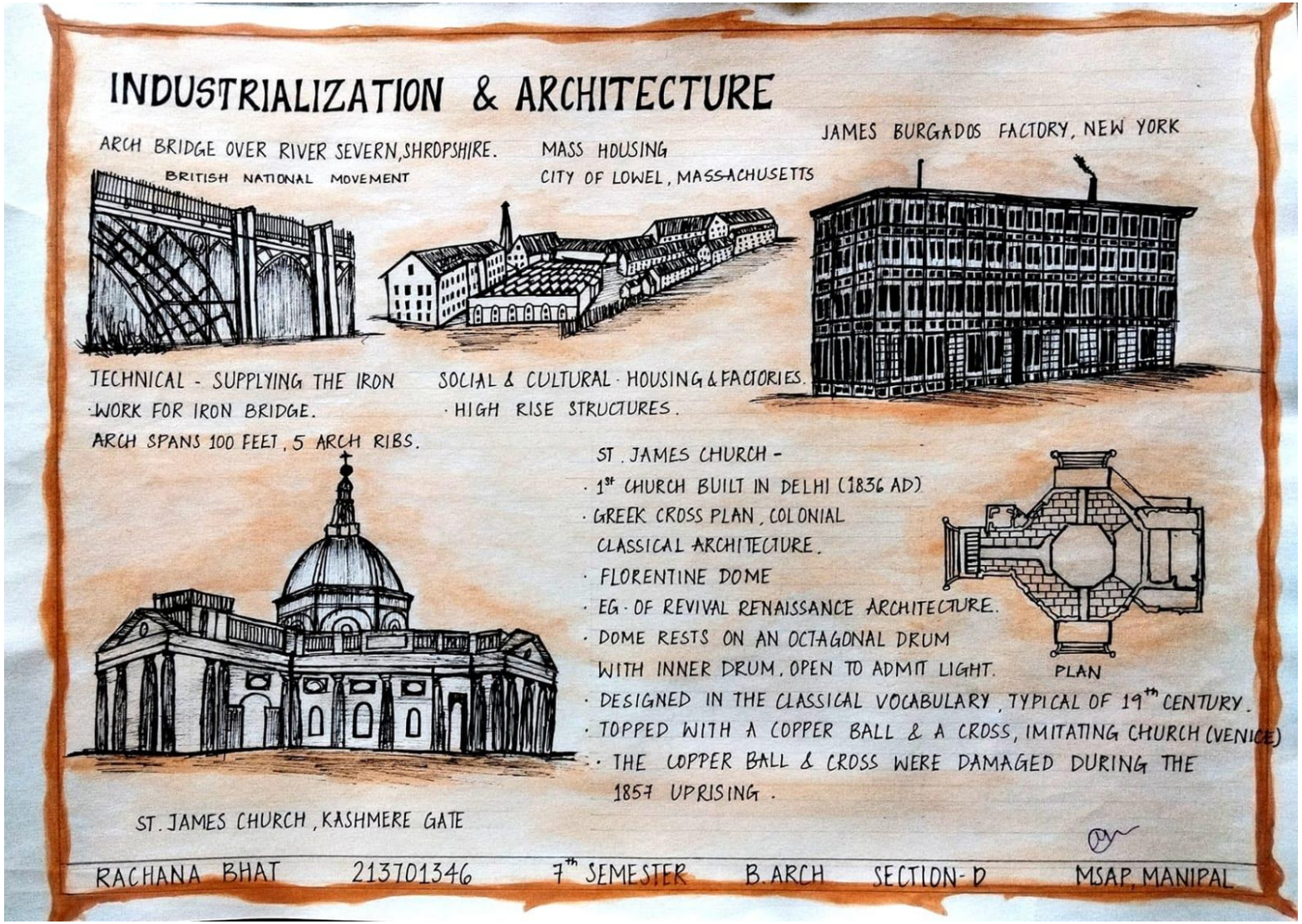
To explore the contributions of Master Architects in contemporary architectural practice.

PROJECT BRIEF:

This course offers an in-depth understanding of the conditions during the late 19th century, covering the Industrial Revolution in the West and the architectural styles that followed. It also examines the impact of modernism and postmodernism on Indian architecture and studies the notable works of prominent architects.



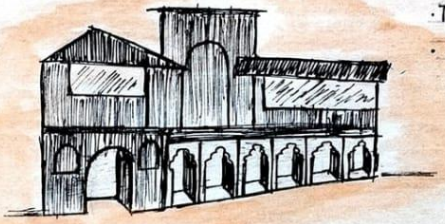
INDUSTRIAL REVOLUTION



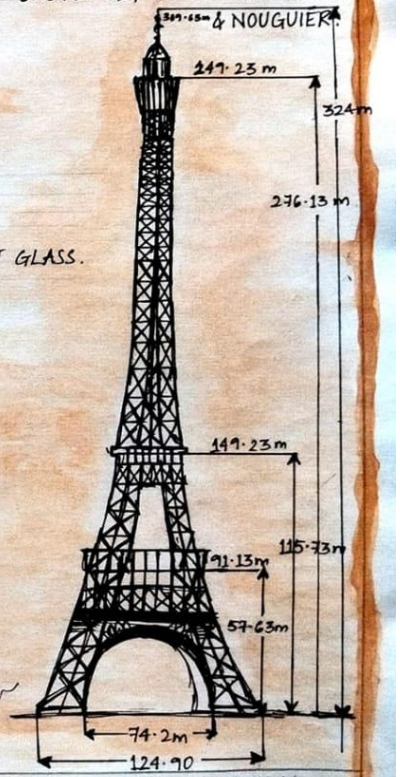
INDUSTRIAL REVOLUTION

OLD RAILWAY STATION (DELHI)
- BUILT IN 1867, OLDEST BRITISH BUILT
- GOTHIC - BASTIONS, IMPOSING FACADE, BRICK RED WITH WHITE.

DARA SHIKOH LIBRARY (DELHI)
- SON OF SHAH JAHAN. HEIR TO THRONE, BLUSTERED COLUMN.



THE UNIVERSAL EXPOSITION, 1889
- 100th ANNIVERSARY OF FRENCH REVOLUTION.
- **EIFFEL TOWER** BY GUSTAV EIFELL (BUILT FOR EXPO)
- TALLEST STRUCTURE WORLD WIDE THEN
- ARCHITECT - SAUVESTRE, DESIGN - KOECHLIN & NOUGUIER.



THE CRYSTAL PALACE (1851) BY SIR JOSEPH PAXTON
- DESIGN & HISTORY - 563 m LONG, 39m HIGH, LARGEST GLASS BUILDING AT THE TIME.
- PREFABRICATED IRON COLUMNS & GIRDERS ASSEMBLED ON SITE, LARGEST PANES OF SHEET GLASS.
- COMPLETELY DESTROYED BY FIRE IN 1936.

ELEVATION OF CRYSTAL PALACE

CRYSTAL PALACE MISFORTUNES -
- BAD LUCK & FINANCIAL CRISIS, DAMAGED BY STRONG WINDS IN 1861.
- FIRE ON DEC 30, 1886 - DESTROYED NORTH END
- FIRE ON NOV 30, 1936 (PALACE DESTROYED)

RACHANA BHAT 213701346 7th SEMESTER B.ARCH SECTION-D MSAP, MANIPAL.

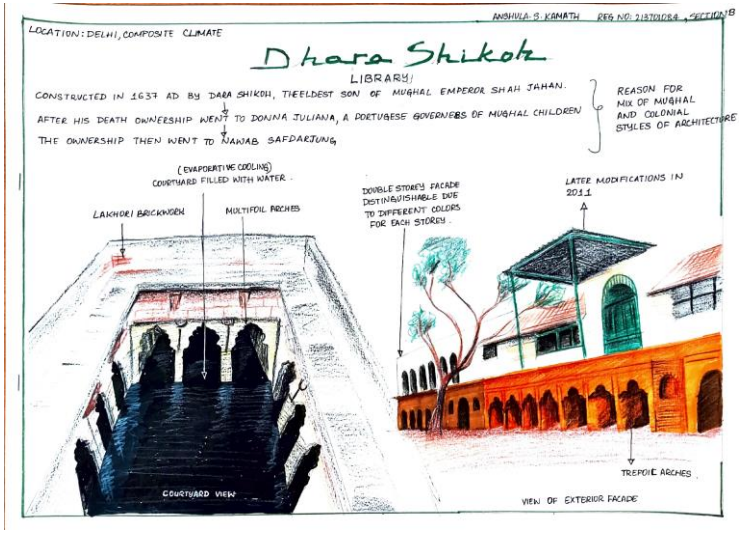
LATE MUGHAL AND INDUSTRIAL REVOLUTION

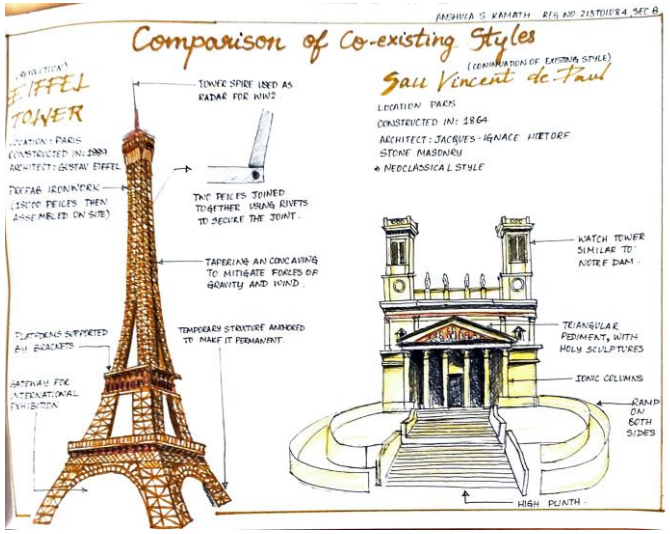
COURSE OBJECTIVES:

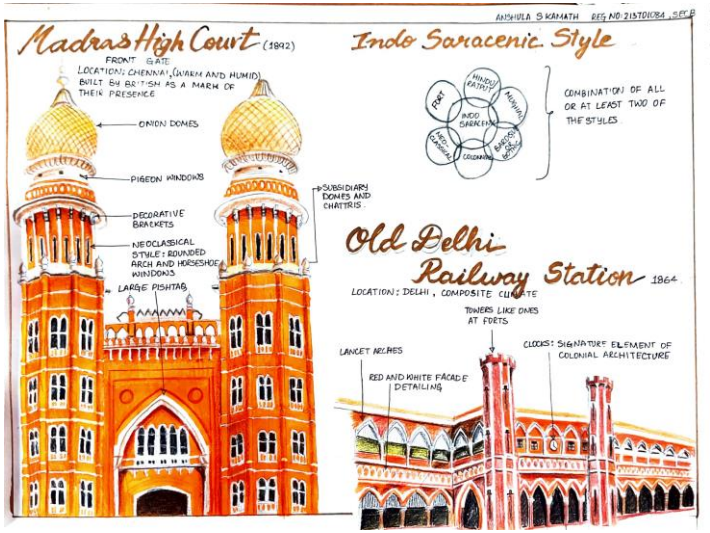
To study, the design transition from medieval architecture to industrial revolution, worldwide and in India. To understand how cultural, climatic, societal and political changes effected these transitions.

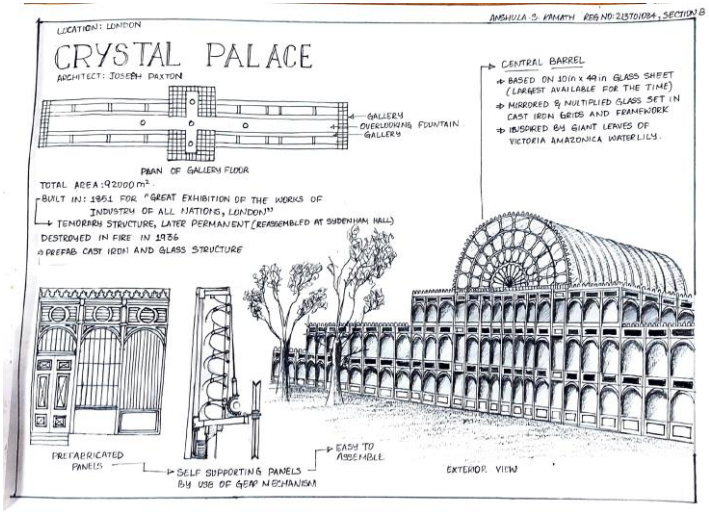
PROJECT BRIEF:

This course intends to introduce and understand late Mughal and industrial revolution era architecture, why certain changes took place, along with material and construction techniques.









ARC 4109 HISTORY THEORY & CRITICISM - V

WORKS OF FAMOUS ARCHITECTS- LAURIE BAKER

COURSE OBJECTIVES:

To study the architectural style and ideology of different architects. The architect that was allotted to our group was Ar. Laurie Baker. The impacts of an architects life over his designs has been studied along with impacts of context of the structures.

PROJECT BRIEF:

To study Laurie Baker's design principles using the structures he had designed. To understand various methods of designing, planning, decorating, and embellishing used by the architect. To understand his life impacted his design philosophies and in turn how it effected the users of the spaces.

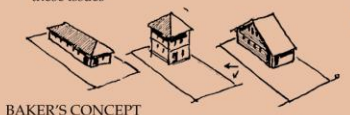
WORKS OF FAMOUS ARCHITECTS- LAURIE BAKER

FISHERMANS' VILLAGE *POONTHURA, TRIVANDRUM (1974-1975)*

A settlement designed by Laurie Baker for the cyclone hit tribals of Poonthura, who's primary source of income was fishing.

BACKGROUND

- The coastal settlements, or fishing villages in Kerala were periodically faced with extreme weather challenges like cyclones and heavy rain.
- Laurie Baker, in aid for these disaster-prone areas, designed the Fisherman village to respond to these issues



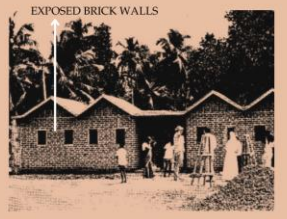
BAKER'S CONCEPT

- As a permanent community housing for tribals with limited resources the houses were built in clusters around a common area where their ties of kinship remain undisrubed.

This kind of arrangement also helps in reduction of intense solar radiations during late mornings and early mornings

CHALLENGES

- Due to strong ties of kinship, insular families and caste organisations, mediation of outside architect was hardly welcomed
- Limitation of mainland/city resources - conventional architects stayed away from these projects due to lack of funds and resources
- Dealing with large insular groups, with set ideas and traditions.
- Dealing with cyclones

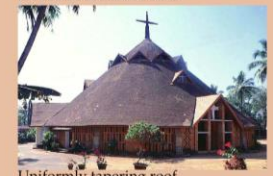


CLIMATIC ZONE

- Located in the warm humid climatic region of India.
- High humidity, strong sun and glare
- Long monsoon periods with heavy rains
- The breezes from the coast can alleviate discomfort considerably.

Courts provides unrestricted air movements within the settlement.

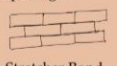
EXTERIOR FEATURES:



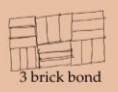
Uniformly tapering roof
Clerestory windows jutting out as gable windows from the conical roof

3 crosses

Granite and brickwork on facade.
Different styles of brick bond were used in same building.
Deep set openings,



Stretcher Bond



3 brick bond

Jhaali work and light shelves made with bricks is observed.
Fish tail terracotta tile roofing.

New Cathedral has two steps in its roof form.
The two steps are separated by a series of timber railings and louvers.

Catholic churches have spires/ turrets on there roof
Here we can see the same along with balcony like detailing

Similar to old Cathedral is has clerestory windows jutting out as gable windows from the conical roof

Porch has features similar to Kerala Houses with Mangalore Tile roof

Central conical roof has been covered in copper plates similar to traditional roofing of Kerala Temples.

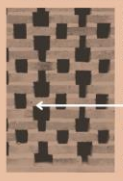
DIVYASTAMBHA:

A tower that is decorated with lights is often seen in Temple architecture. here it has been introduced as Bell tower.
Jhaali work on facade similar to Baker's work.

DESIGN STRATEGIES

- CONSTRUCTION
  - Exposed brickwork and structure
  - Sloped concrete roof
  - Continuous latticework in the exposed walls
  - Openness in design and individual units offset eacl other

- CYCLONE PROTECTION STRATEGIES
  - Low sloped roofs and courts serve as wind catchers
  - Open walls function to dispel it
  - Long row of housing replaced by even staggering
  - Fronting courts catch the breeze and also get view of sea



Jali wall: The cyclonic wind meets no resistance and is allowed to pass through the house through the continuous lattice works; cool interior reduce glare and create intricate pattern of light and shadow

STAGGERING:

The long row of conventional housing is replaced by an even staggering

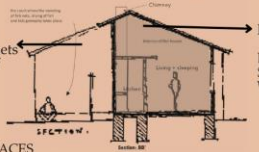
The way each unit ofsetted each other to create openness in the design

These open spaces are used advantageously for daytime activities

ZONING AND CIRCULATION

Little private rectangle of land in between houses for drying nets , kids play, also catch the breeze and also get a view of the sea

Court where mending of nets and drying of fishes takes place

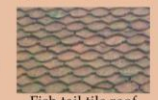


Interior unit-25m2
Living+ Sleeping+ Washroom

- OPEN SPACES
  - Private rectangle of land in between houses for drying nets , kids play,
  - Provides sleeping lofts within and adequate space outside for mending nets and cleaning and drying fish

STRUCTURAL DETAILS:

Granite and brickwalls of old cathedral were load bearing walls. It couldnt bear the weight of the roof.
Jackwood and Bamboo was used for timber roofing system.



Fish tail tile roof

Total Diameter of the Cathedral's conical roof:
120 feet (36.57m)

The timber roofing system was directly placed on the load bearing walls, without the aid of pendentives or drum.

They were assembled as individual trusses that met at the cone's tip

RCC structure with pendentives supporting the timber roof just like a dome

INTERIORS:

OLD CATHEDRAL

Random Rubble masonry wall
Stained Glass Windows
Lancet Arch
Openings in walls made with laying bricks such that it creates light shelves

Stained glass windows
Timber tretament to columns
Timber decor such as balusters
Biblical paintings

Pendentives
Blind Arches
Dentils
Brackets.

NEW CATHEDRAL

STUDENT: ANSHULA KAMATH (213701084), EESHA MULUMOODI (213701076), BIRJERANE YASHASWINI ANANTSAGAR (213701116) FACULTY: JAMBAVATI GOUDA

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

5

Architecture

ARC 5102 THESIS

SAMVAADA

COURSE OBJECTIVES:

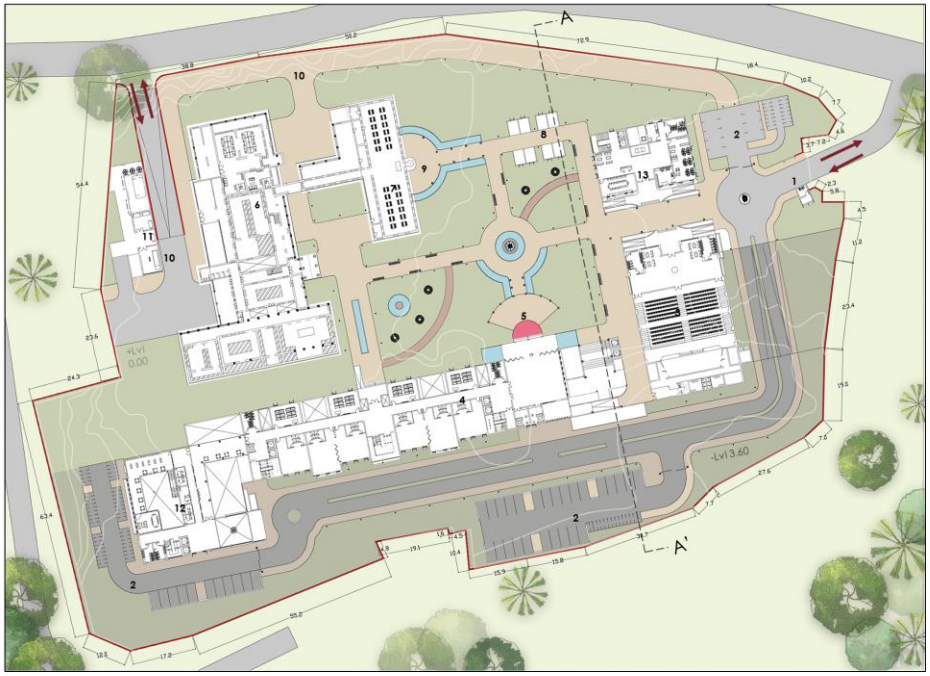
The thesis course enables students to independently explore architectural problems through critical research and design. It fosters innovation, contextual sensitivity, and professional competence. Emphasis is placed on sustainable, ethical solutions rooted in real-world issues. Students are trained to communicate their ideas effectively through drawings, models, and presentations.

PROJECT BRIEF:

This thesis proposes the adaptive reuse of the 400-year-old Old D.C. Office in Mangalore into a vibrant cultural hub. The project aims to conserve the site's architectural heritage while introducing new, context-sensitive interventions. It includes spaces for exhibitions, performances, education, and public engagement. The design integrates sustainable practices and encourages community-driven cultural tourism. Overall, it seeks to celebrate Mangalore's legacy through inclusive, functional, and meaningful design.

AERIAL VIEW

STUDENT: CHRIS EZDEN MORAS (203701010)
FACULTY: TN TRIVIKRAM



1. Entrance
2. Parking
3. Auditorium
4. Education Block
5. O.A.T.
6. Old D.C. Office
7. Café
8. Store
9. Memorial
10. Service Road
11. Services
12. Library Block
13. Admin Block
14. Visitors Court
15. Student Teacher Court

PROJECT BRIEF:

The inspiration for this project stemmed from witnessing the rich cultural fabric and architectural legacy of Mangalore being overlooked amidst urban growth. A visit to the Old D.C. Office during Heritage Week sparked the vision to revive the space as a vibrant cultural landmark through adaptive reuse.

View of the Roofline of the EDU Building

View of the Site Entrance

View of the Old D.C. Office

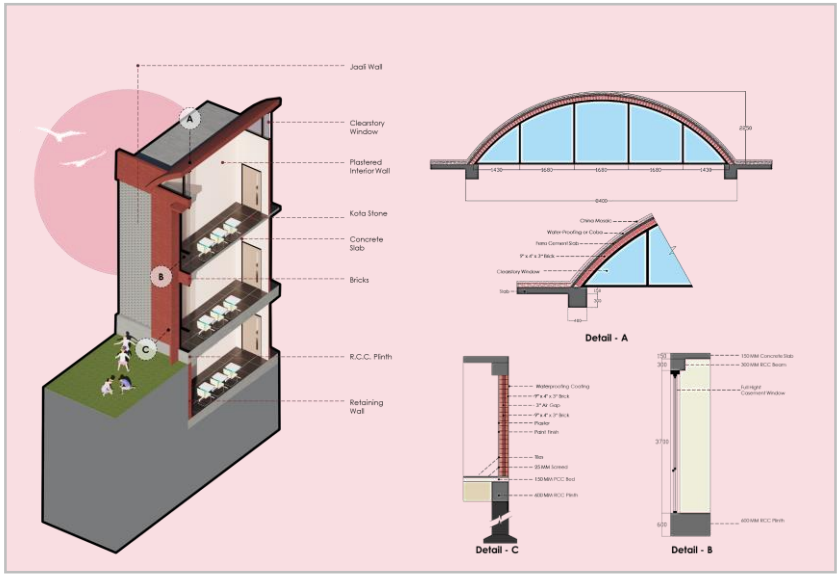
View of the Site Entrance

Site Section A-A'

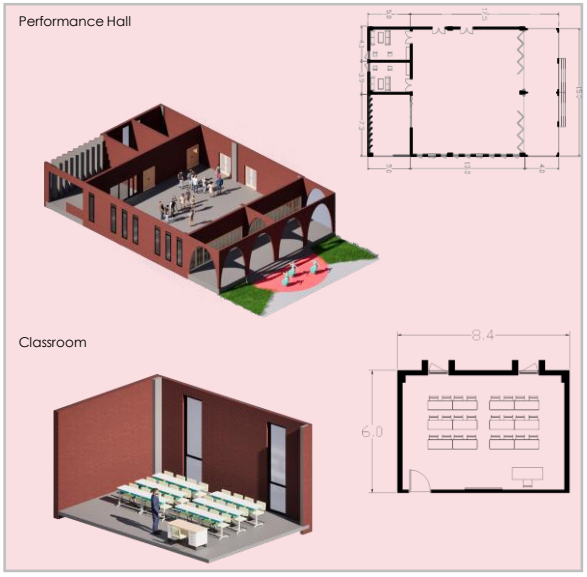
MATERIALS & CONSTRUCTION TECHNIQUES:

The project employs traditional materials like laterite stone, Mangalore tiles, timber, and lime plaster to retain the site's historic character. New additions are constructed using RCC frames with exposed concrete and locally sourced bricks, ensuring structural integrity while maintaining aesthetic continuity.

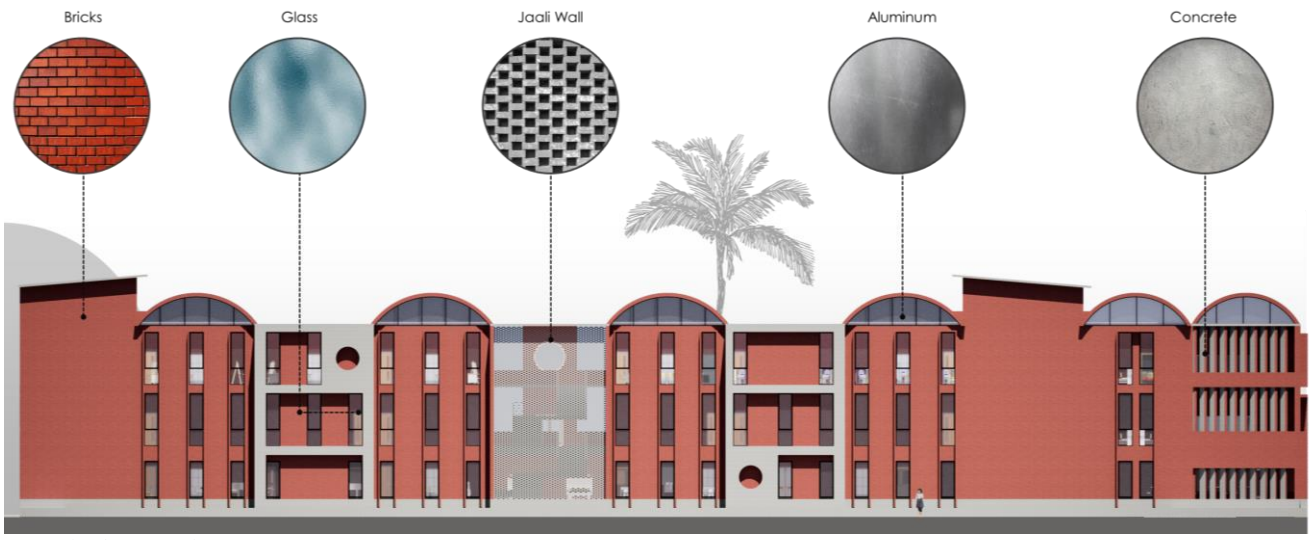
Jaali walls and vaulted roofs are incorporated for passive ventilation and climatic responsiveness. Sustainable techniques like rat trap bond masonry and recycled timber elements are used to balance heritage with modern efficiency.



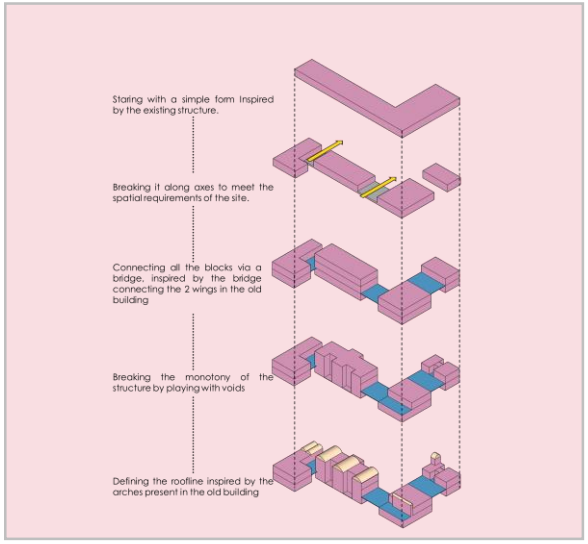
Wall Section & Details



Modules



East Elevation of the Academic Block



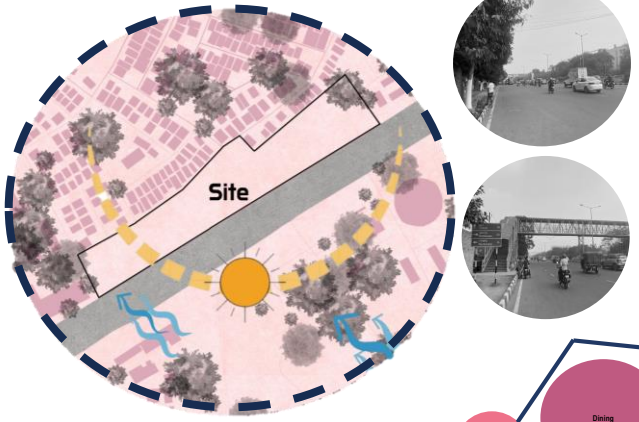
Form Development

SHILA SAMRUDHI BHAWAN- MIXED USE BUILDING

COURSE OBJECTIVES: To enable students to explore and present their projects based on individual interests. To develop and illustrate the proposed solution for the chosen architectural design problem in coordination with the assigned guide. To effectively communicate and represent design solutions at various stages through sketches, conceptual drawings, detailed design and technical drawings, models, and reports

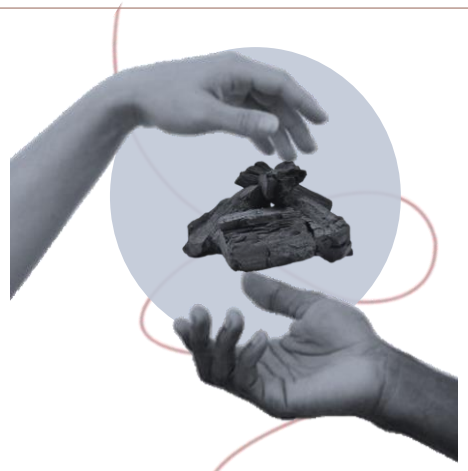
PROJECT BRIEF:

Odisha Mining Corporation (OMC) is developing its new headquarters on a six-acre site along the Chennai-Kolkata highway. One-third of the land is for office use, with the rest dedicated to commercial and public recreational spaces. The project, featuring a 500-meter frontage, aims to foster operational growth while offering co-working spaces and amenities, creating a multifunctional urban hub for community engagement.

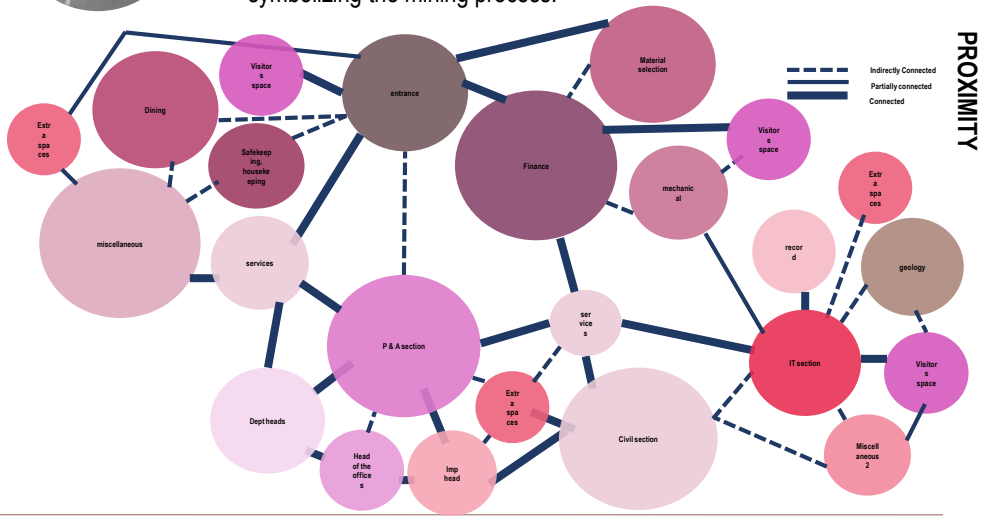


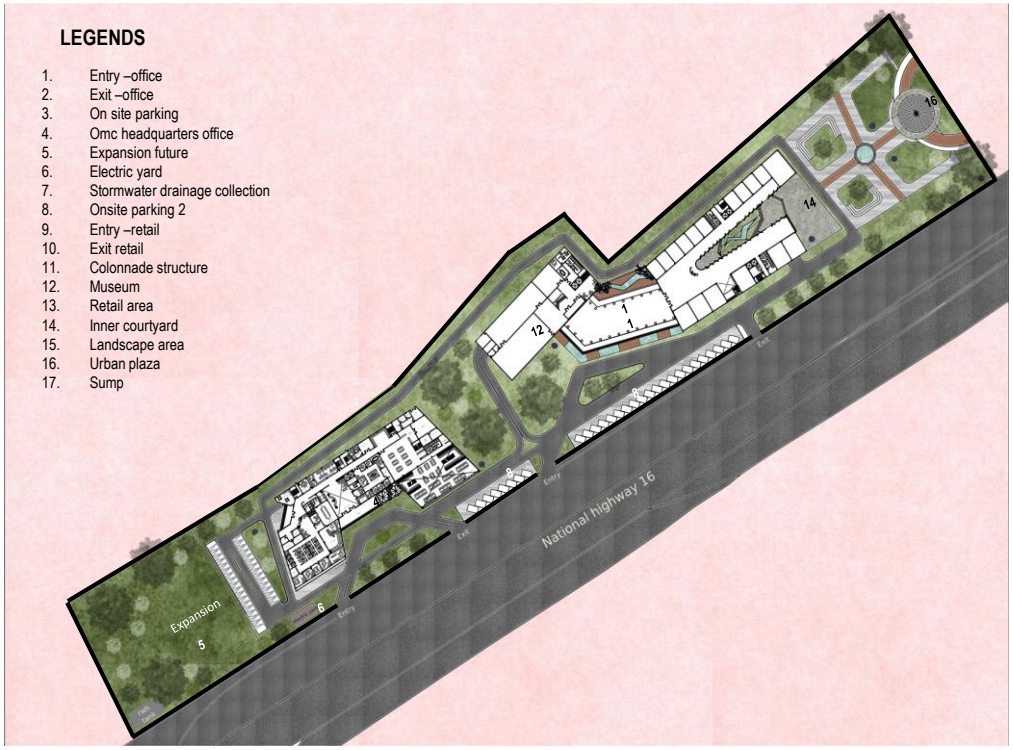
SITE ANALYSIS

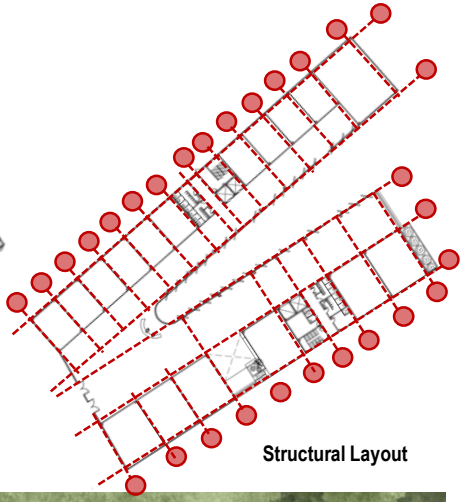
Located along NH16, the site offers high visibility and access, adjacent to Crown Hotel and surrounded by mixed-use areas. With a tropical savanna climate, the cleared plot is ready for development. High footfall is driven by urban growth and cultural activity. Peak-hour traffic is managed by a footbridge, but pedestrian paths need improvement.

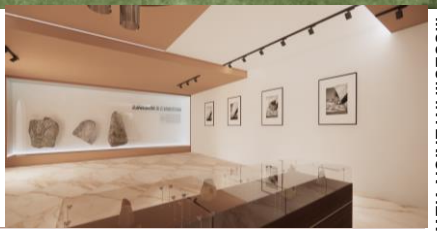


The design of the government mining office is inspired by coal mines, featuring stepped terraces, tunnels, and a central focal space. It reflects the spatial hierarchy of mines, ensuring an organized and efficient office layout while symbolizing the mining process.









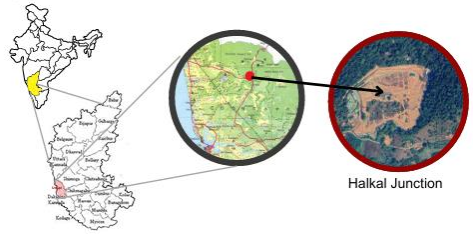
MUSEUM INTERIOR VIEWS

EKATVA LEARNING CENTRE FOR AUTISM

PROJECT BRIEF:

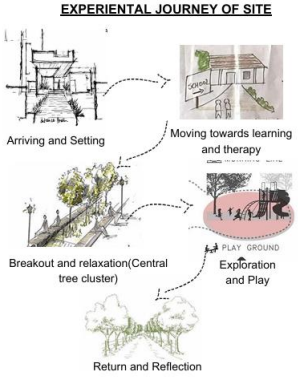
Ekatva is a therapeutic learning center for autistic children aged 5–18, integrating inclusive education, therapy, and nature-based experiences. Located in Halkal, Udupi, the 8.5-acre campus blends architecture and landscape to create a sensory-safe, culturally rooted, and accessible environment.

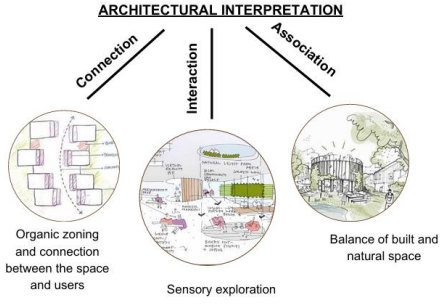
GPS Coordinates 13°49'38"N 74°48'07"E



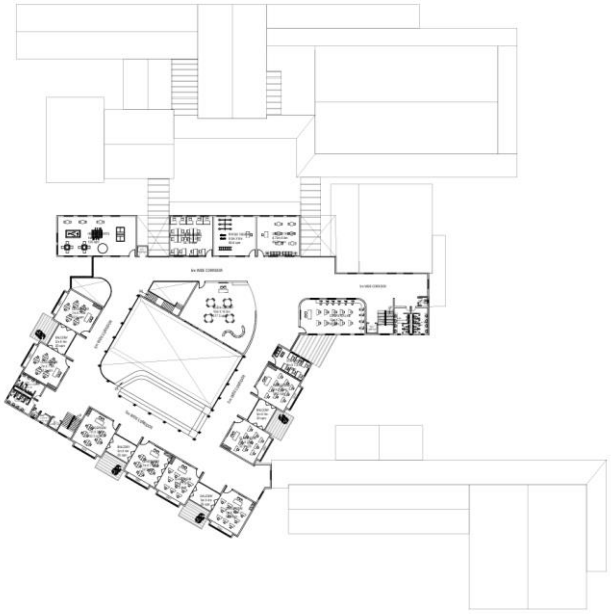
CONCEPT:

"Samsarga" – meaning connection and interaction – is the soul of Ekatva. Inspired by vernacular architecture, natural topography, and autism-responsive design, the center evolves as an organic cluster of therapeutic and learning spaces.



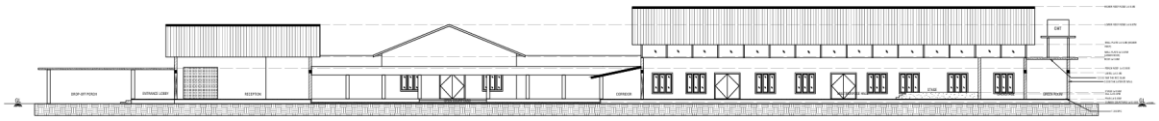


EKATVA LEARNING CENTRE FOR AUTISM

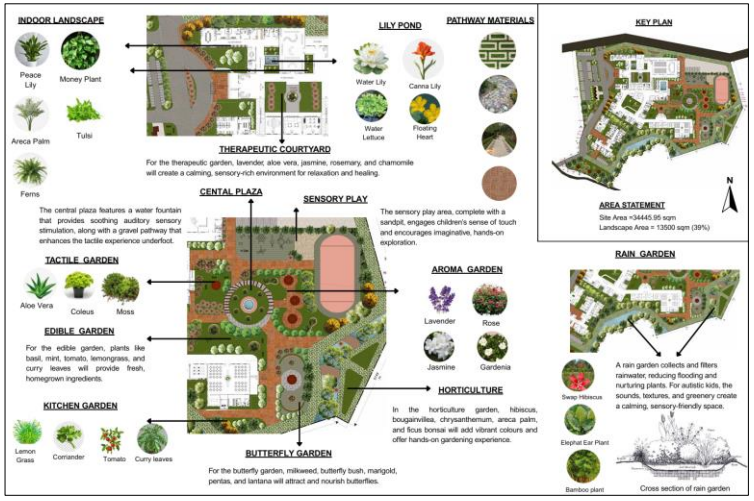


Ekatva fosters healing through connection—merging sensory-responsive architecture with nature to support the unique journeys of autistic children.

SECTION



ELEVATIONS



MASTERS OF URBAN DESIGN AND DEVELOPMENT

Postgraduate Program

Masters of Urban Design and Development
Postgraduate Program

Year

1

Architecture

DESIGN PROPOSAL

COURSE OBJECTIVES:

The studio serves as an introduction to the realm of urban design. The objective is to introduce the complexities of the design process and to create an understanding of the role of various physical, social, economic and infrastructure components and decision-making processes and the contribution to related disciplines associated with the making of the city

PROJECT BRIEF:

The studio began with preliminary study of the city – Udupi . Analyzing the city with primary and secondary sources through the lens of history, morphology, socio - culture, economics, statistical data's and stakeholder perspectives. After synthesizing the data, issues were identified and a vision for the city was developed, further leading to group missions and individual thematic proposals

VISION

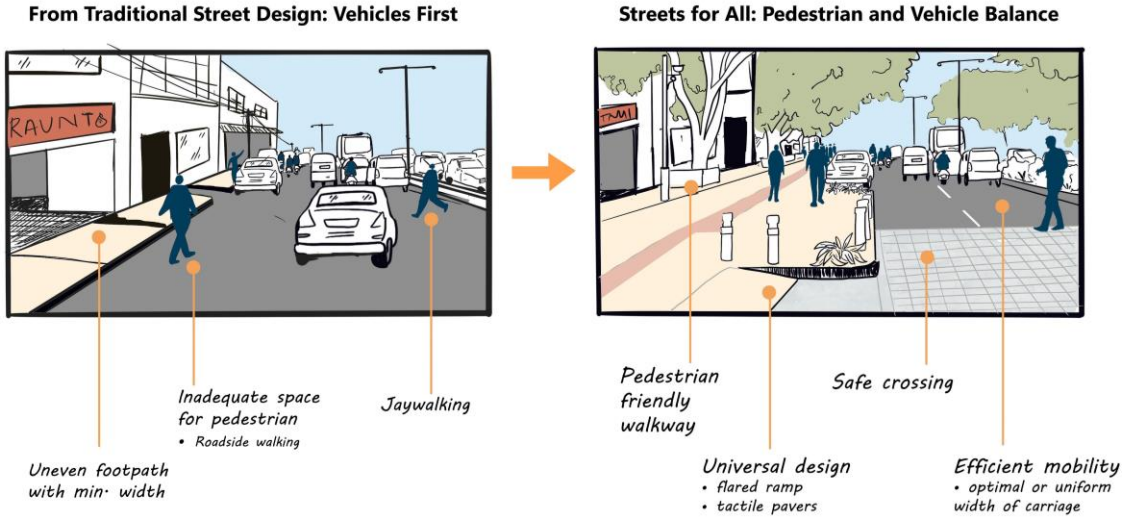
Strengthening the cultural identity and enhance the quality of life through inclusive and sustainable development

MISSION

Enhance accessibility: improving public infrastructure to accommodate people of varying needs and abilities

THE PARADIGM SHIFT

From streets primarily designed for vehicles to streets that accommodate both pedestrians and vehicles



CONCEPT OF "STREETS FOR ALL"

PLACES FOR PEOPLE

Inclusive with universal design

SAFETY

Safe from conflicts between pedestrian and vehicles

CONNECTIVITY

People should move efficiently and conveniently

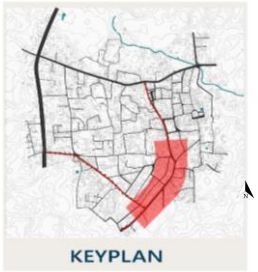
LIVELY

Vibrant spaces

ADAPTABLE

Design to adapt to different climatic conditions

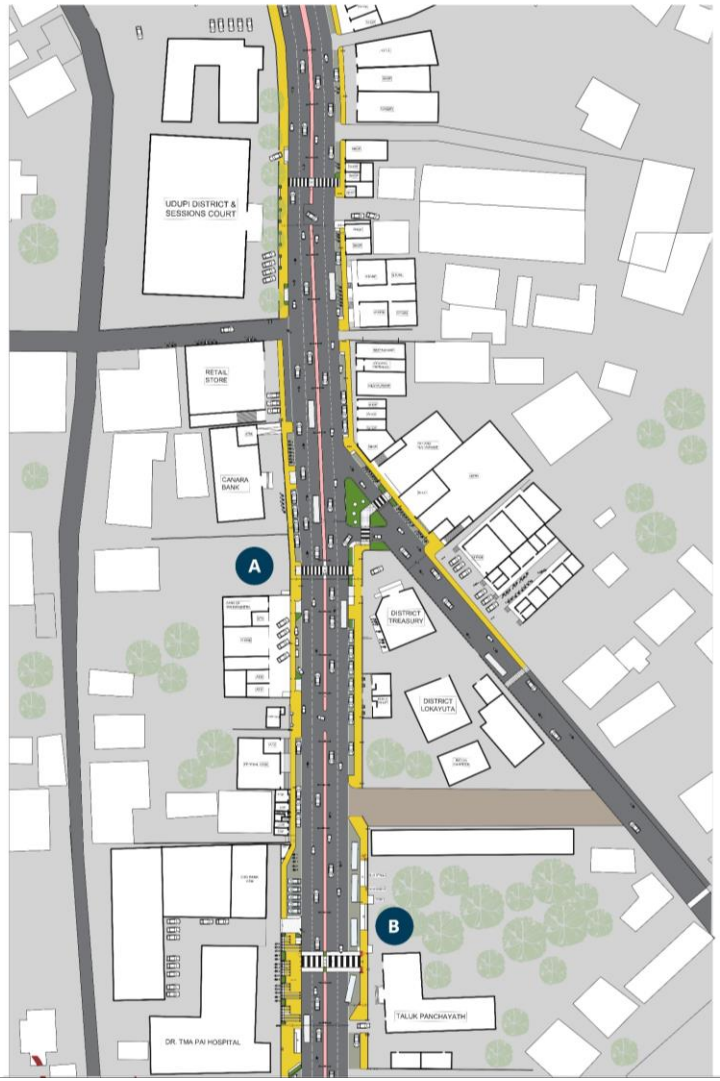
DESIGN PROPOSAL



DESIGN DEMONSTRATION :
This stretch of road (Court Road, Udupi) has been chosen based on

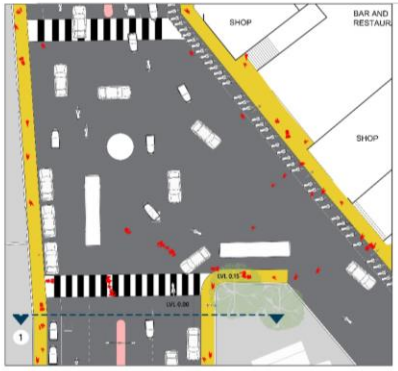
Connectivity
Mixed land use
Multiple destination points (Magnet points)
Morphology
Activities
Diverse users

DESIGN PROPOSAL : PLAN SCALE 1:500

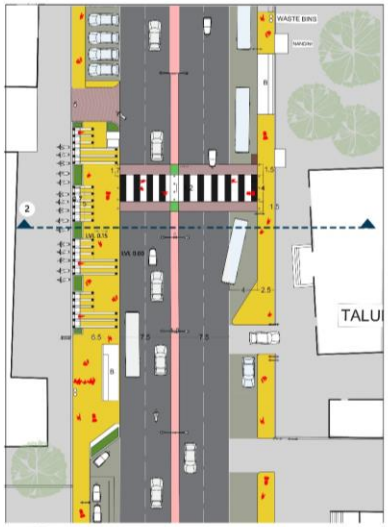


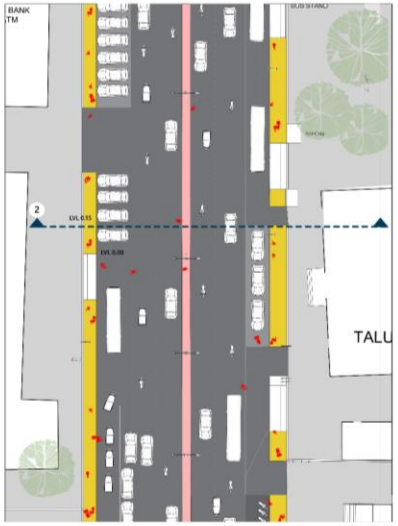
PROPOSED PLAN

EXISTING PLAN SCALE 1:200



A Lion Circle Junction





B Dr. TMA PAI Hospital Area

DESIGN PROPOSAL

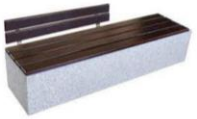
Materials :

Road : Asphat

Parkings : Semi- permeable concrete pavers

Ramps : Textured concrete

Seatings : Precast concrete



Shades : Transparent Polycarbonate sheet & Aluminium Pergola

This pocket design aligns with AMRUT scheme with contribution to more pedestrian friendly spaces

- Seamless connectivity and uninterrupted pedestrian movement
- Shaded areas with seatings
- Greens
- Direct connectivity to auto stand & bus stand

DESIGN PROPOSAL

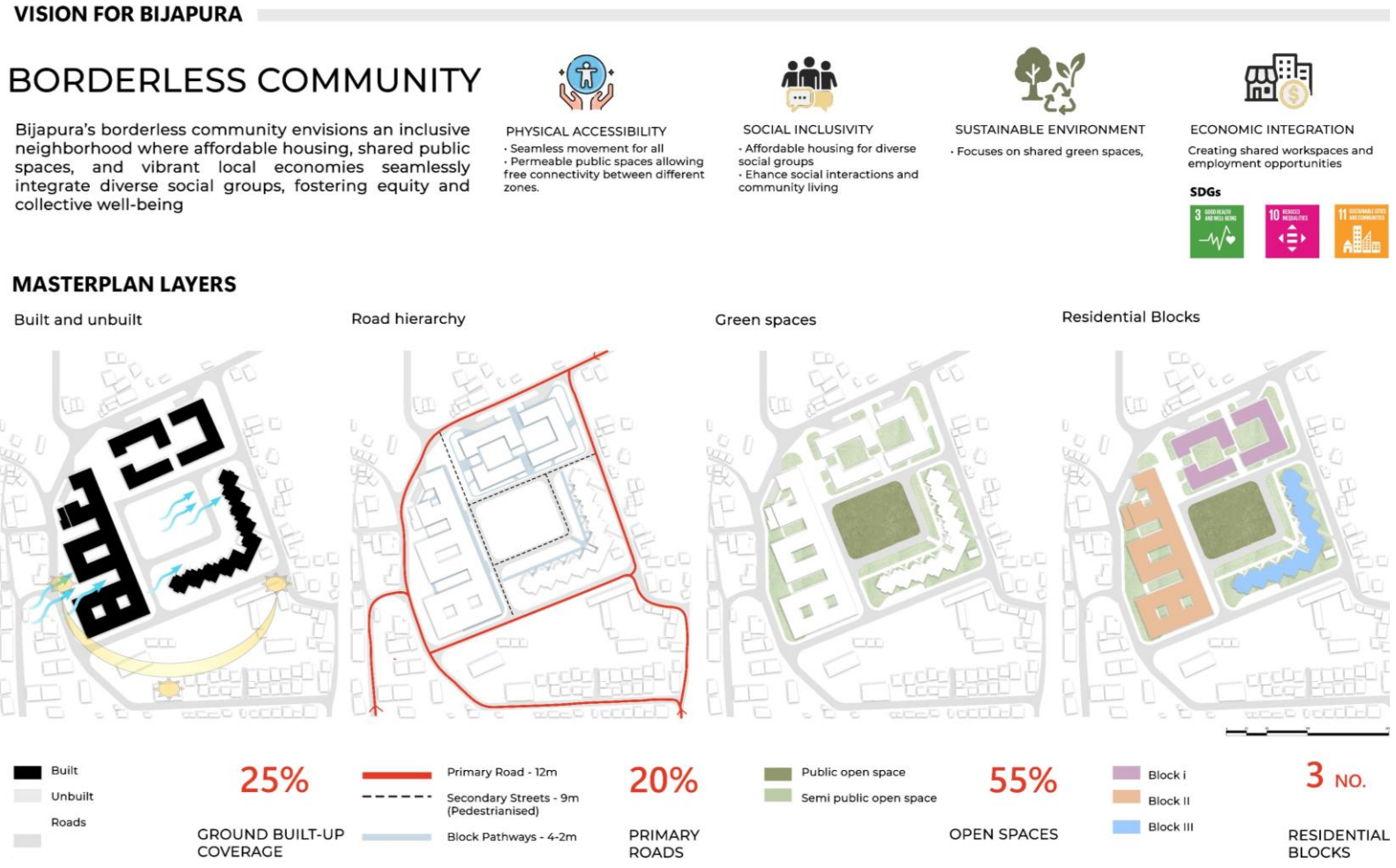
COURSE OBJECTIVES:

The objective of this studio is to study and propose design demonstrations in a city that is growing in contemporary times and embedded in cultural heritage and demonstrate interventions through urban design proposals.

- **Data Analysis**: Analyze primary and secondary data to address urban issues.
- **Issue Prioritization**: Identify and rank urban challenges using multi-criteria analysis.
- **Strategic Design**: Develop context-based, sustainable strategies and guidelines.
- **Planning & Proposals**: Create master plans and site-specific design solutions.

PROJECT BRIEF:

Bijapura Colony Mulki, originally developed in the 1990s as a slum, has evolved significantly but remains perceived as an EWS or slum area. Situated near Mulki's industrial zone, it faces pressures from urban expansion. This study examines its land use, housing, and infrastructure, while analyzing the impacts of nearby industry, zoning conflicts, pollution, and socio-economic issues. It also explores urban design strategies to enhance livability alongside industrial growth.



DESIGN PROPOSAL

MASTER PLAN :

The master plan emphasizes project redevelopment aligned with guidelines tailored for this type of transformation—shifting from ground-oriented to vertical community development. The project adopts a phased development approach, with a strong focus on community engagement and inclusive growth.

Type Of Project : Housing Project

Site Area :15. 5 Acres (62,450 sq.m)

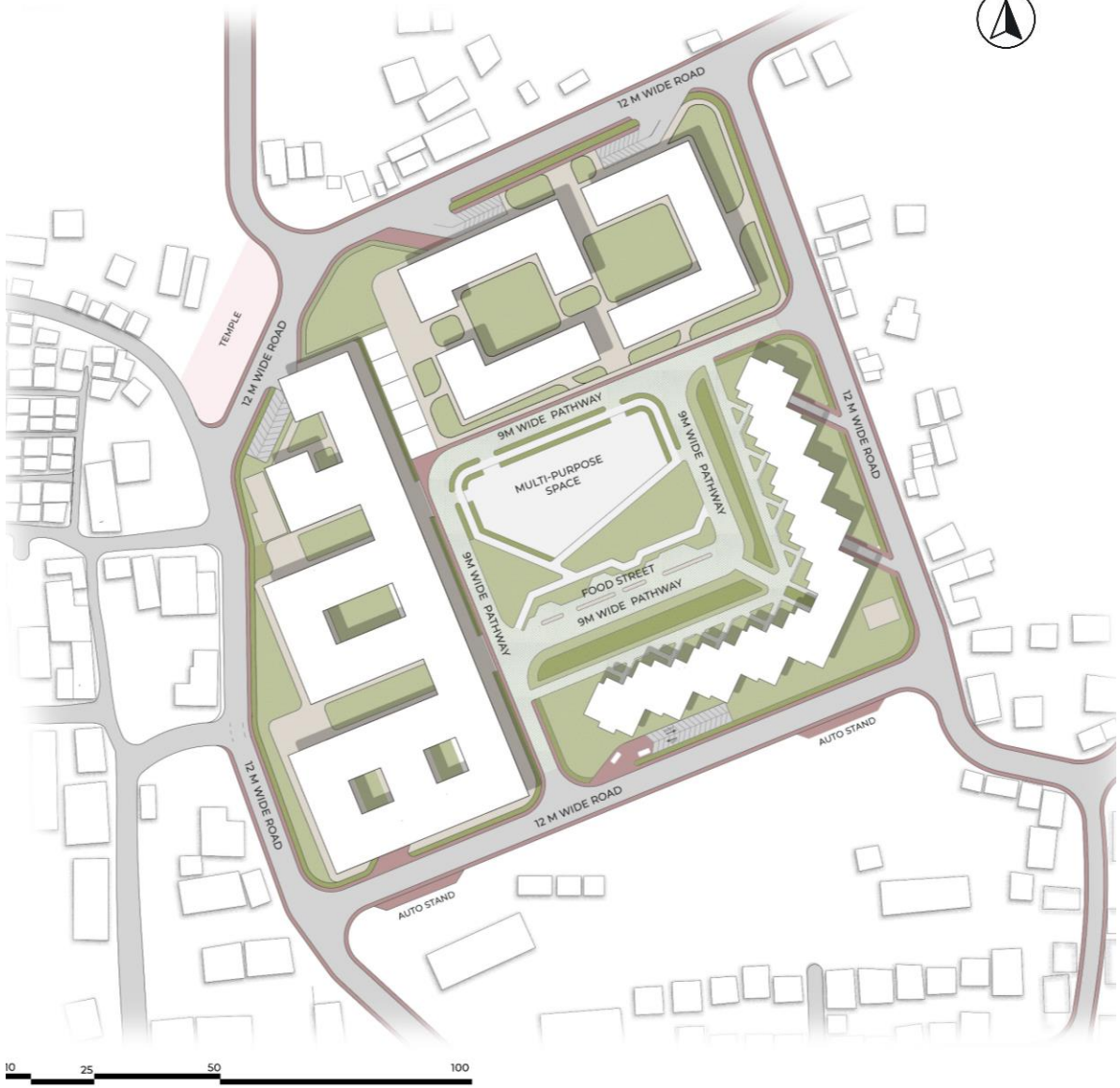
Phases of project : 3 Phases

Total build up area : 1,39,000 sq.m

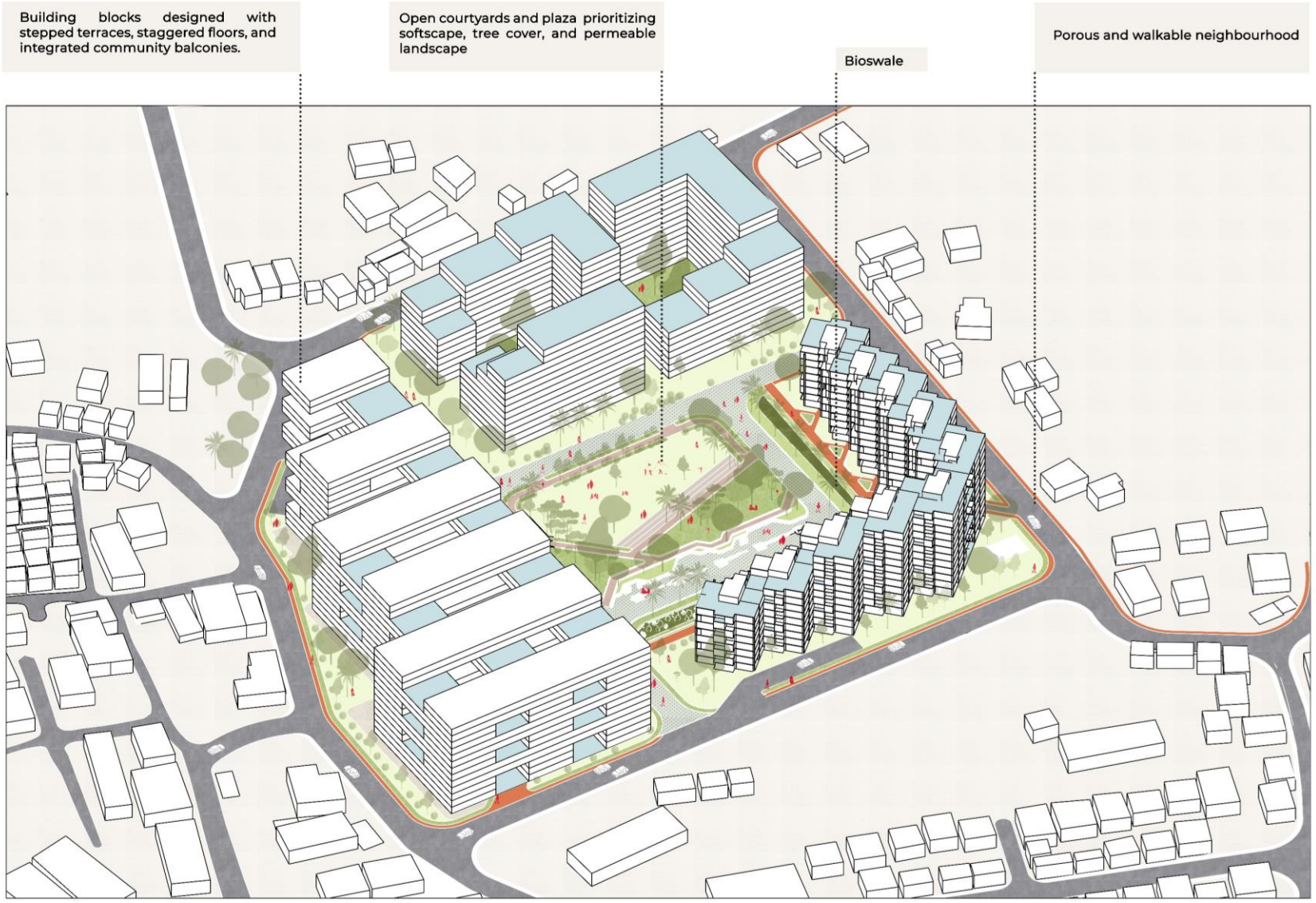
Total ground cover : 35,000sq.m (25% of site area)

Total Green cover space : 40% of site area

KEY PLAN :



DESIGN PROPOSAL



DESIGN DEMONSTRATION

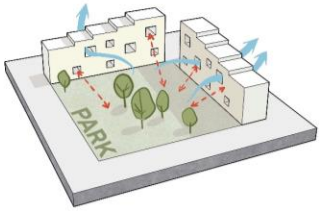
PHASE II

BLOCK II & CENTRAL PUBLIC PLAZA

TOTAL AREA : 23280 sqm

TOTAL UNITS : 420
NO. OF 50SQM UNITS : 278
NO. OF 70 SQM UNITS : 114
NO. OF 100 SQM UNITS : 28

GROUND COVERAGE : 3645sqm
BUILT-UP AREA : 34296sqm
MAJOR PUBLIC PLAZA : 6046 sqm

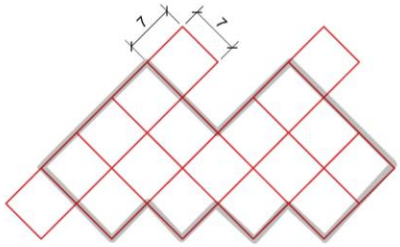


Block II has been oriented strategically to maximize views into the central plaza which also provides shade to enhace the comfort of the spaces. This approach makes the transition from built environment to its surrounding more fluid and inviting, additionally fostering as sense of natural surveillance all throughout the day.

Keyplan

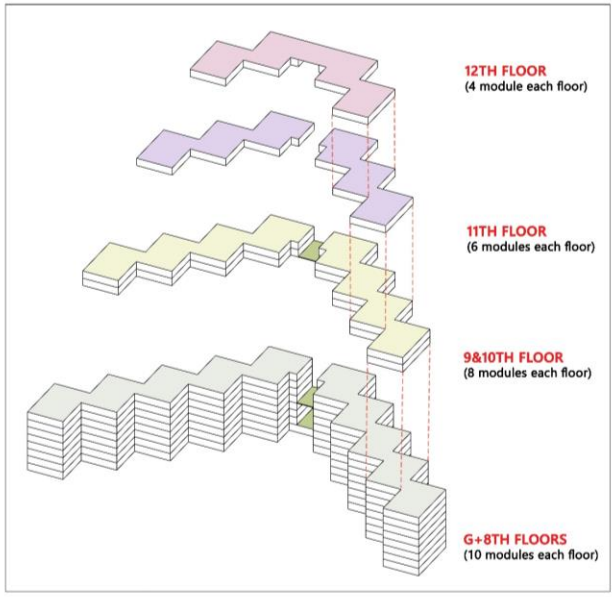
DESIGN DEMONSTRATION

MODULE GRID



Following a Grid of 7'x7' to achieve the unit sizes per requirement and tilted at 45° to achieve the form which enables a seamless interplay of solids and voids

BLOCK II FORM

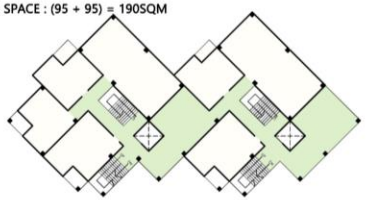


MODULAR FLOOR PLANS

SHARED SPACE:

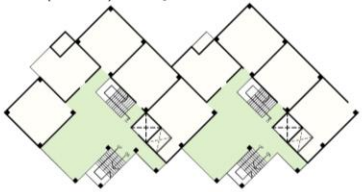
FOURTH FLOOR

50 SQM : 7 UNITS
70 SQM : 2 UNITS
TOTAL AREA OF SHARED SPACE : (95 + 95) = 190SQM



THIRD FLOOR

50 SQM : 6 UNITS
70 SQM : 2 UNITS
TOTAL AREA OF SHARED SPACE : (100 + 100) = 200SQM

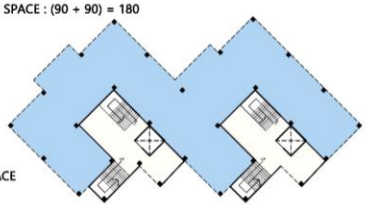


SECOND FLOOR

50 SQM : 7 UNITS
70 SQM : 2 UNITS
TOTAL AREA OF SHARED SPACE : (112+ 112) = 224SQM

FIRST FLOOR

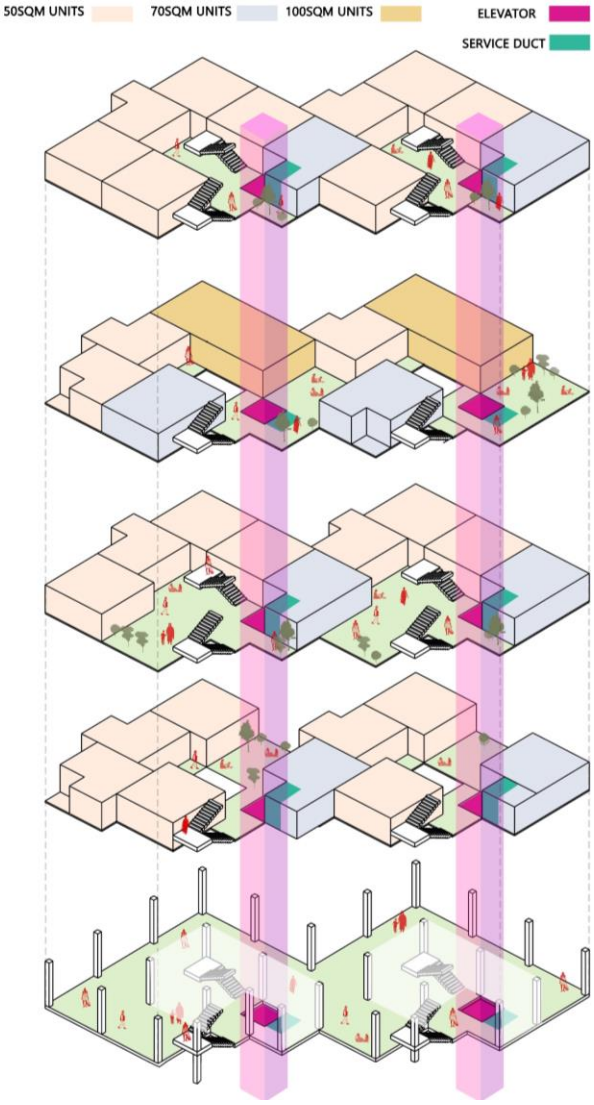
50 SQM : 9 UNITS
70 SQM : 2 UNITS
TOTAL AREA OF SHARED SPACE : (90 + 90) = 180



GROUND FLOOR

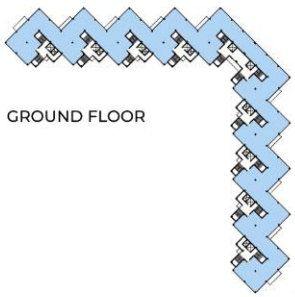
ENTRANCE LOBBY
OPEN COMMERCIAL SPACE

3D VIEWS



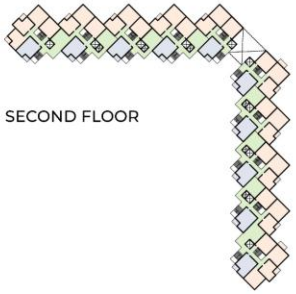
DESIGN DEMONSTRATION

FLOOR PLANS

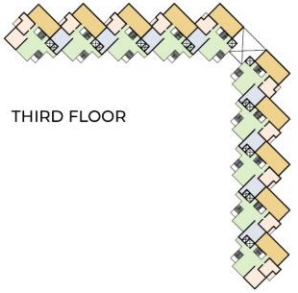


GROUND FLOOR

FIRST FLOOR

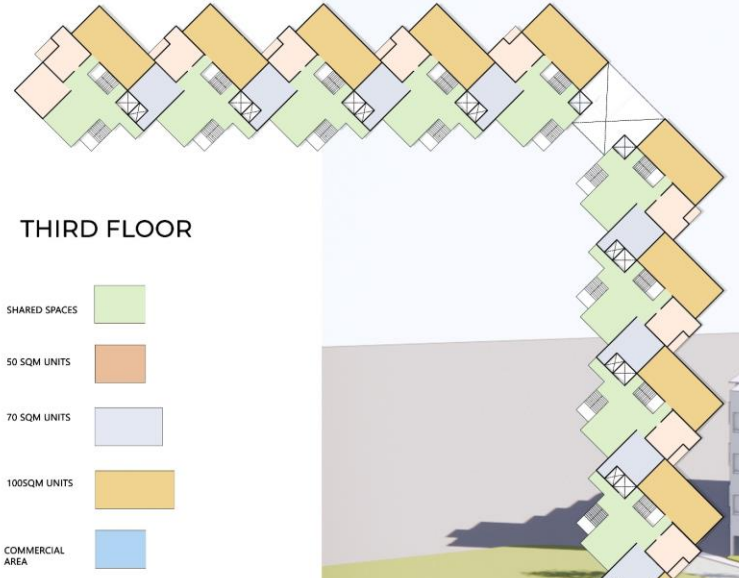


SECOND FLOOR



THIRD FLOOR

FOURTH FLOOR



THIRD FLOOR

SHARED SPACES

50 SQM UNITS

70 SQM UNITS

100SQM UNITS

COMMERCIAL AREA

SHARED SPACES: These spaces interconnects each floor to foster a sense of community, encourage spontaneous interactions and create a dynamic flow between the private and communal areas

BLOCK MODEL

DESIGN DEMONSTRATION

CENTRAL PUBLIC PLAZA

Positioned at the heart of the neighbourhood, designed for seamless accessibility from all surrounding blocks. The space is conceived as a multifunctional urban node, integrating zones for play, leisure, active recreation, quiet contemplation, and vibrant food streets — all curated to foster a lively and inclusive community atmosphere.

DESIGN DEMONSTRATION

PHASE III

TOTAL SITE AREA - **16, 360 SQ.M**

GROUND FLOOR BUILT-UP AREA - **6, 000 SQ.M**

HEIGHT OF THE BUILDING - **G+ 12**

The third phase of the project marks a significant milestone in the overall development of Bijapura Colony. As the largest phase in terms of residential capacity, it is designed to accommodate both the projected population growth and a portion of the existing community.

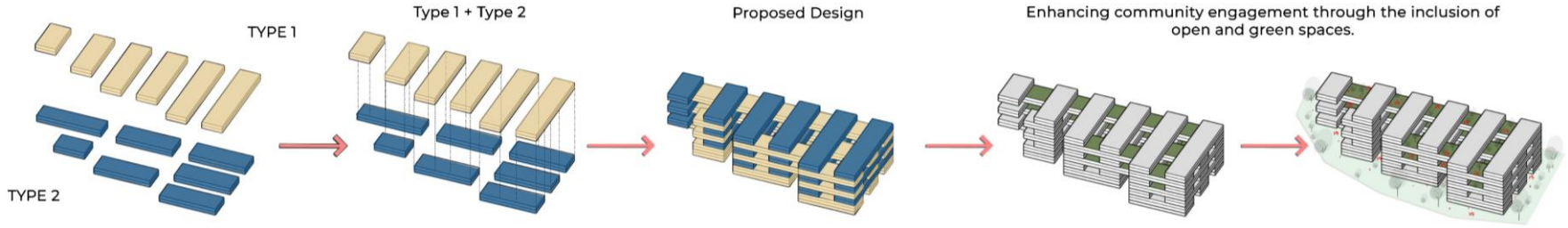
This phase not only addresses the housing demand but also enhances community engagement by fostering a vibrant and inclusive living environment. The design strategically integrates open spaces at multiple levels, promoting social interaction, environmental quality, and a strong sense of place within the neighborhood.

KEY PLAN

STUDENT: HARISH KARTHIKEYAN (243710003)
FACULTY: DEEPIKA SHETTY, SUNDEEP KUMAR S

DESIGN DEMONSTRATION

PHASE 3 - CONCEPT DEVELOPMENT



GROUND FLOOR PLAN

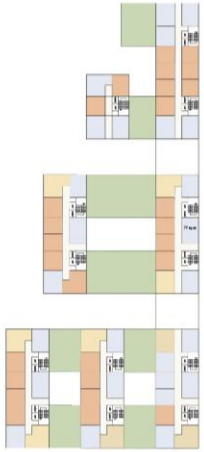
(For Commerical & Amenties)

MODULAR FLOOR PLAN

Total no of Floor : G+ 12

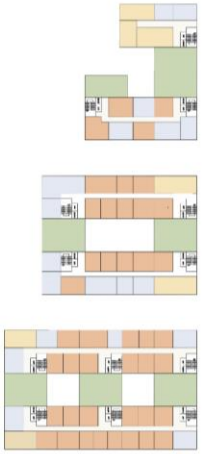
TYPE 1

(1 - 2, 5 - 6, 9 - 10 floors)



TYPE 2

(3 - 4, 7 - 8, 11 - 12 floors)



3D VIEW

Commercial Space

Entrance Lobby

Amenities

TYPOLOGIES

No of units as per calculation :

50 - 65 SQ.M — 402 units

65 - 85 SQ.M — 160 units

Total no of units : 670 units

85 - 100 SQ.M — 108 units

The proposed typology presents a self-sustaining housing model that combines a mix of residential units with integrated amenities and open spaces distributed across different levels.

Ground-floor commercial spaces are included to activate the street edge and support daily needs, fostering a vibrant and livable community.

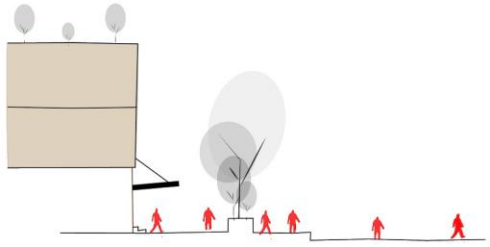
This design aims to create a holistic urban living environment that promotes sustainability, social interaction, and convenience.

DESIGN DEMONSTRATION

COMMERCIAL FRONTAGE

The third phase of the project marks a significant milestone in the overall development of Bijapura Colony. As the largest phase in terms of residential capacity, it is designed to accommodate both the projected population growth and a portion of the existing community.

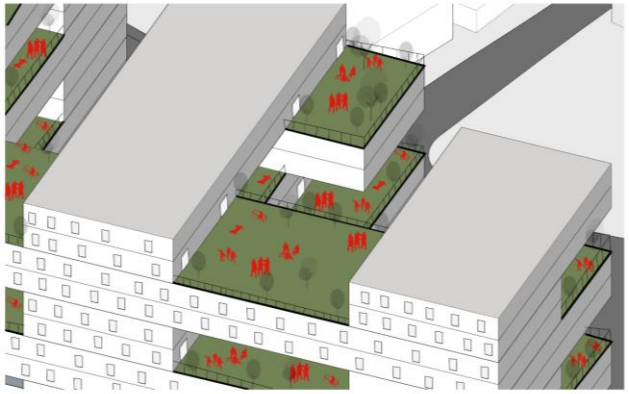
This phase not only addresses the housing demand but also enhances community engagement by fostering a vibrant and inclusive living environment. The design strategically integrates open spaces at multiple levels, promoting social interaction, environmental quality, and a strong sense of place within the neighborhood.



SECTION

KEY PLAN

OPEN SPACES ON TERRACES



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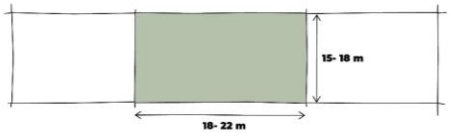
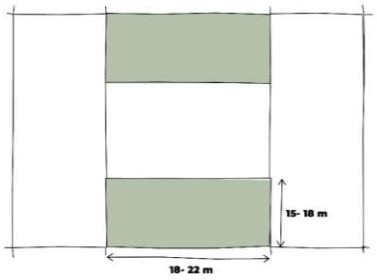


TYPE 1



DESIGN PROPOSAL

COURSE OBJECTIVES:

This course is an introduction to understand the complexity and importance of urban transport in contemporary times

- Understand different attributes of urban transport system
- Interpret and evaluate different concepts and approaches to sustainable transport
- Make use of different data collection and interpretation techniques to understand travel behavior
- Recommend design strategies to make effective transport for all.

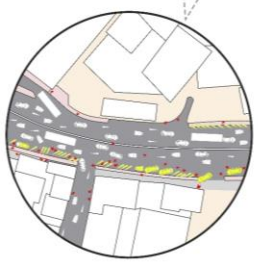
PROJECT BRIEF:

This exercise allows us to evaluate the transport related issues and demonstrate a design-oriented solution in the given context

DEMONSTRATION AREA:
TIGER CIRCLE TO MIT GATE 1

This road stretch is one of the busiest in Manipal, with several major magnet points such as the Kasturba medical hospital, Manipal commercial complex and Canara mall along with bus stand and several smaller but active commercial shops, serving as a crucial link for students, residents and overall users

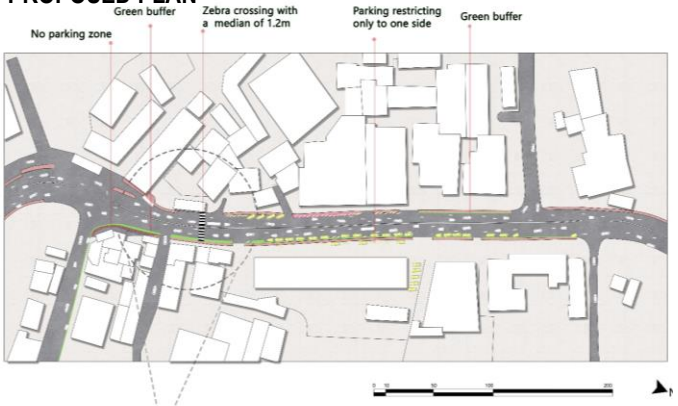
EXISTING PLAN

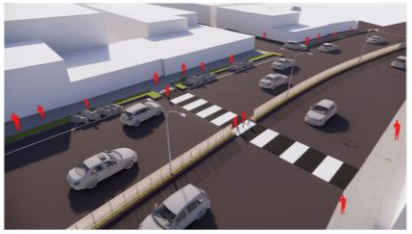


Poor pedestrian infrastructure in some sections, with uneven surface or obstructed footpaths by car parking, forcing the pedestrians to walks on the roadside

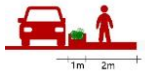
Unorganized parking near commercial zones
Businesses spill over onto the street, further increasing pedestrian-vehicle conflicts.

PROPOSED PLAN





DESIGN STRATEGIES



Minimum barrier to pedestrian movement : Channeling the pedestrian back to footpaths

- Even footpath width of 2m min. with even surface
- 1m planter box between the footpath and the road to avoid encroachment of parked cars into the footpath

- Clearly demarcate parking area
- No parking 20m from junction
- Only parallel parking for cars to be allowed on roadside parking

- Crosswalk with median
- Install speed cameras near pedestrian crossings to prevent over speeding with fine violators to ensure compliance.

MASTERS OF ARCHITECTURE

Postgraduate Program

Masters of Architecture
Postgraduate Program

Year

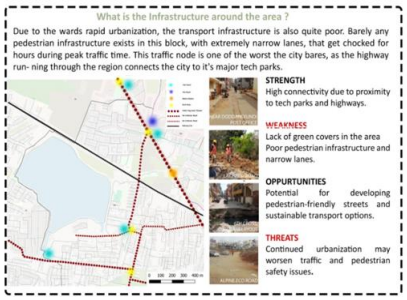
2

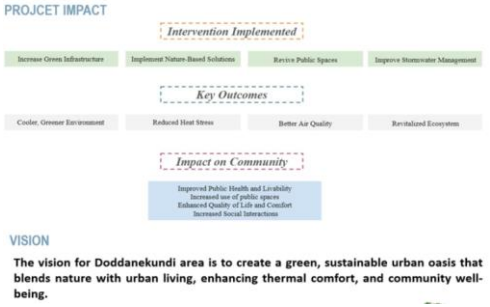
Architecture

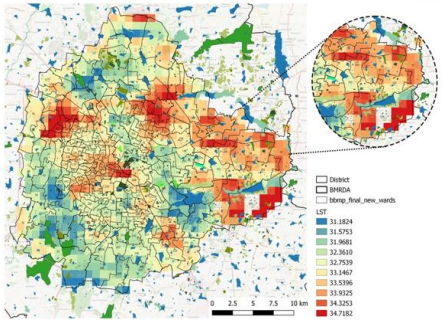
ARC 7201 URBAN DESIGN STUDIO

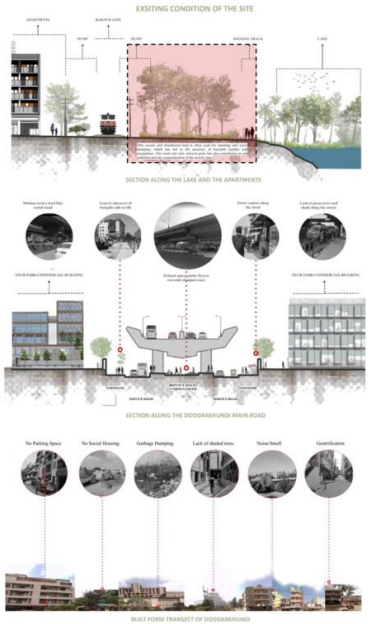
HASIRE USIRU – REDEFINING URBAN GREENS

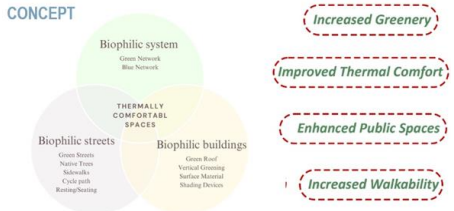
The Doddankeundi Lake and adjacent areas have been chosen for their high-density residential and commercial land use. This site offers natural assets like the lake, which can be revived and integrated into a broader green street network, enhancing both the environmental and social landscape. Proximity to IT parks and strong transport links make it a well-connected zone, ripe for a transformation into a more livable, thermally comfortable, and sustainable environment. The high density of residential zones, coupled with natural features, offers opportunities for creating new green corridors that prioritize walkability, thermal comfort, and enhanced public spaces.



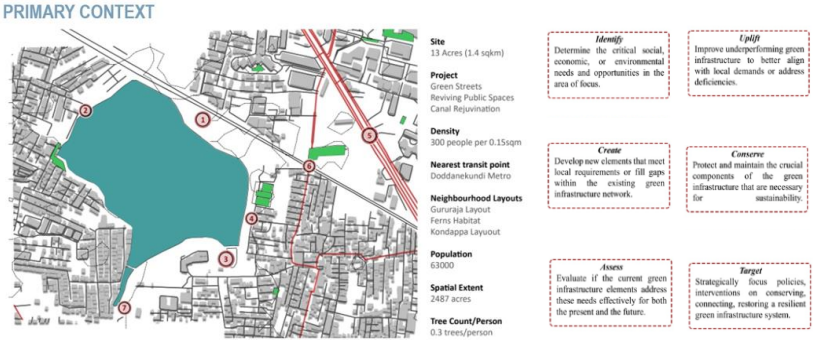








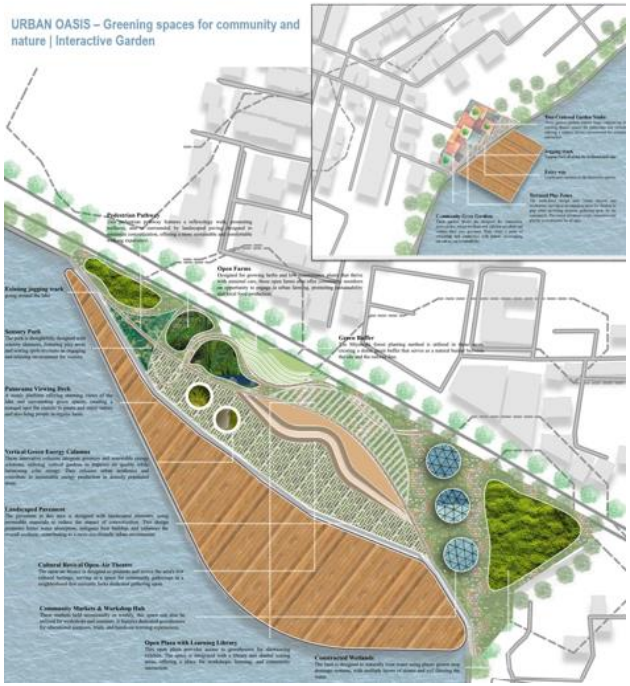
The Urban Oasis: Greening Spaces for Community and Nature project seeks to transform underutilized spaces around Doddanekundi Lake into vibrant, sustainable urban areas. The proposal focuses on integrating green infrastructure, enhancing biodiversity, and promoting community well-being through nature-based solutions. Drawing inspiration from successful urban green projects like the Bishan-Ang Mo Kio Park in Singapore and Medellín's Green Corridors in Colombia, this initiative emphasizes the critical need for environmental regeneration, especially in high-density urban zones.



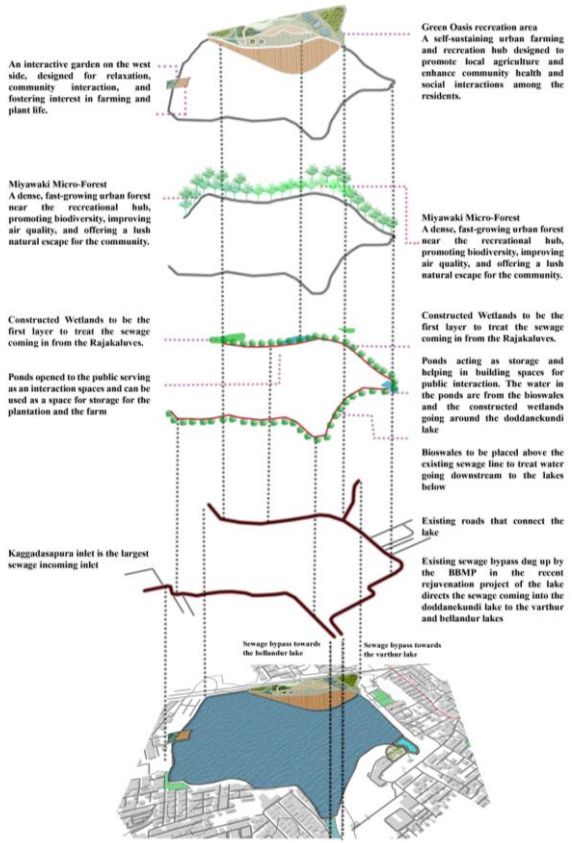
STUDENT: SNEHA S BHANDAR (233710008)
FACULTY: KUMAR GAURAV | AKSHATHA RAO

HASIRE USIRU – REDEFINING URBAN GREENS

1. *Green Oasis recreation area*
A self-sustaining urban farming and recreation hub designed to promote local agriculture and enhance community health.
2. *Bio-Filter Streams*
Sewage-purifying bioswales that cleanse water, channeling it into public ponds, while also enriching groundwater quality and green public spaces.
3. *Interactive Garden Haven*
An interactive garden on the west side, designed for relaxation, community interaction, and fostering interest in farming and plant life.
4. *Panorama Viewing Deck*
A scenic platform offering stunning views of the lake and surrounding green spaces, creating a tranquil spot for visitors to pause and enjoy nature.
5. *Miyawaki Micro-Forest*
A dense, fast-growing urban forest near the recreational hub, promoting biodiversity, improving air quality, and offering a lush natural escape for the community.
6. *Serenity Gathering Pond*
A tranquil water body created from natural site depressions, providing a community gathering spot and filtered with bio-swale-purified water.
7. *Sacred Serenity Gardens*
A beautifully landscaped garden around the pond and temple, creating a peaceful retreat for the community to gather, reflect, and connect with nature.
8. *Eco-Walks*
Green Pedestrian Pathways Pedestrianized streets enhanced with green cover, connecting stakeholders to the lake while fostering a safer and greener environment.



This isometric view emphasizes the multi-layered and thoughtfully integrated design of the Urban Oasis project. It begins with bioswales, which serve the dual purpose of channeling and filtering sewage, ensuring stormwater management while preventing contamination. Further along, ponds and wetlands work as natural filtration systems, refining water quality and supporting biodiversity. At the project's core is a vibrant green community center, which anchors the design with public spaces enhanced by trees, vegetation, and green infrastructure. The design culminates with an interactive garden that includes multi-level landscaping and sensory features, transforming a once-neglected site into a lively, eco-friendly destination for community engagement. This holistic approach fosters environmental sustainability and community well-being, combining ecological restoration with recreational and social opportunities.



Element	Type of System	Plants Suitable to Grow	Benefits	Sections
Terrace	Green Roof System	Grasses, Herbs, Vegetables Vegetable: Spinach Herb: Basil Grass: Bermuda Grass	- ***Thermal Insulation:*** Reduces heat gain, lowering energy needs for cooling. - ***Stormwater Management:*** Absorbs rainwater, reducing runoff. - ***Biodiversity:*** Attracts pollinators and supports urban wildlife.	
Setbacks	Drip Irrigation with Pots/Trays	Climbers, Herbs, Shrubs Climber: Passionflower Herb: Mint Shrub: Lavender	- ***Noise Reduction:*** Reduces external noise by acting as a barrier. - ***Cooling Effect:*** Lowers ambient temperatures through shade and evapotranspiration. - ***Local Food:*** Space for growing vegetables or fruits.	
Compound Wall	Vertical Garden System	Climbers, Ferns, Microplants Climber: Ivy Fern: Boston Fern Microplant: Moss	- ***Air Quality:*** Absorbs pollutants and CO_2, releasing oxygen. - ***Space Utilization:*** Adds greenery without taking ground space. - ***Aesthetic:*** Improves visual appeal and property value.	
Ducts	Hydroponic System	Microgreens, Leafy Vegetables Microgreen: Arugula Leafy Vegetable: Lettuce	- ***Space Efficiency:*** Grows plants in confined areas. - ***Biodiversity:*** Supports a variety of plant species. - ***Air Purification:*** Plants in ducts can improve air circulation and reduce indoor air pollution.	

Element	Type of System	Plants Suitable to Grow	Benefits	Sections
Staircase Walls	Trellises or Green Walls	Climbing Plants, Mosses Climber: Bougainvillea Moss: Cushion Moss	- ***Temperature Control:*** Moderates indoor temperatures. - ***Noise Absorption:*** Reduces noise from stairways. - ***Aesthetic:*** Adds natural beauty to transitional spaces.	
Balconies & Sit-Outs	Potted Plants, Vertical Gardens	Herbs, Flowers, Shrubs Herb: Rosemary Flower: Marigold Shrub: Hibiscus	- ***Community Building:*** Provides a relaxing green space for social interactions. - ***Health Benefits:*** Encourages interaction with nature, boosting mental well-being. - ***Air Purification:*** Enhances air quality.	
Parking Lots/Driveways	Bioswales, Permeable Paving with Trees	Small Trees, Grasses Small Tree: Japanese Maple Grass: Fountain Grass	- ***Flood Control:*** Reduces runoff and improves groundwater recharge. - ***Heat Reduction:*** Lowers heat island effect by providing shade. - ***Aesthetic:*** Improves the visual environment around the building.	
Building Façades	Living Wall System	Succulents, Vines, Moss Succulent: Aloe Vera Vine: Jasmine Moss: Sphagnum Moss	- ***Insulation:*** Provides an extra layer of insulation. - ***Biodiversity:*** Supports birds and insects. - ***Air Quality:*** Filters pollutants from the air, improving urban air quality.	

HASIRE USIRU – REDEFINING URBAN GREENS

The U-value (thermal transmittance) measures how well a building material conducts heat. Lower U-values indicate better insulation.
$U = 1/R_{(Total)}$
Where R total is the sum of the thermal resistances of each material layer in the wall and roof.

WAL U VALUE
External Brick Cladding (thickness = 100 mm, thermal conductivity (k = 0.72 W/mK)
Concrete Wall (thickness = 150 mm, k = 1.4W/mK)
Internal Plaster (thickness = 10 mm, k = 0.7W/mK)
Thermal Resistance R:
R total= 0.1/0.72 + 0.15/1.4 + 0.01/0.7 = 0.139+0.107+0.014 = 0.26m²K/W

U wall = $1/R_{(Total)}$ = 1/0.26 = 3.85 W/m²K

ROOF U VALUE
Bitumen Coating (thickness = 10 mm, K = 0.17 W/mK)
Reinforced Concrete (thickness = 150 mm, K = 1.4 W/mK)
Internal Plaster (thickness = 15 mm, K = 0.7 W/mK)
Thermal Resistance R:
R total= 0.01/0.17 + 0.15/1.4 + 0.015/0.7 = 0.059+0.107+0.021 = 0.187m²K/W

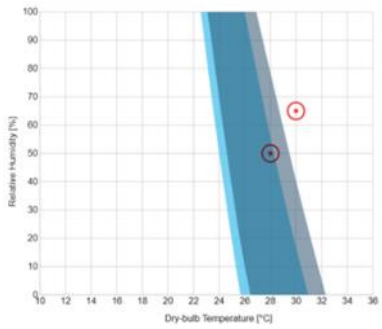
U roof = 1/R (Total) = 1/0.187 = 5.35 W/m²K

The energy consumption rates for each category in a residential apartment, based on standard building energy data.

Total Energy Load = 50+20+30+10 =110kWh/m²/year
Total Energy Consumption (kWh/year) = 110 kWh/m²/year × 7,689.65 m² (building area)
Total Energy Consumption = 845,861.5 kWh/year

Therefore, the EPI = 110 kWh/m²/year for the apartment complex without any energy-saving measures (without a green roof).

When the Energy Performance Index (EPI) value is almost double the GRIHA benchmark for different building typologies, it means,
• Buildings are consuming significantly more energy than the benchmark, indicating poor energy efficiency in their design,construction, or operation. Higher energy consumption contributes to increased greenhouse gas emissions and environmental degradation,emphasizing the need for sustainable building practices to mitigate climate change.

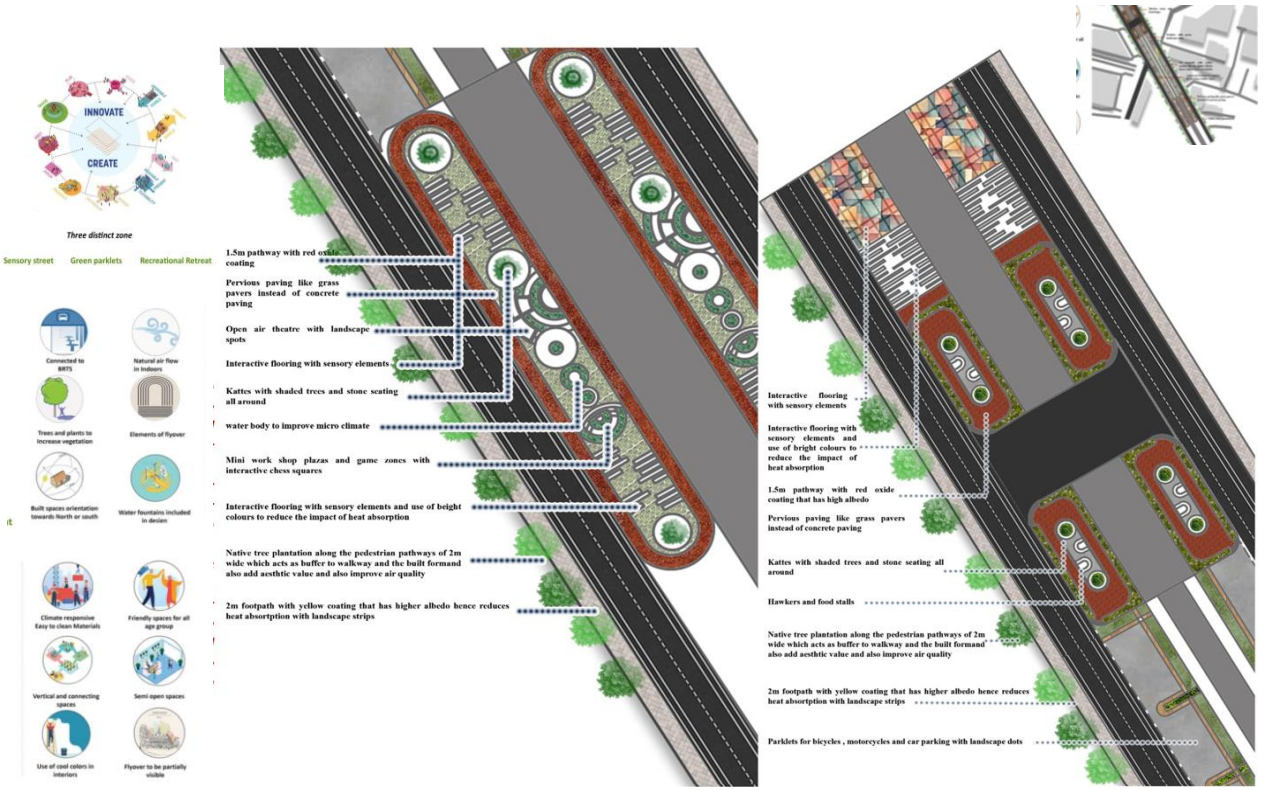


A shaded area on the graph representing the acceptable range of temperature and humidity for human comfort (according to ASHRAE standards). The tool plot points that represent the thermal comfort levels (with or without the green roof).
By comparing the two scenarios (with and without a green roof), the points on the chart show that with the green roof, the temperature will be lower and ideally fall within or closer to the comfort zone, indicating improved thermal comfort.

Building Analytics - The energy performance analysis of a residential building, Akme Ballet Apartments, a gated community located near Doddanekundi Lake, Bangalore. The building has a G+7 floor structure with predominantly concrete surfaces, minimal vegetation, and a brick-cladded façade. Given the challenges of rising urban heat and the high cooling demands typical in Bangalore.

FROM CONCRETE TO COMMUNITY - Breathing life into forgotten spaces

In Bangalore, the proposal to transform unused spaces under flyovers into vibrant community hubs focuses on repurposing what are often neglected and dead spaces into dynamic, multifunctional environments. These spaces will cater to various public needs, from recreation to social interaction. With the area's proximity to major tech parks and its importance as a transit corridor (with more than 1,000 people commuting daily), there is a growing demand for green and recreational spaces that enhance urban living.



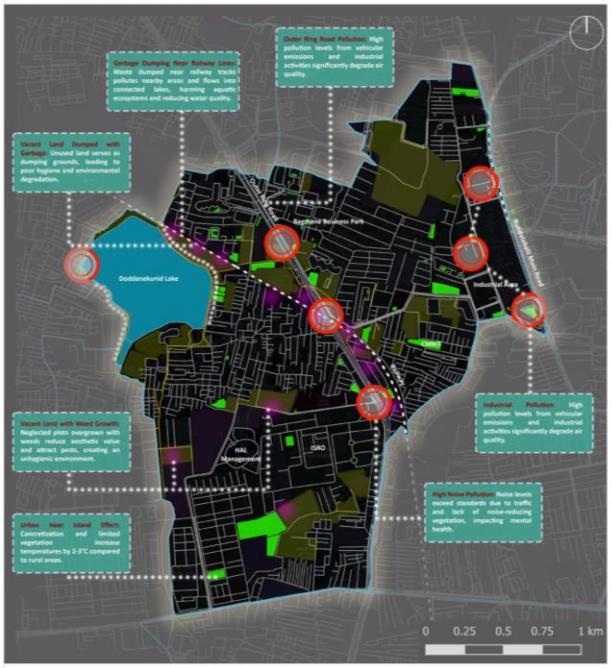
RESTRUCTURING NAMMA BENGALURU'S URBAN FABRIC – *A Nature based approach for urban health and well being*

AIM

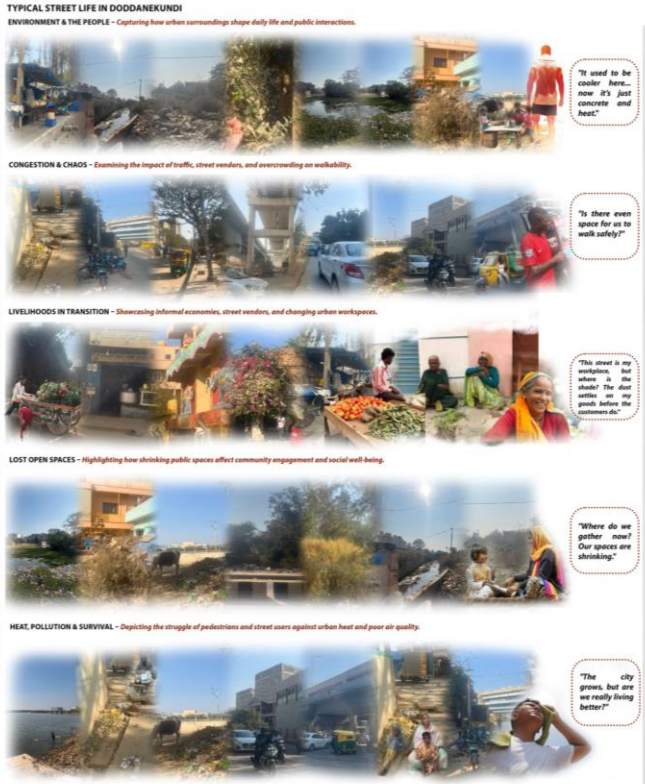
"To create livable, inclusive, and ecologically balanced neighborhoods in Bangalore, where urban life is seamlessly connected with nature, fostering healthier and happier communities for a sustainable future"

"designing for efficiency" to "designing for well-being."

Issues Identification



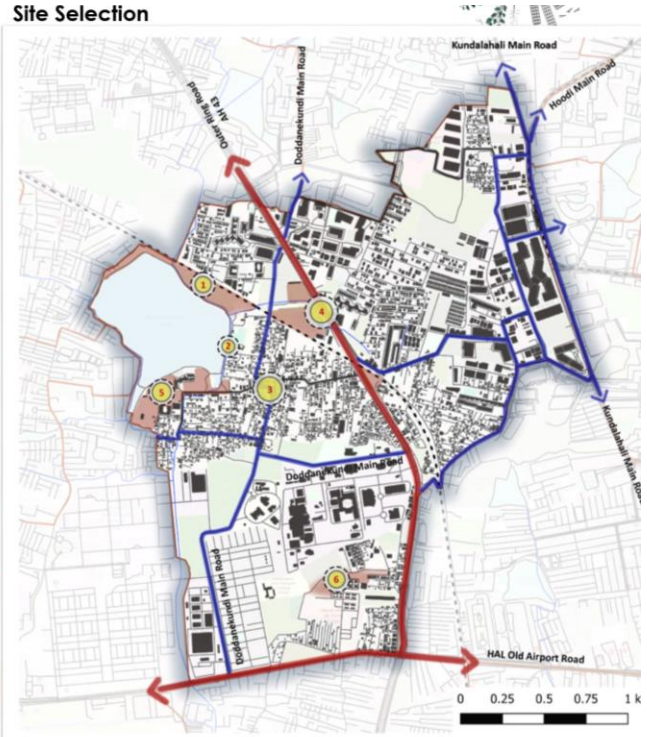
Doddanekundi, on Bangalore's eastern edge, is facing rapid urbanization, resulting in reduced green spaces, poor air quality, waste issues, and limited public amenities. Identified through surveys and data analysis, these challenges impact health, well-being, and urban resilience, highlighting the need for sustainable interventions.



Street analysis was conducted to understand how people are affected by various issues. Images were used to represent each category, highlighting their impact through the overlay of multiple attributes. Based on this, vulnerable areas were identified and selected as the site for proposed interventions.

Green Infrastructure → Better Air Quality → Reduced Urban Heat Island Effect → More Walkable & Livable Spaces → Improved Mental & Physical Health → Stronger Social & Community Well-Being

Site Selection



5 - High accessibility	3 - Medium accessibility	1 - Barely accessibility
- Vegetation cover 60% - Openess 100% - High volume of people	- Vegetation cover 40% - Openess 50% - Moderate volume of people	- Vegetation cover 15% - Openess 10% - Low volume of people

RESTRUCTURING NAMMA BENGALURU'S URBAN FABRIC – *A Nature based approach for urban health and well being*

VISION

An urban environment seamlessly connected with nature, fostering healthier communities and enhancing well-being through sustainable design.

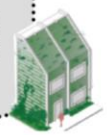
Strategies

Micro Scale → Building & Streetscape Level

What ? Individual buildings, street edges, small-scale interventions like facades, courtyards, green roofs, and nature-integrated buildings.

Why ? Directly impacts thermal comfort, air quality, and microclimate regulation. Enhancing pedestrian comfort, creating shaded walkways, and integrating green facades can significantly improve well-being at the personal and hyper-local level.

Integrate small-scale nature-based solutions into streets and public spaces for heat mitigation and improved well-being.

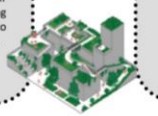


Meso Scale → Neighborhood & Community Level

What ? Public spaces, pocket parks, vacant land revitalization, mobility networks, and mixed-use development within a sector or ward.

Why ? Addresses walkability, accessibility to green spaces, air pollution reduction, and social well-being. Strengthening community engagement and ensuring equitable access to nature helps create a more livable and resilient urban fabric.

Strengthen neighborhood parks, streetscapes, and vacant spaces through citizen participation.

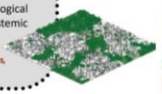


Macro Scale → Sector & Ecological Network Level

What ? Large-scale ecological corridors, blue-green networks, urban forests, watershed restoration, and transport-integrated green infrastructure.

Why ? Impacts biodiversity conservation, large-scale climate adaptation, and city-wide urban resilience. A nature-based approach at this scale ensures long-term ecological sustainability while improving public health at a systemic level.

Create an interconnected network of green spaces through greenways, riverfront restoration, and climate-resilient planning.



NATURAL ELEMENTS → **ENVIRONMENTAL BENEFITS** → **URBAN COMFORT & RESILIENCE** → **HUMAN HEALTH & WELL BEING**

Green spaces, water bodies, urban forests, tree canopies, bioswales, rain garden.

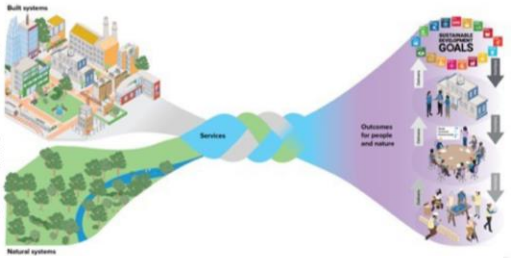
Air purification, temperature regulation, flood mitigation, biodiversity enhancement.

Thermal comfort, reduced pollution, stormwater management, improved air quality.

Reduced stress, increased physical activity, improved respiratory health, stronger community interactions.

NATURE - BUILT ENVIRONMENT - HUMAN HEALTH

are interconnected, forming continuous feedback loops where urban design influences nature, and in turn, nature enhances human well-being. This flow represent how integrating natural elements in urban spaces directly impacts well-being, comfort, and livability.



HABITAIT CONNECTIONS
The Miyawaki forest method in urban areas promotes biodiversity conservation, restores ecosystems, enhances climate resilience, supports urban greening.

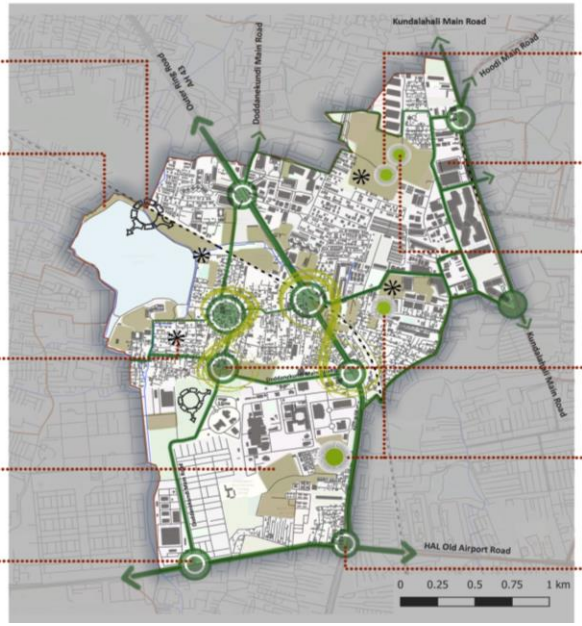
URBAN WETLANDS
Restore or create wetlands to naturally treat stormwater, mitigate flooding, and provide habitats for diverse species.

GREEN CORRIDORS
Establish continuous networks of native vegetation connecting parks and natural reserves, facilitating wildlife movement and enhancing urban biodiversity.

GREEN HUBS
These centers incorporate green infrastructure like community gardens and urban farms, fostering hands-on food production and enhancing neighborhood livability.

VACANT LANDS
Transforming underutilized spaces into productive urban farms, community gardens, and green pockets enhances biodiversity, fosters community engagement.

MAJOR CORRIDORS
Implementing major civic corridors with a continuous green canopy of native plants seamlessly integrates nature into the urban fabric.



POCKET PARKS
Develop small green spaces in underutilized urban areas to provide recreational spaces and enhance neighborhood aesthetics.

VERTICAL FOREST
Incorporate high-rise buildings with balconies and facades densely planted with trees and shrubs to enhance urban greenery and air quality.

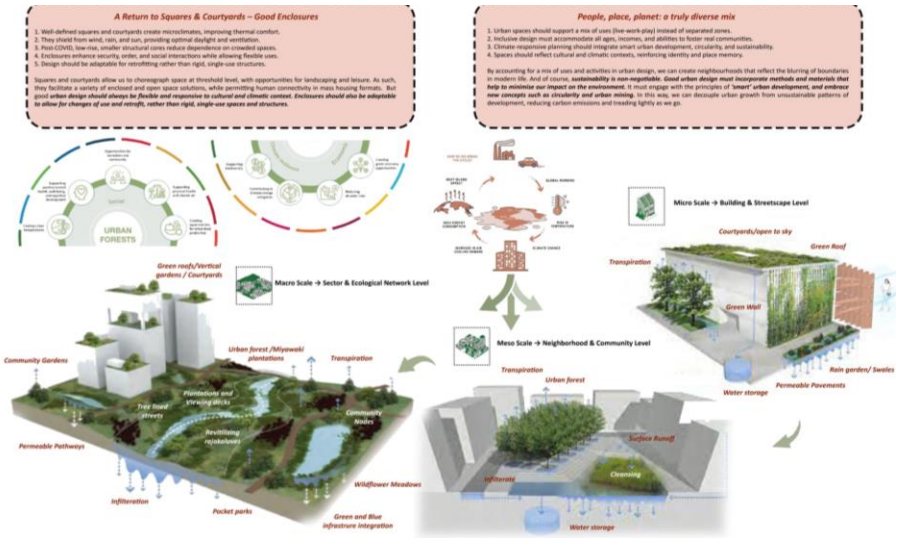
WILDFLOWER MEADOWS
Convert unused urban plots into wildflower-rich areas to support pollinators and increase urban biodiversity.

COMMUNITY NODES
Urban interventions at central nodes, such as green plazas, serve as focal points for gatherings like Ooru Habba, fostering social cohesion and interaction among residents.

URBAN FOREST
Plant and manage large groups of trees within the city to sequester carbon, reduce heat islands, and provide recreational spaces.

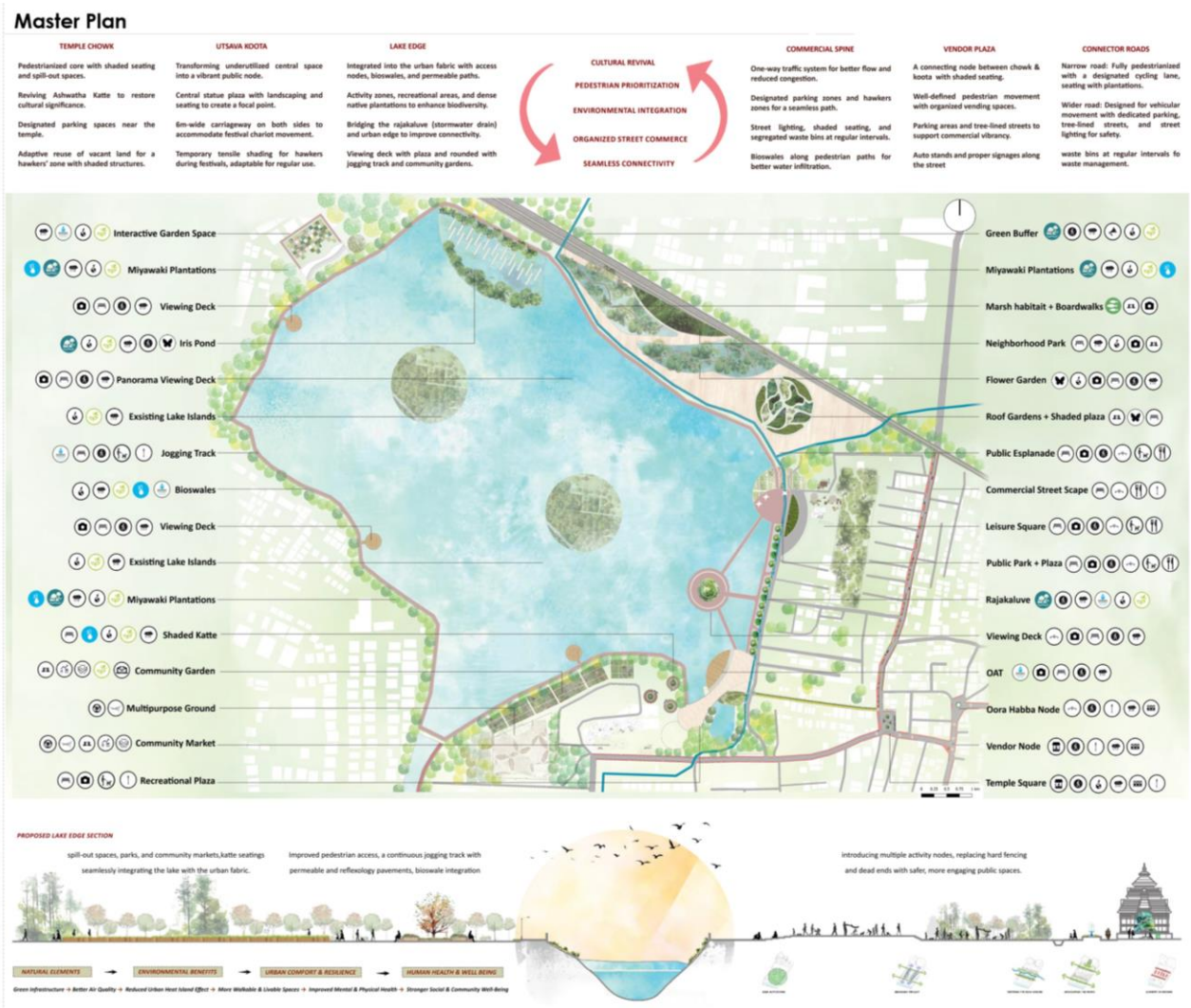
GREEN BUFFER
Establish vegetated areas between urban developments and natural ecosystems to protect habitats and reduce pollution.

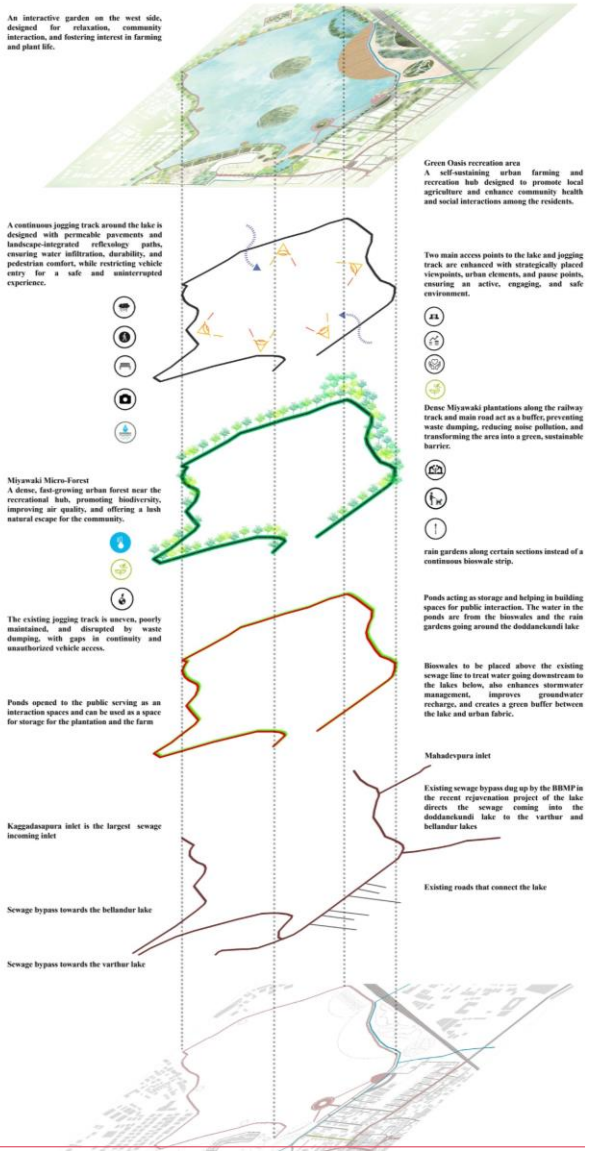
The master plan outlines comprehensive strategies for the entire Doddanekundi area, supported by design principles that guide the interventions. These strategies are illustrated through visuals across three different scales, showcasing what can be done at each level to improve the neighborhood.



RESTRUCTURING NAMMA BENGALURU'S URBAN FABRIC – *A Nature based approach for urban health and well being*

The master plan below illustrates the interventions around the lake edge, structured around five key attributes. An isometric view highlights the layered design approach, showcasing how the lake edge is thoughtfully treated through various design strategies.





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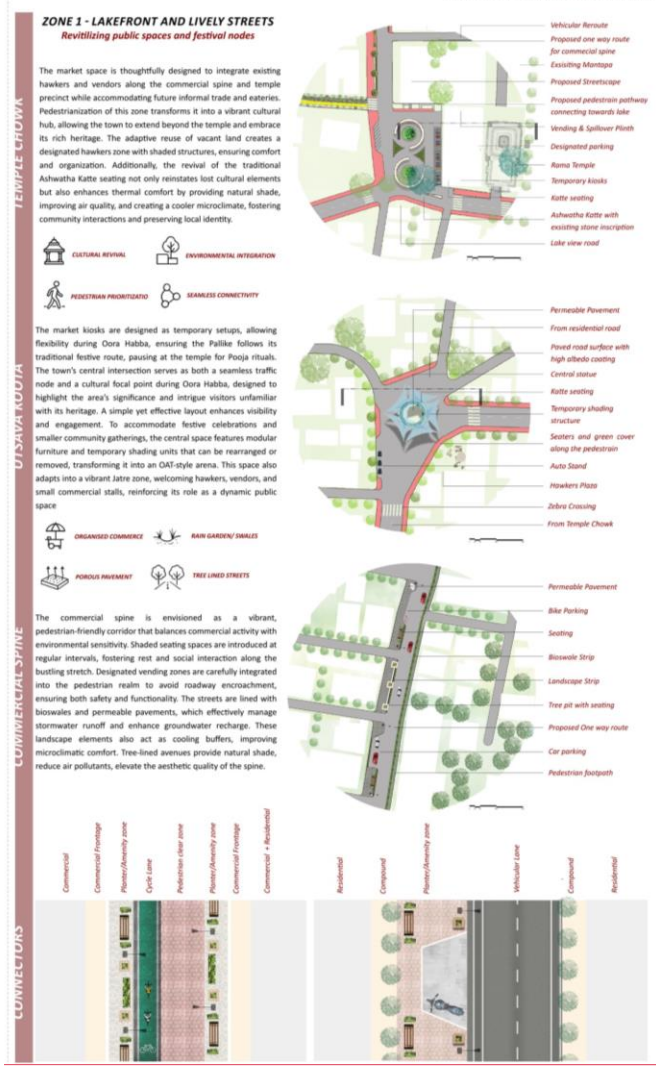
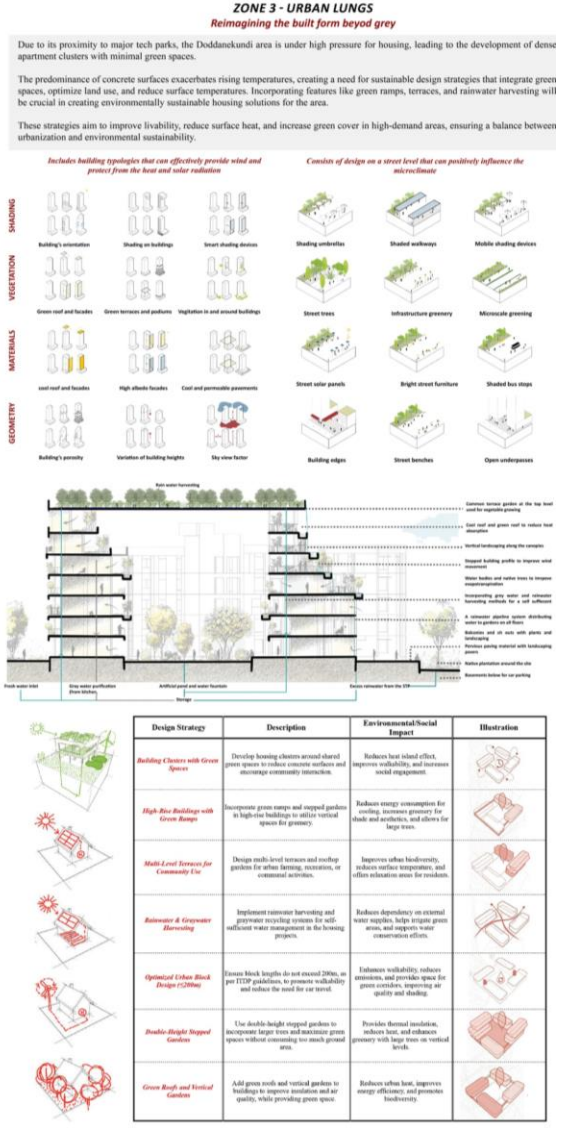
RESTRUCTURING NAMMA BENGALURU'S URBAN FABRIC – *A Nature based approach for urban health and well being*

The selected commercial street stretch has been redesigned with interventions focusing on key nodes and junctions, incorporating climate-responsive street design and tree-lined avenues to improve air quality and comfort. Additionally, an underutilized space near the lake has been adaptively reused to create a multifunctional zone for hawkers and public activities.





Design Strategy	Description	Environmental/Social Impact	Illustration
Building Clusters with Green Spaces	Develop housing clusters around shared green spaces to reduce concrete surfaces and encourage community interaction.	Reduces heat island effect, improves walkability, and increases social engagement.	
High-Rise Buildings with Green Ramps	Incorporate green ramps and stepped gardens in high-rise buildings to utilize vertical spaces for greenery.	Reduces energy consumption for cooling, increases greenery for shade and aesthetics, and allows for large trees.	
Multi-Level Terraces for Community Use	Design multi-level terraces and rooftop gardens for urban farming, recreation, or communal activities.	Improves urban biodiversity, reduces surface temperature, and offers relaxation areas for residents.	
Rainwater & Greywater Harvesting	Implement rainwater harvesting and greywater recycling systems for self-sufficient water management in the housing projects.	Reduces dependency on external water supplies, helps irrigate green areas, and supports water conservation efforts.	
Optimized Urban Block Design (<200m)	Ensure block lengths do not exceed 200m, as per ITDP guidelines, to promote walkability and reduce the need for car travel.	Enhances walkability, reduces emissions, and provides space for green corridors, improving air quality and shading.	
Double-Height Stepped Gardens	Use double-height stepped gardens to incorporate larger trees and maximize green spaces without consuming too much ground area.	Provides thermal insulation, reduces heat, and enhances greenery with large trees on vertical levels.	
Green Roofs and Vertical Gardens	Add green roofs and vertical gardens to buildings to improve insulation and air quality, while providing green space.	Reduces urban heat, improves energy efficiency, and promotes biodiversity.	

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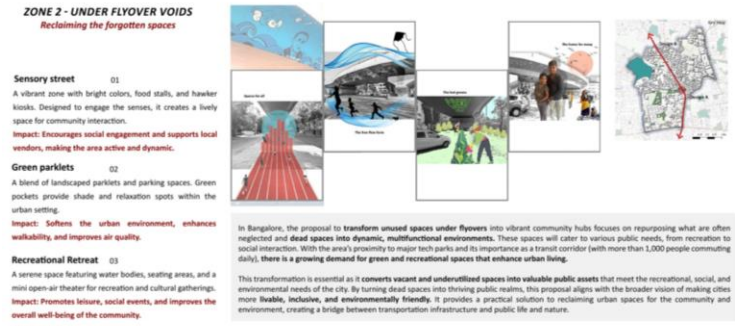
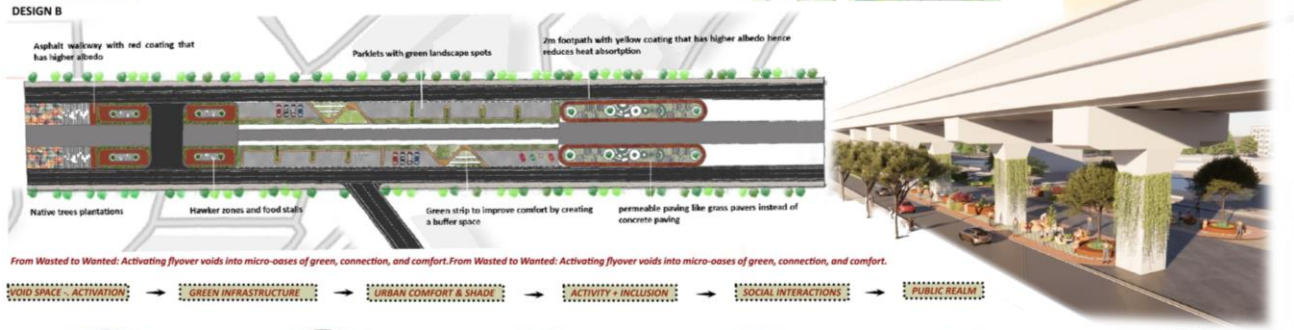
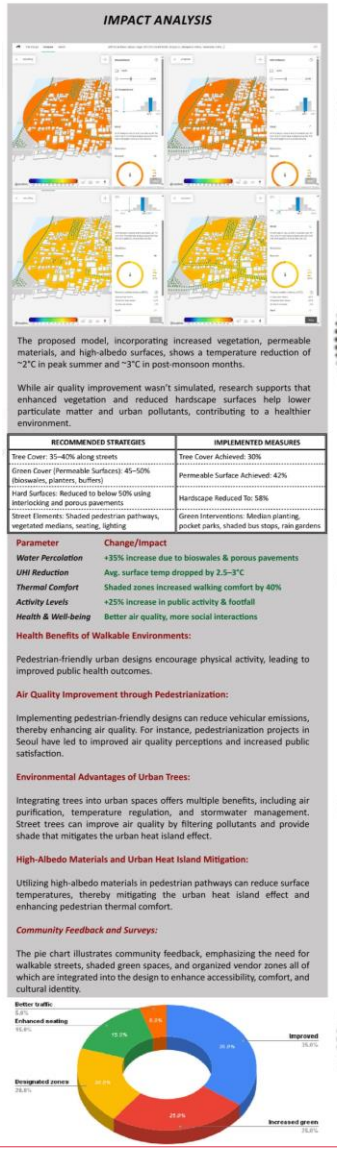
Under-flyover spaces are being transformed into functional areas to bridge the gap between people and underutilized vacant spaces. An impact analysis has been conducted to assess how these design interventions influence both the environment and the community.







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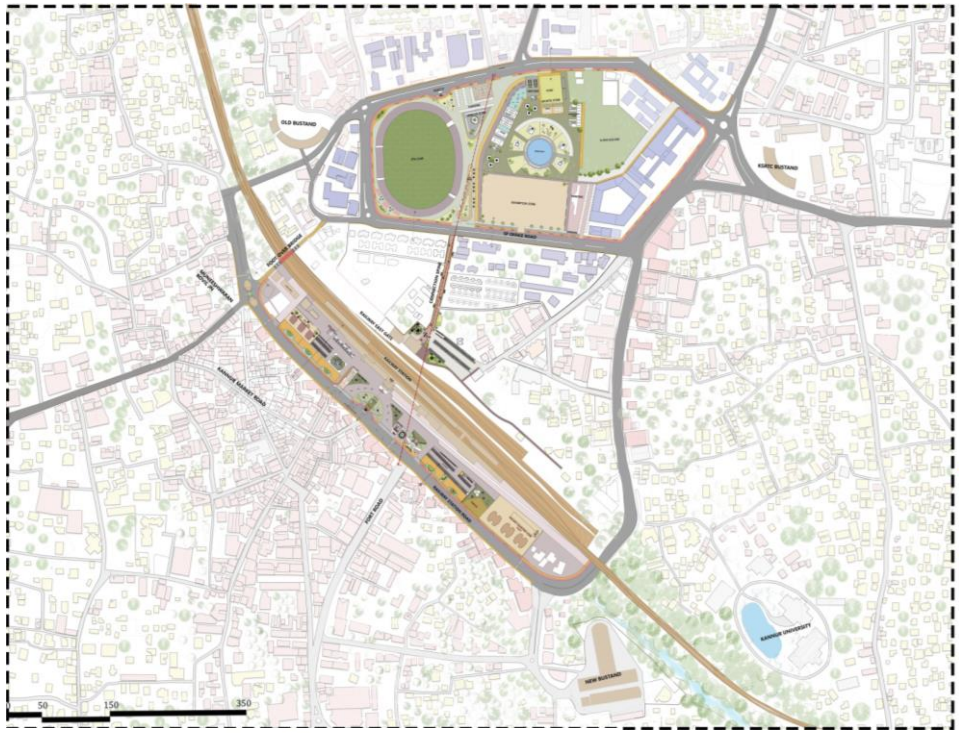
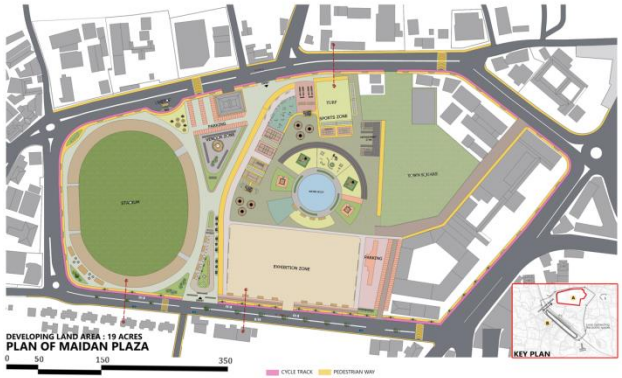
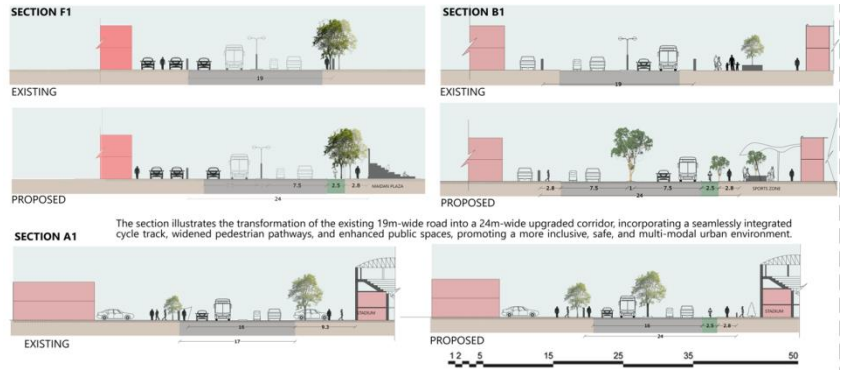
RESTRUCTURING KANNUR'S URBAN CORE – ENHANCING PUBLIC SPACES TO FOSTER URBAN CONTINUITY

PROJECT BRIEF: The project aims to restructure Kannur's urban core by enhancing key public spaces to foster urban continuity. The masterplan envisions a dynamic transformation of Kannur's urban core by revitalizing two pivotal demonstration areas—the Railway Station Area and the Stadium Area (Police Maidan)—and seamlessly connecting them with an upgraded foot overbridge. The proposed interventions aim to enhance physical and visual connectivity between these high-activity zones, improving access, safety, and user experience for both residents and visitors. The Railway Station Area will be restructured to streamline transit functions, declutter public spaces, and improve pedestrian circulation, while the Police Maidan will be reimagined as a multi-functional open space that supports cultural, recreational, and community activities throughout the day.

MAIDAN PLAZA: Maidan Plaza brings together the Police Maidan and the area around the stadium to form a large, unified public space for recreation, culture, and community life. Designed with shaded seating, open lawns, and flexible zones for events and markets, it transforms an underutilized area into an active civic hub. The plaza encourages daily use as well as larger public gatherings, strengthening the social and spatial fabric of Kannur's urban core.







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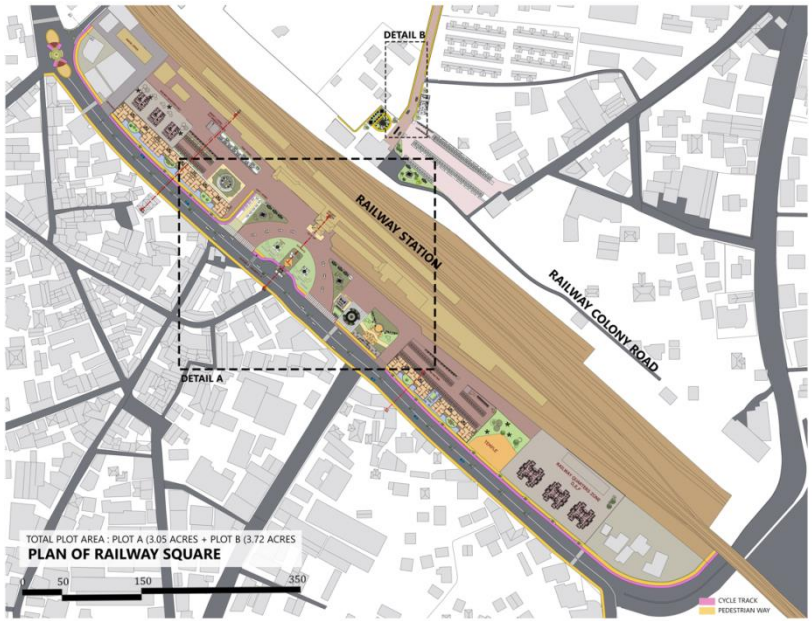
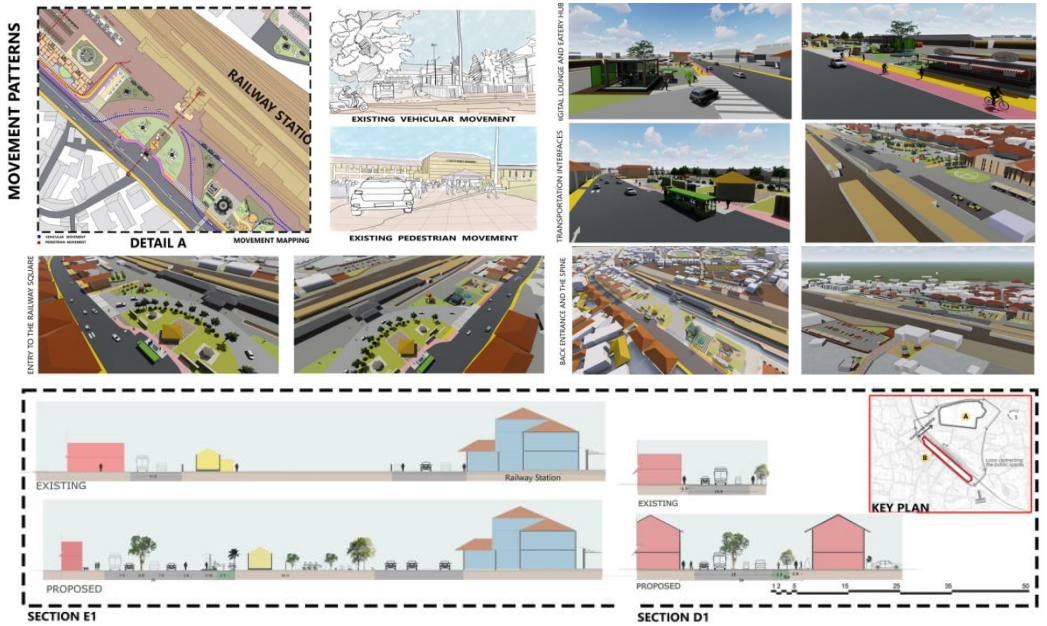
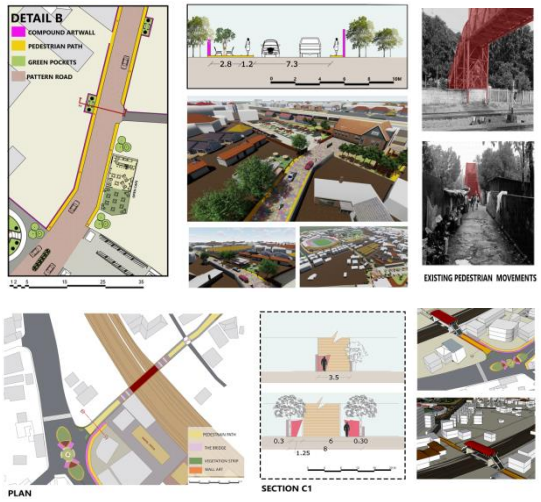


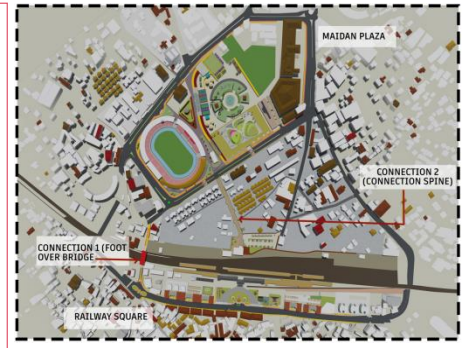


RAILWAY SQUARE: **Railway Square** reimagines the Kannur railway station precinct as a vibrant, transit-oriented public plaza. By organizing pedestrian movement, introducing active frontages with cafés and kiosks, and improving safety through lighting and visibility, the space becomes more than just a transit node—it becomes a social and commercial destination. Railway Square acts as a key arrival point and anchors the urban experience at the city's core.



By deliberately aligning it with major activity zones on either end and enhancing its edges with visual markers, greenery, shaded sitting pockets, and wayfinding elements, the footbridge transforms into more than just infrastructure-it becomes an experience.

The second key connector-the road leading from the back entrance (East Gate) of the railway station to the stadium area-has been transformed into a vital urban spine. Formerly neglected, encroached upon, and poorly maintained, this stretch of road now features a more defined edge treatment, clean pedestrian walkways, dedicated waiting areas, and informal vending pockets.



Together, the foot over bridge and the connection spine form a dual system of movement that transforms the railway station from an isolated transit node into a well-connected urban heart.

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