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

Glimpses of studio works

KALEIDOSCOPE

2023-24

MSAP Yearbook
ARCHITECTURE

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

GLIMPSES OF STUDIO WORKS

KALEIDOSCOPE

ARCHITECTURE'23–24

MANIPAL SCHOOL
OF ARCHITECTURE AND PLANNING
MANIPAL
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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

Accreditations

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

Glimpses of studio works

KALEIDOSCOPE

2023-24

MSAP

Architecture

"Kaleidoscope" is a curated overview of select studio projects from programs offered at the Manipal School of Architecture and Planning. This compilation, meticulously assembled by the Repository team, encompasses various works from both the Odd and Even Semesters of the 2023-24 academic year. Contributions to this edition have been sourced directly from the students and faculty members. It is important to note that this publication does not represent an exhaustive archive of all student work; rather, it provides various hues from the realms of Architecture and Design.

MANIPAL SCHOOL
OF ARCHITECTURE AND PLANNING
MANIPAL
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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.

CONTENT




BACHELOR OF ARCHITECTURE

YEAR 1

Semester I
Architectural Representation - I
Environmental Science
History Theory & Criticism - I

Semester 2
Architectural Design & Detailing - II
Architectural Representation - II
Building Construction & Materials - II
History Theory & Criticism - II
Climatology & Lab-I

YEAR 2

Semester 3
Architectural Design & Detailing - III
Architectural Representation - III
Landscape & Lab-I Building Services-I
Open Elective-I

Semester 4
Architectural Design & Detailing - IV
Building Performance & Compliance
Building Construction & Materials - IV
History Theory & Criticism - III

YEAR 3

Semester 5
Architectural Design & Detailing - V
Measured Drawing
Building Construction & Materials - V

Semester 6
Architectural Design & Detailing - VI
Working Drawing & Detailing Building
Construction & Materials - VI
History Theory & Criticism - IV

YEAR 4

Semester 7
Architectural Design & Detailing - VII
Project Management
Settlement Studies
History Theory & Criticism - V

YEAR 5

Semester 9
Architectural Design & Detailing - VIII
Advanced Elective(Urbanism)

Semester 10
Thesis

MSAP

CONTENT




MASTERS IN ARCHITECTURE (URBAN DESIGN AND DEVELOPMENT)

YEAR 1

Semester 1
Sustainable Development & Climate Change
Infrastructure & Transportation Management

Semester 2
Policy Planning & Legislation
Spatial Information Mapping & Analysis
Urban Design Studio-II

YEAR 2

Semester 3
Internship Seminar
Urban Environment & Landscape Design
Urban Sociology

Semester 4
Thesis

MSAP

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

1

Architecture

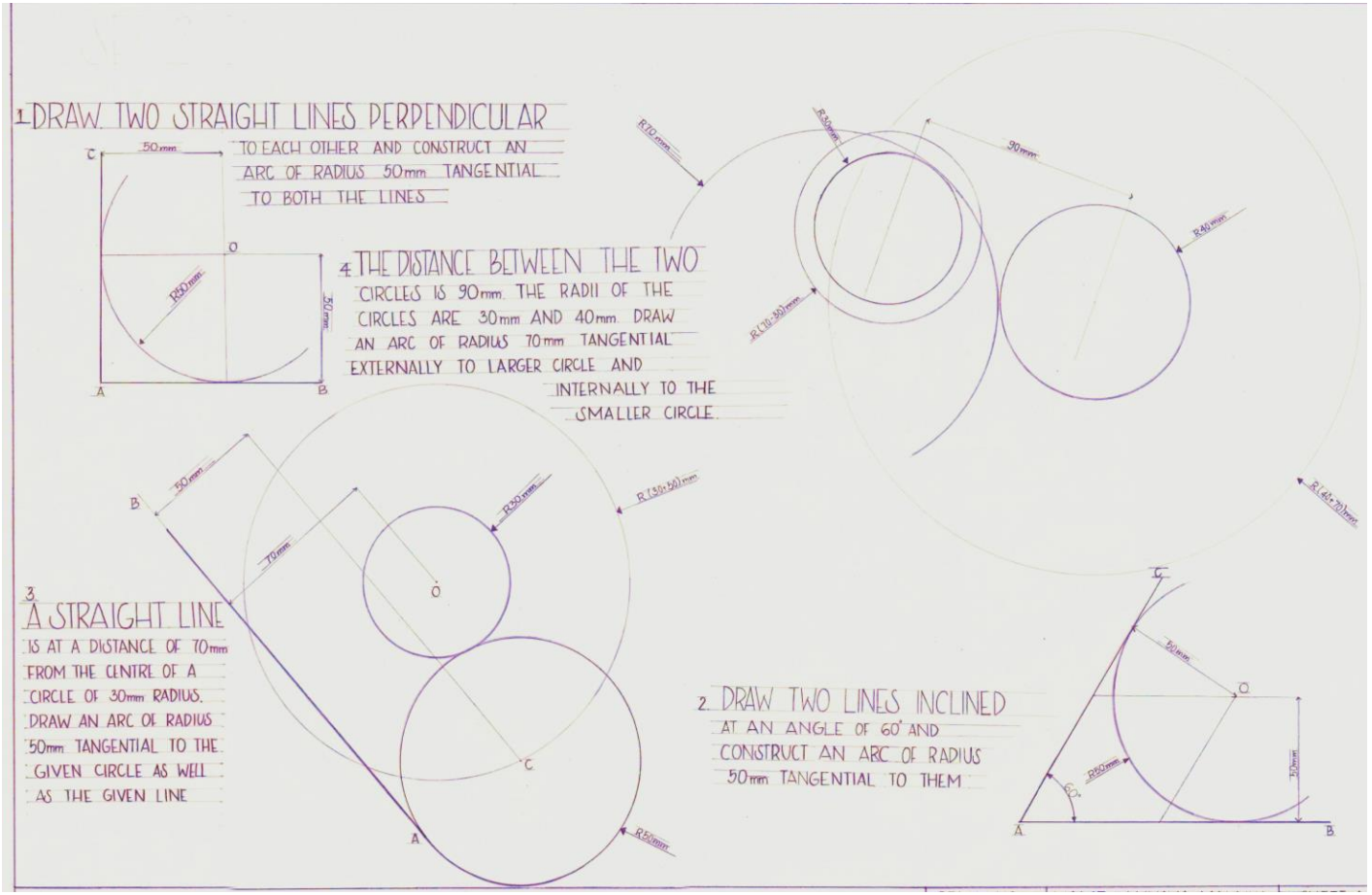
ARC 1103 ARCHITECTURAL REPRESENTATION - I

COURSE OBJECTIVES:

To communicate through graphic language and geometrical construction. To understand the basics of planes and their representation. To understand solid geometry through exercises of increasing complexity

PROJECT BRIEF:

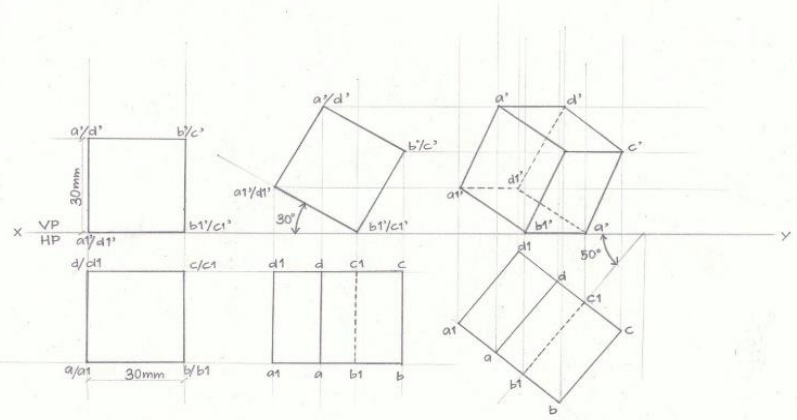
Introduction to Architectural Graphics and sign conventions and scales, Conic sections, Construction and Architectural applications, Orthographic Projections, Isometric and Axonometric, Sections of solids, and the concept of section planes.



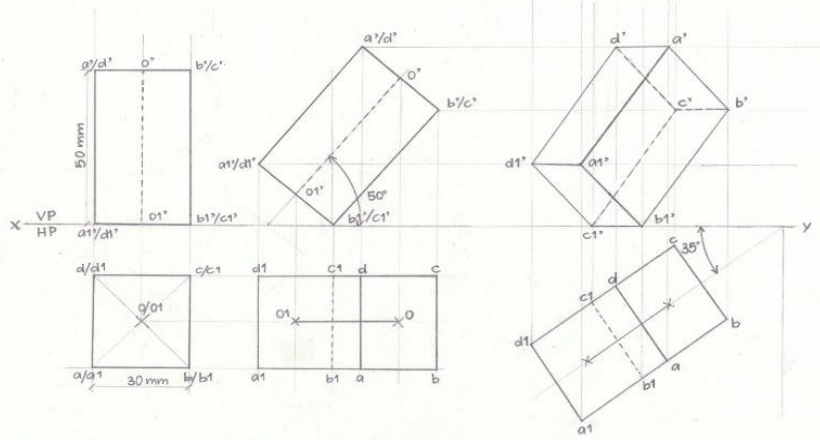
STUDENT: ANUSHA MALAIYA (233701304)
FACULTY: NIKHIL S KOHALE, VEENA.

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

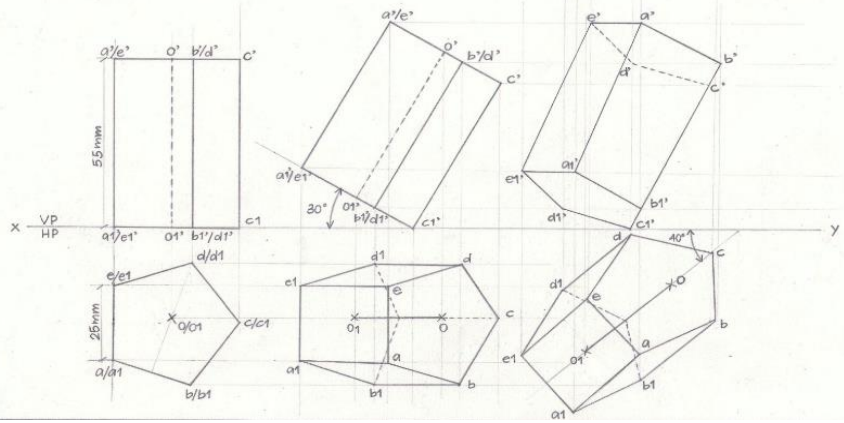
A CUBE OF 30mm SIDES IS RESTING IN HP WITH AN EDGE TOUCHING HP. THE BASE OF THE CUBE IS INCLINED TO HP AT 30°. THE EDGE ON WHICH THE CUBE LIES IS INCLINED TO VP AT 50°. DRAW ITS PROJECTIONS.



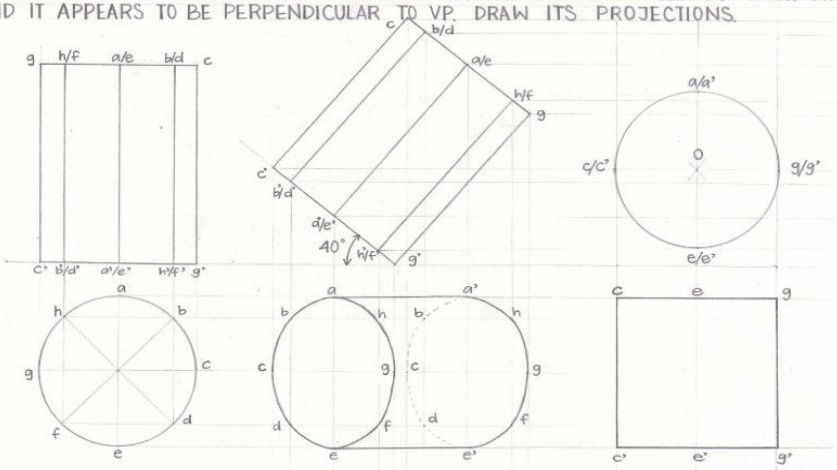
A SQUARE PRISM OF BASE SIDES 30mm AND LENGTH 50mm IS RESTING IN HP WITH AN EDGE OF THE BASE TOUCHING HP. THE AXIS OF THE PRISM IS INCLINED TO HP AT 50° AND APPEARS TO BE INCLINED TO VP AT 35°. DRAW ITS PROJECTIONS.



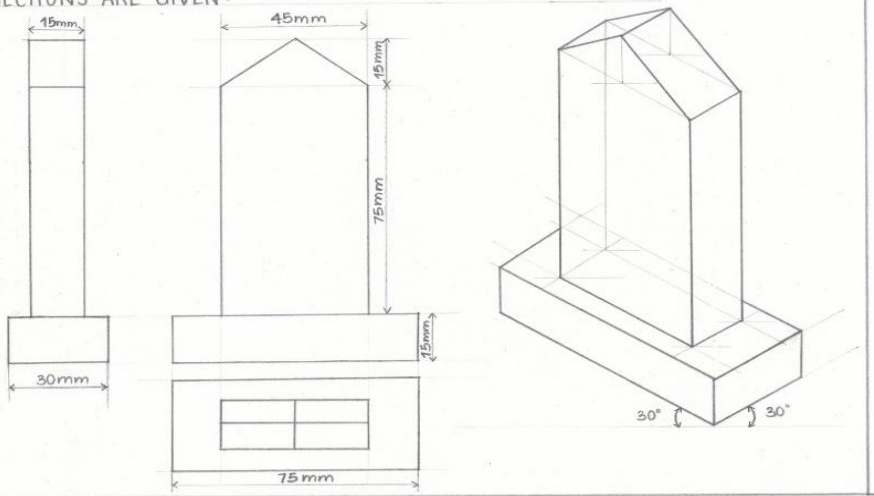
A PENTAGONAL PRISM OF BASE SIDES 25mm AND HEIGHT 55mm IS RESTING ON HP WITH A CORNER OF THE BASE TOUCHING HP. THE EDGES OF THE BASE CONTAINING THAT CORNER ARE EQUALLY INCLINED TO HP. THE BASE OF THE PRISM IS INCLINED TO HP AT 30°. THE AXIS OF THE PRISM APPEARS TO BE INCLINED TO VP AT 40°. DRAW ITS PROJECTIONS.



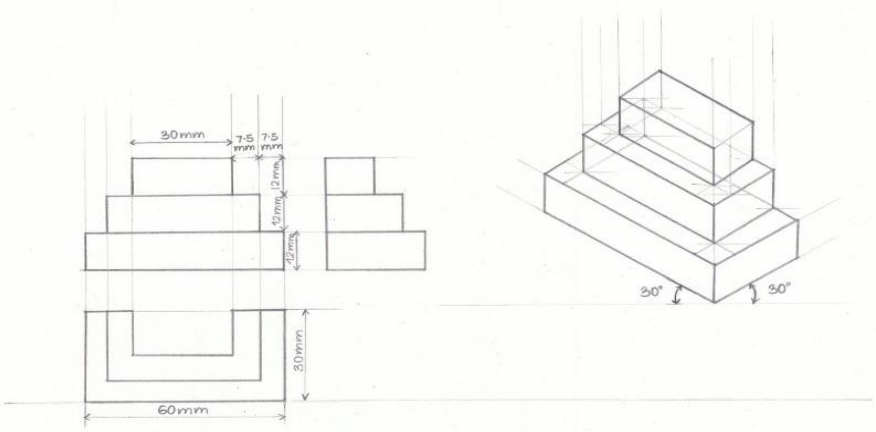
A CYLINDER OF 50mm DIAMETER AND HEIGHT 65mm IS RESTING ON HP WITH A POINT ON ITS CIRCUMFERENCE TOUCHING HP. THE AXIS IS INCLINED TO HP AT 40° AND IT APPEARS TO BE PERPENDICULAR TO VP. DRAW ITS PROJECTIONS.



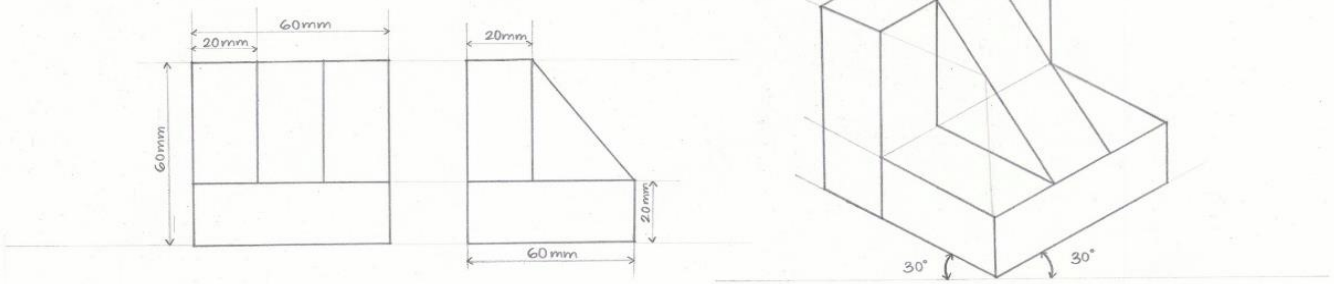
1. DRAW THE ISOMETRIC PROJECTIONS OF THE SOLIDS WHOSE ORTHOGRAPHIC PROJECTIONS ARE GIVEN:



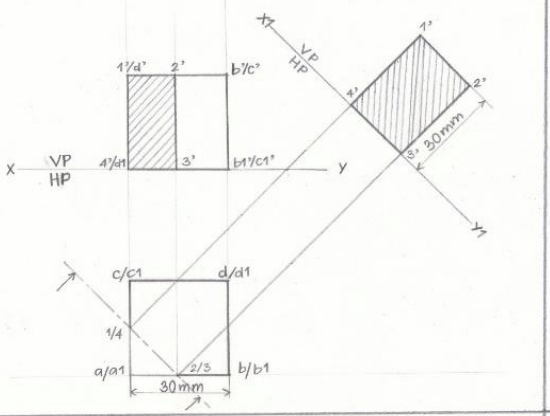
2. A MODEL OF STEPS IS SHOWN IN FIG. 17.28A. DRAW ITS ISOMETRIC PROJECTION.



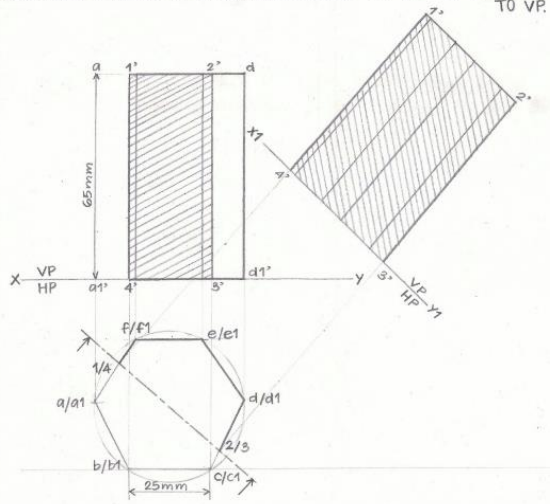
3. DRAW THE ISOMETRIC PROJECTION OF THE OBJECT WHOSE ORTHOGRAPHIC PROJECTIONS ARE SHOWN IN FIGURE 17.41A.



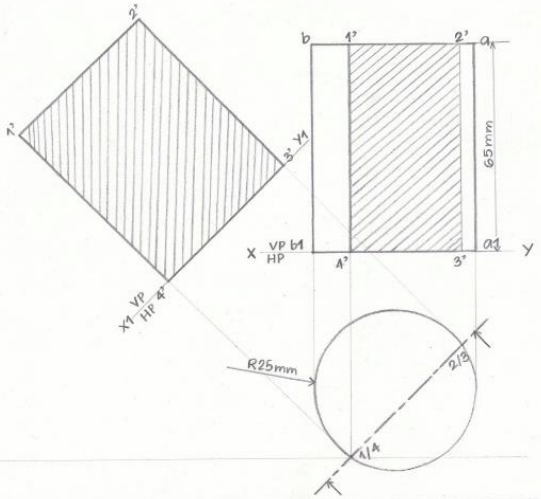
1. DRAW THE SECTION FOR THE CUBE SHOWN. THE SECTION PLANE IS PERPENDICULAR TO HP, INCLINED TO VP. ALSO DRAW THE TRUE SHAPE OF THE SECTION.



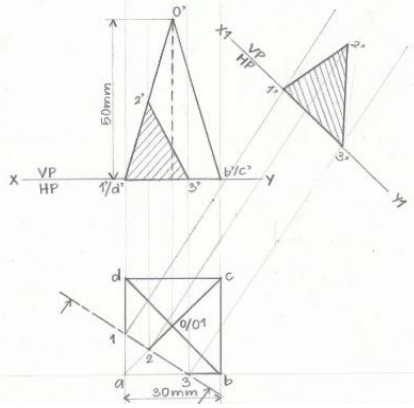
2. DRAW THE SECTION FOR THE HEXAGONAL PRISM. THE SECTION PLANE IS PERPENDICULAR TO HP & INCLINED TO VP.



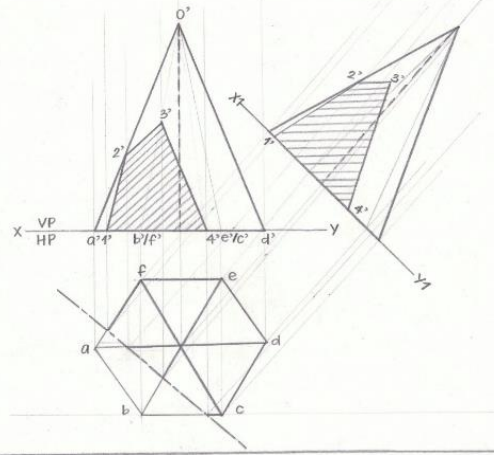
3. DRAW THE SECTION FOR THE CYLINDER. THE SECTION PLANE, IS PERPENDICULAR TO HP AND INCLINED TO VP.



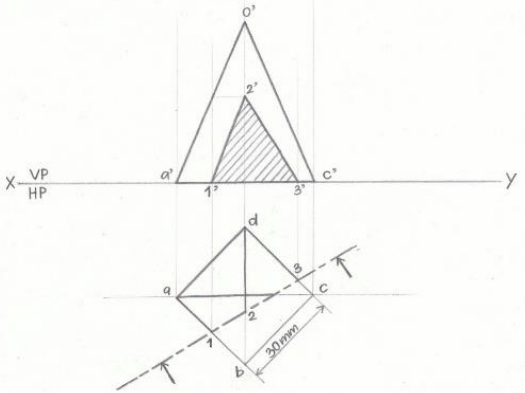
1. DRAW THE SECTION FOR THE SQUARE PYRAMID. THE SECTION PLANE IS PERPENDICULAR TO HP & INCLINED TO VP.



2. DRAW THE SECTION FOR THE HEXAGONAL PYRAMID. THE SECTION PLANE IS PERPENDICULAR TO HP & INCLINED TO VP.



3. DRAW THE SECTION FOR THE SQUARE PYRAMID. THE SECTION PLANE IS PERPENDICULAR TO HP & INCLINED TO VP.



ARC 1111 ENVIRONMENTAL SCIENCE

COURSE OBJECTIVES:

Illustrate the importance of environment and ecosystem. Summarize the importance of energy resources, its types, alternates, uses, impact and mitigation.

PROJECT BRIEF:

To understand the concepts of environment, ecosystem and resources and make a poster for campus on environmental awareness.

ARC 1111 ENVIRONMENTAL SCIENCE

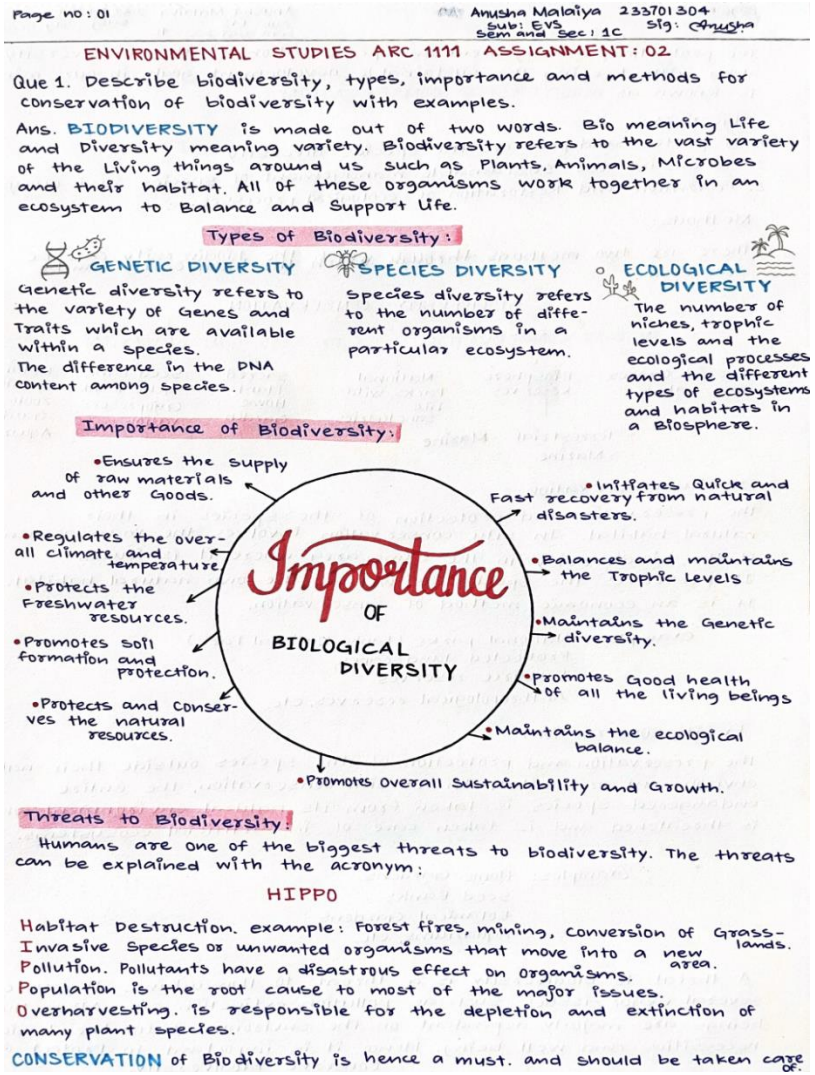
COURSE OBJECTIVES:

To understand and impart our knowledge about biodiversity. Provide a brief definition, mention the types of biodiversity. The importance of biodiversity and the methods of conservation of the same with some examples.

Also, Impart our knowledge on Environmental Pollution, its source of origin, the various types of pollution and the impacts it has on the environment.

PROJECT BRIEF:

This course is intended to enable students to understand the basic principles of environment, have an overview of the underlying aspects, identify the issues pertaining the environment, and create awareness for the preservation of the environment. So that the upcoming generation takes effective measures to build a better world.



Page no: 01 — Anusha Malaiya 233701304 — Sub: EVS — Sem and Sec: 1C — Sig: Anusha

ENVIRONMENTAL STUDIES ARC 1111 ASSIGNMENT: 02

Que 1. Describe biodiversity, types, importance and methods for conservation of biodiversity with examples.

Ans. BIODIVERSITY is made out of two words. Bio meaning life and Diversity meaning variety. Biodiversity refers to the vast variety of the living things around us such as Plants, Animals, Microbes and their habitat. All of these organisms work together in an ecosystem to Balance and Support life.

Types of Biodiversity:

GENETIC DIVERSITY — Genetic diversity refers to the variety of Genes and Traits which are available within a species. The difference in the DNA content among species.

SPECIES DIVERSITY — Species diversity refers to the number of different organisms in a particular ecosystem.

ECOLOGICAL DIVERSITY — The number of niches, trophic levels and the ecological processes and the different types of ecosystems and habitats in a Biosphere.

Importance of Biodiversity:

Importance OF BIOLOGICAL DIVERSITY

- Ensures the supply of raw materials and other Goods.
- Regulates the overall climate and temperature.
- Protects the Freshwater resources.
- Promotes soil formation and protection.
- Protects and conserves the natural resources.
- Initiates Quick and Fast recovery from natural disasters.
- Balances and maintains the Trophic levels
- Maintains the Genetic diversity.
- Promotes Good health of all the living beings
- Maintains the ecological balance.
- Promotes Overall Sustainability and Growth.

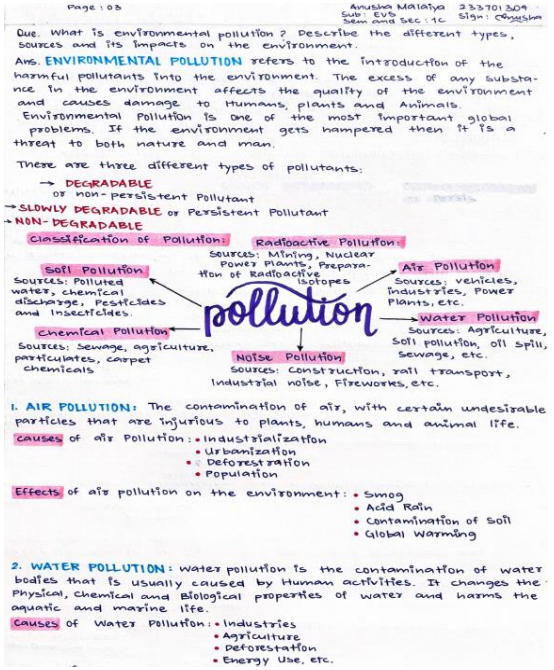
Threats to Biodiversity:

Humans are one of the biggest threats to biodiversity. The threats can be explained with the acronym:

HIPPO

Habitat Destruction. example: Forest fires, mining, conversion of Grass-lands.
Invasive Species or unwanted organisms that move into a new area.
Pollution. Pollutants have a disastrous effect on organisms.
Population is the root cause to most of the major issues.
Overharvesting. is responsible for the depletion and extinction of many plant species.

CONSERVATION of Biodiversity is hence a must. and should be taken care of.



Page: 02 — Anusha Malaiya 233701304 — Sub: EVS — Sem and Sec: 1C — Sign: Anusha

Que. What is environmental pollution? Describe the different types, sources and its impacts on the environment.

Ans. ENVIRONMENTAL POLLUTION refers to the introduction of the harmful pollutants into the environment. The excess of any substance in the environment affects the quality of the environment and causes damage to humans, plants and Animals.
Environmental Pollution is one of the most important global problems. If the environment gets hampered then it is a threat to both nature and man.

There are three different types of pollutants:

→ DEGRADABLE or non-persistent Pollutant
→ SLOWLY DEGRADABLE or Persistent Pollutant
→ NON-DEGRADABLE

Classification of Pollution:

pollution

- Radioactive Pollution: Sources: Mining, Nuclear Power Plants, Preparation of Radioactive Isotopes
- Soil Pollution: Sources: Polluted water, chemical discharge, Pesticides and Insecticides.
- Air Pollution: Sources: vehicles, Industries, Power Plants, etc.
- Chemical Pollution: Sources: Sewage, agriculture, particulates, carpet chemicals
- Water Pollution: Sources: Agriculture, Soil pollution, oil spill, Sewage, etc.
- Noise Pollution: Sources: Construction, rail transport, Industrial noise, Fireworks, etc.

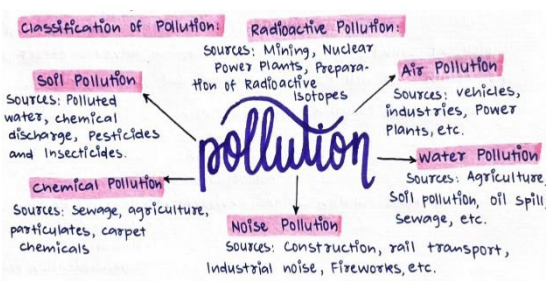
1. AIR POLLUTION: The contamination of air, with certain undesirable particles that are injurious to plants, humans and animal life.

Causes of air Pollution:
- Industrialization
- Urbanization
- Deforestation
- Population

Effects of air pollution on the environment:
- Smog
- Acid Rain
- Contamination of soil
- Global Warming

2. WATER POLLUTION: Water pollution is the contamination of water bodies that is usually caused by human activities. It changes the Physical, Chemical and Biological properties of water and harms the aquatic and marine life.

Causes of Water Pollution:
- Industries
- Agriculture
- Deforestation
- Energy Use, etc.



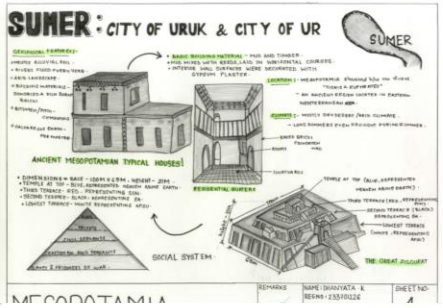
Classification of Pollution:
Radioactive Pollution: Sources: Mining, Nuclear Power Plants, Preparation of Radioactive Isotopes
Soil Pollution: Sources: Polluted water, chemical discharge, Pesticides and Insecticides.
Air Pollution: Sources: vehicles, Industries, Power Plants, etc.
pollution
Chemical Pollution: Sources: Sewage, agriculture, particulates, carpet chemicals
Water Pollution: Sources: Agriculture, Soil pollution, oil spill, Sewage, etc.
Noise Pollution: Sources: Construction, rail transport, Industrial noise, Fireworks, etc.

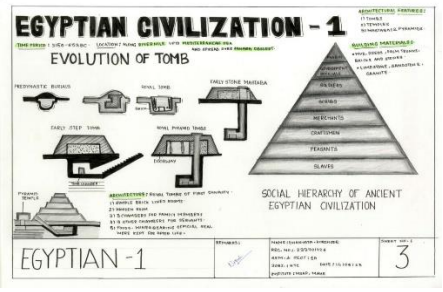
COURSE OBJECTIVES:

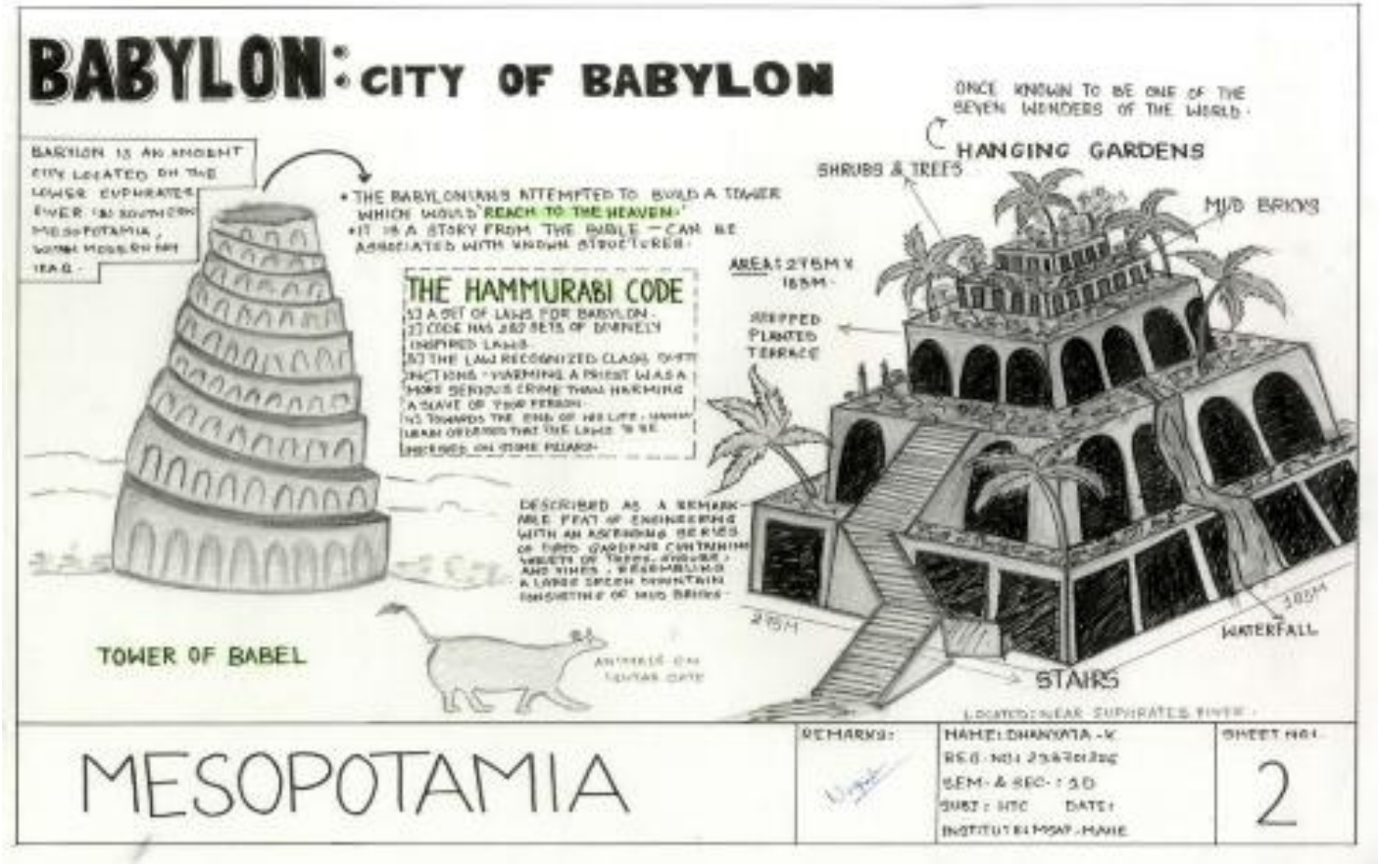
To study and analyze the evolution, general settlement pattern, geographic and climatic influence, socio-political background, construction technology, material influence and design principles of the cities and its built form.

PROJECT BRIEF:

The assignment showcases the student's understanding of historic architecture of Mesopotamia, Ancient Egypt, Indus Valley, Greek and Roman Civilizations developed during the course. The architectural features from the periods is reflected in the sheets.







ROMAN CIVLIZATION

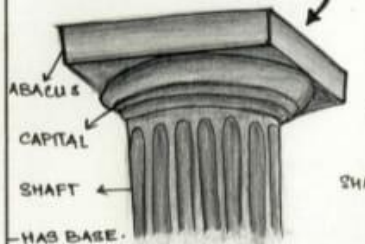
GEOGRAPHY

1] LONG AND NARROW PENINSULA OF ITALY
2] THE COASTLINE IS NOT BROKEN UP AS THE SHORE OF GREECE.
3] THE EARLIEST CIVILIZATION EXISTED IN REGION AROUND ROME WERE ETRUSCANS.

MATERIALS USED:

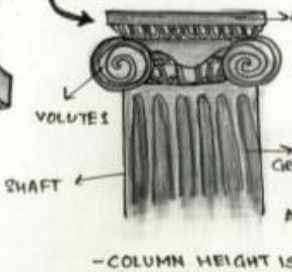
1] POZZOLONA
2] TUFA
3] TRAVERTINE
4] CONCRETE
5] GRAVELS
6] TERRACOTTA

DORIC COLUMNS



- HAS BASE.
- COLUMN HEIGHT IS 8D.
- SHAFT 16-20 FLUTINGS.
- CAPITAL IS 1/2D HIGH.
- ENTABLATURE IS 2D.
- EX- THEATRER OF MARCELLUS.

IONIC COLUMNS



- COLUMN HEIGHT IS 9D.
- BASE HEIGHT IS 1/2D.
- HAS 20 FLUTINGS.
- VOLUTE CAPITAL WITH CARVED ORNAMENTATION.
- EX- TEMPLE OF FORTUNA VIRILIS.

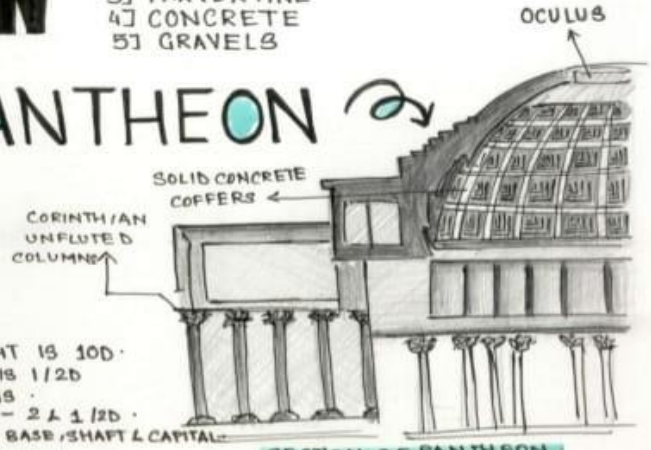
CORINTHIAN COLUMNS

- COLUMN HEIGHT IS 10D.
- BASE HEIGHT IS 1/2D
- 20-24 FLUTINGS.
- ENTABLATURE - 2 & 1/2D.
- EX COMPRISED BASE, SHAFT & CAPITAL.

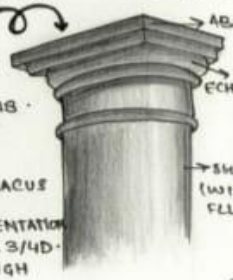
SOCIETY & POLITICS

- THE ARISTOCRATS WERE KNOWN AS PATRICIANS.
- HIGHEST POSITIONS IN THE GOV. WERE HELD BY TWO CONSULS, OR LEADERS, WHO RULED ROMAN REPUBLIC.

PANTHEON



TUSCAN COLUMNS

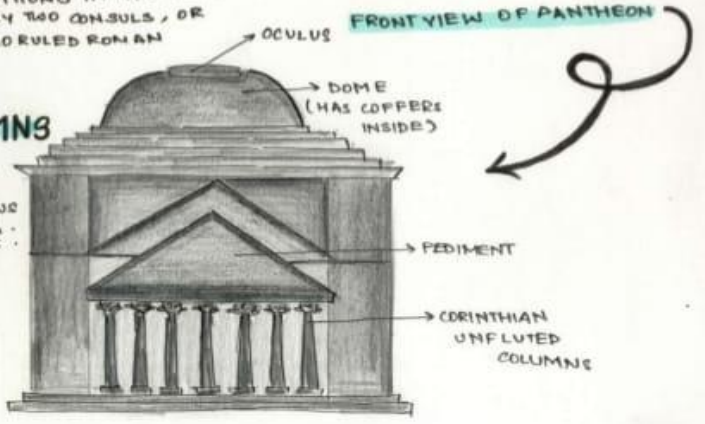


- INVENTED BY ETRUSCANS.
- COLUMN HEIGHT IS 7D.
- UNFLUTED SHAFT.
- HEIGHT IS 1/2D.
- CONSISTS OF SQUARE ABACUS & OVOLO ECHINUS
- PLAIN WITH NO ORNAMENTATION
- ENTABLATURE HEIGHT-1 & 3/4D.
- ARCHITRAVE - 1/2D HEIGH
- FREIZE - 1/2D HEIGH
- CORNICE - 3/4D HEIGH

COMPOSITE COLUMNS

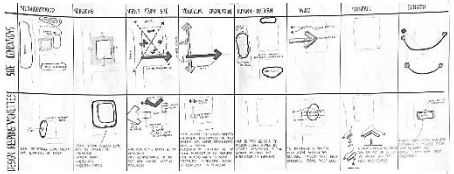
- USED IN TRIUMPHAL ARCHES.
- COLUMN HEIGHT 10D
- ATTIC BASE, UPPER & LOWER TORUS MOULDINGS SEPERATED BY SCOTIA.
- 24 FLUTES SEPERATED BY FILLETS.
- ENTABLATURE - ARCHITRAVE - 3/4D HEIGH. FRIEZE - 3/4D HIGH CORNICE - 1D HIGH.

FRONT VIEW OF PANTHEON



COURSE OBJECTIVES:

Outline the client's requirements with respect to the context and statutory requirements .Analyze and infer required learnings from the relevant case, literature studies and the site .Justify design concepts and apply appropriate material and building tectonics.Propose design solutions based on Form, function, space planning, user perception and behavior.Compile the final design proposal in the form of portfolio and models.

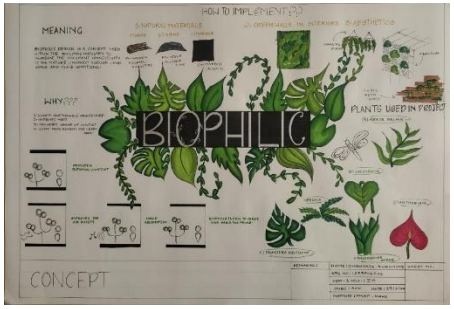


COURSE OBJECTIVES:

This course will provide knowledge and essential skills required to exhibit competencies in professional engagements by applying knowledge of architecture and allied field in Residential design. This course will equip students to develop the ability to understand the principles of sustainable development and global interconnectedness, and how architectural projects effect the society and the environment.

PROJECT BRIEF:

Artist Residential Design of Site area 500m2 & built up area 250 m2 . The design seeks to provide Artist family size of 4 with an atmosphere that encourages blend of Vernacular & Contemporary style included in the project. The design emphasizes the integration of nature and interdisciplinary approach for local needs .




MATERIAL SPECIFICATIO
SCALE - 1:50
ALL MEASUREMENTS ARE IN MM
VITRIFIED TILES
CERAMIC TILES
WOODEN FLOORING
PORCELAIN TILES
WOODEN FURNITURE
VENEER
SUNMICA LAMINATE
PLANT SPECIFICATION
WINDOW SCHEDULE
DOOR SCHEDULE

STUDENT: DHANYATA Y KURGHODE(233701226)
FACULTY: SHANTA DASH, GOWRI SHENOY, VIDYA SAGAR , SHARMILA


PARAPET WALL
VENTILATORS
TIMBER SLIDING WINDOW
MANGLORE TILES (TIMBER ROOFING)
BAMBOO TREES TO HIDE VENTILATORS
GL
NORTH ELEVATION
SCALE :- 1:50


GRANITE CLADDING
(POLISHED FINISH)
NORMAL TEXTURE
CEMENT CONCRETE
GRANITE
STEEL RAILING
EAST ELEVATION

ARC 1102 ARCHITECTURAL DESIGN & DETAILING - II

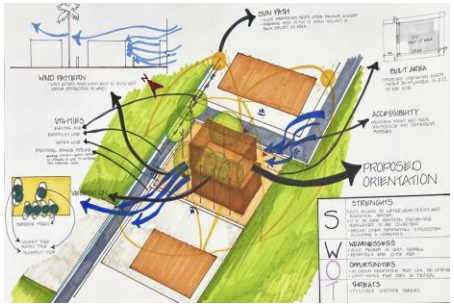
COURSE OBJECTIVES:

Ability to identify user needs and implement them into a practical design solution, in terms of spatial requirements, material preference and overall aesthetic feel, that is appropriate to the particular context

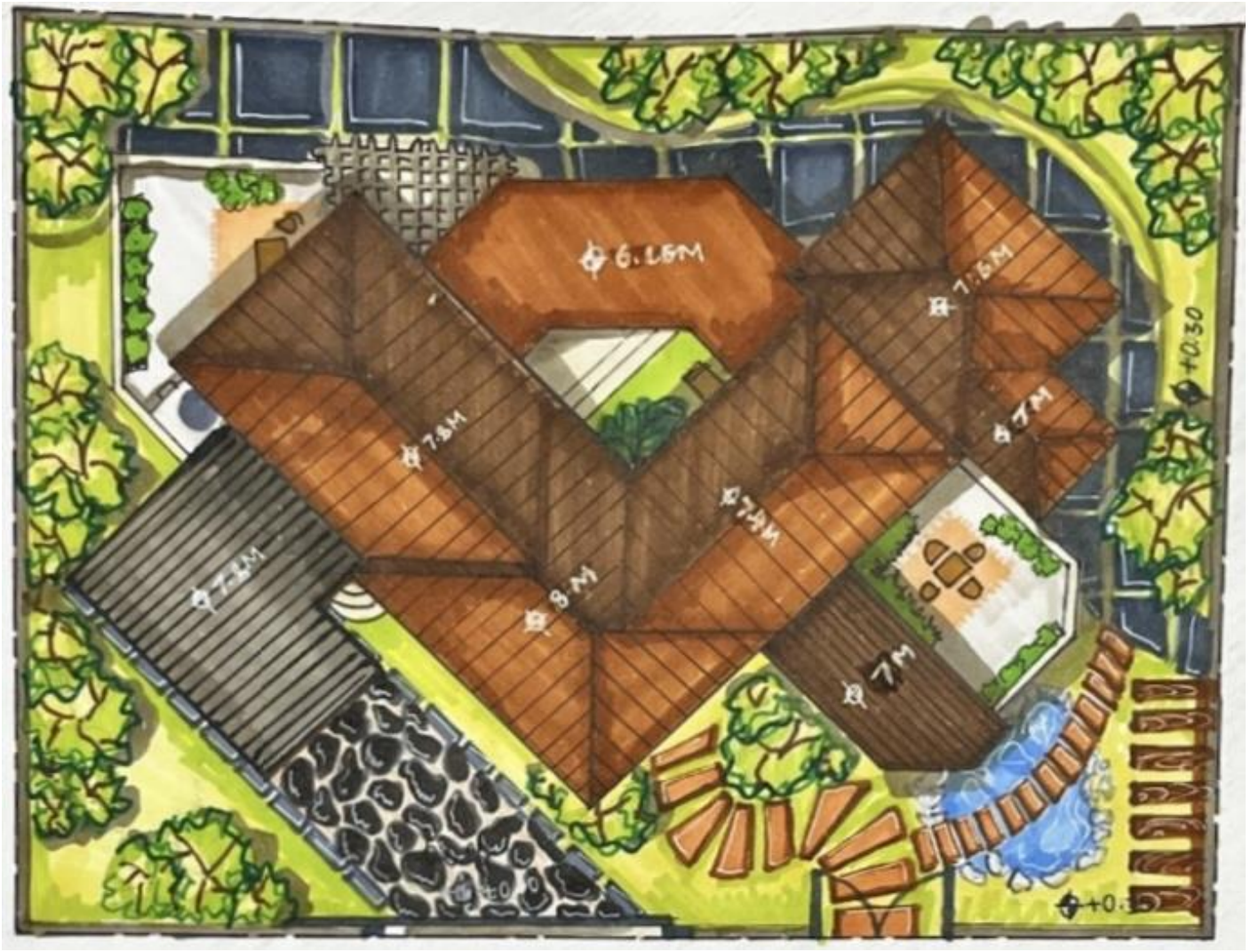
PROJECT BRIEF:

Basic knowledge of developing detailed design of a residence while incorporating the building norms and regulations and client preference. This course would enable students to understand design pattern by incorporating a concept, client preferences and structural feasibility into a residence design

SITE ANALYSIS



SITE PLAN



STUDENT: AKHILA SHARMA(233701036)
FACULTY: SHANTA PRAGYAN DASH, VIDYA SAGAR REDDY, GOWRI SHENOY, SHARMILA

STUDENT: AKHILA SHARMA (233701036)
FACULTY: SHANTA PRAGYAN DASH, VIDYA SAGAR REDDY, GOWRI SHENOY, SHARMILA

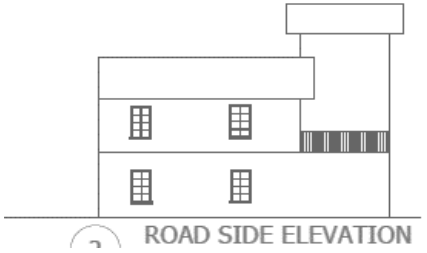
STUDENT: AKHILA SHARMA (233701036)
FACULTY: SHANTA PRAGYAN DASH, VIDYA SAGAR REDDY, GOWRI SHENOY, SHARMILA

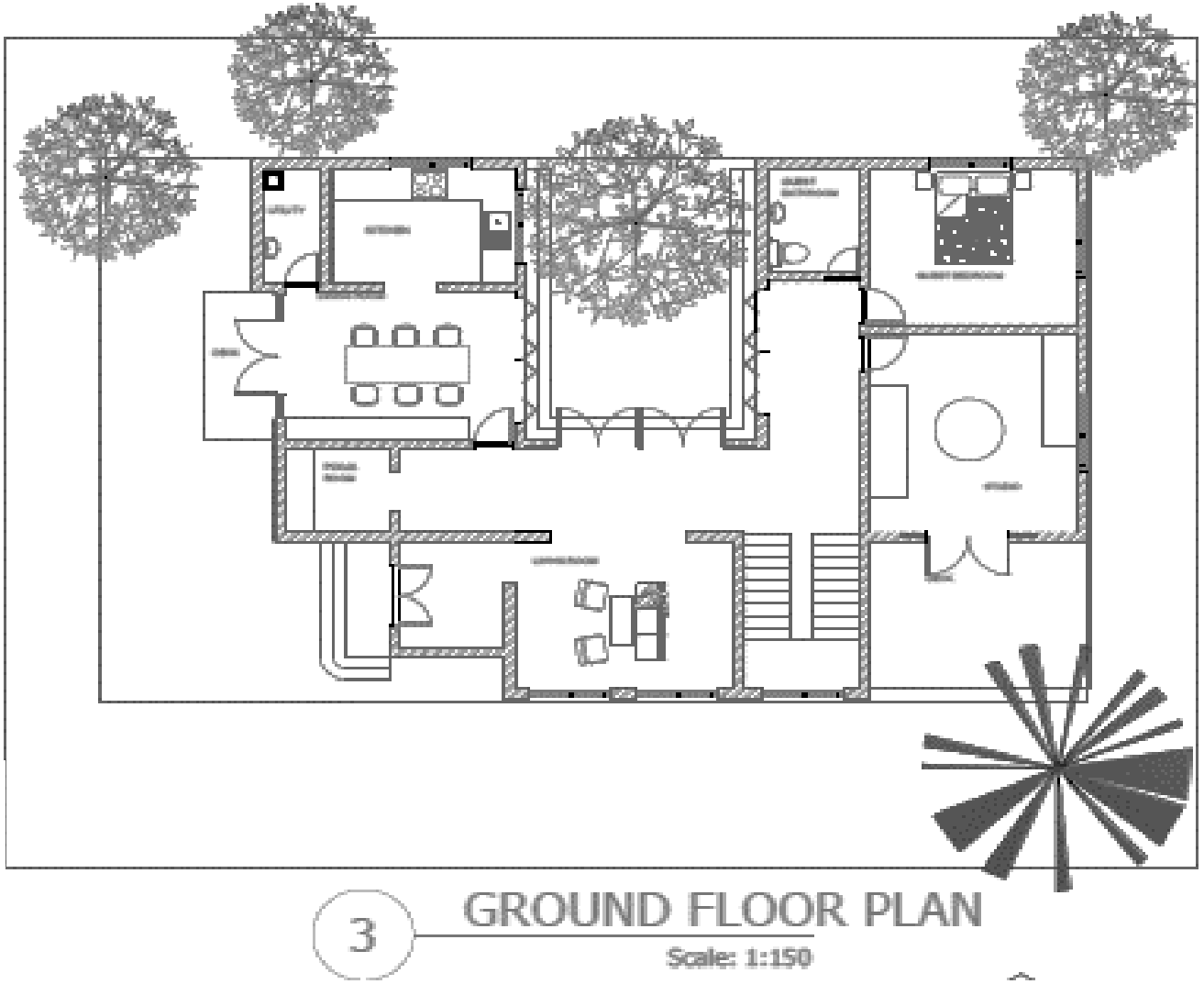
COURSE OBJECTIVES:

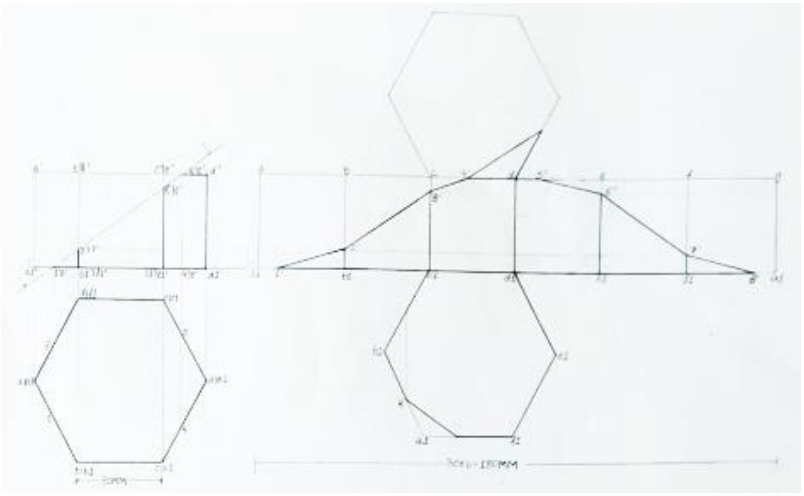
To develop the skills of visual representation and conceptual communication in the field of spatial design through 3D drawing, to represent a given design with shades and shadows, using the techniques of CAD in architectural design and detailing.

PROJECT BRIEF:

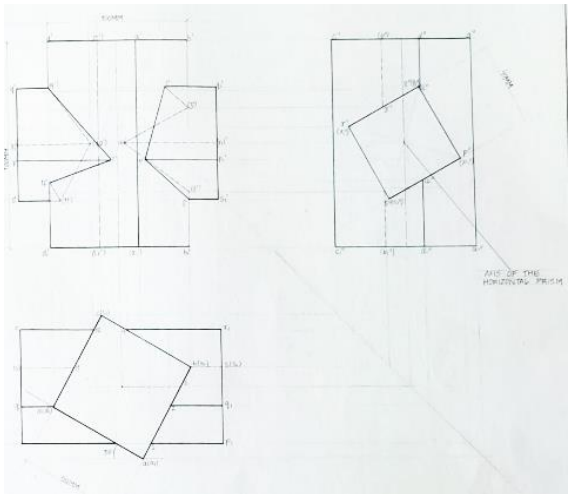
This course helps to explore and create 2D and 3D drawings in terms of surface development, sciography, interpenetration of solids, perspective projections and the CAD techniques in architectural design and detailing.



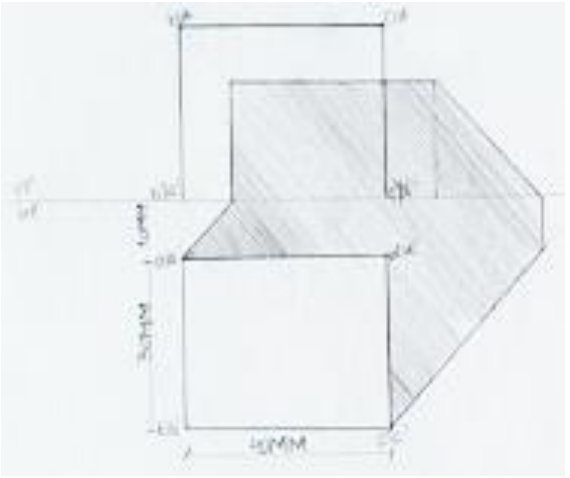




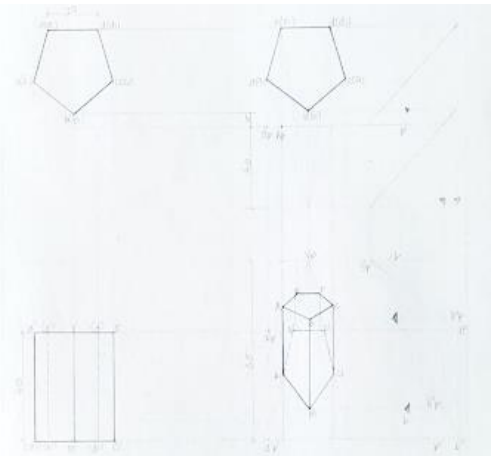
DEVELOPMENT OF SURFACES

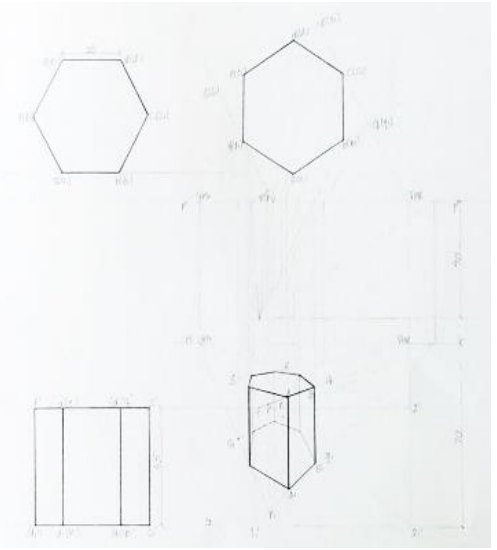


INTERPENETRATION OF SOLIDS



SCIOGRAPHY





ONE & TWO - POINT PERSPECTIVES

STUDENT: ANANYA GUPTA (233701004)
FACULTY: JOICY K J, ANJANI KUMAR SHUKLA

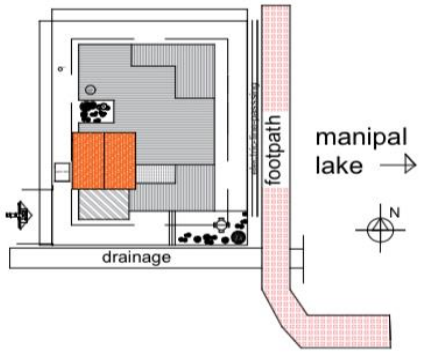
ARC 1104 ARCHITECTURAL REPRESENTATION-II

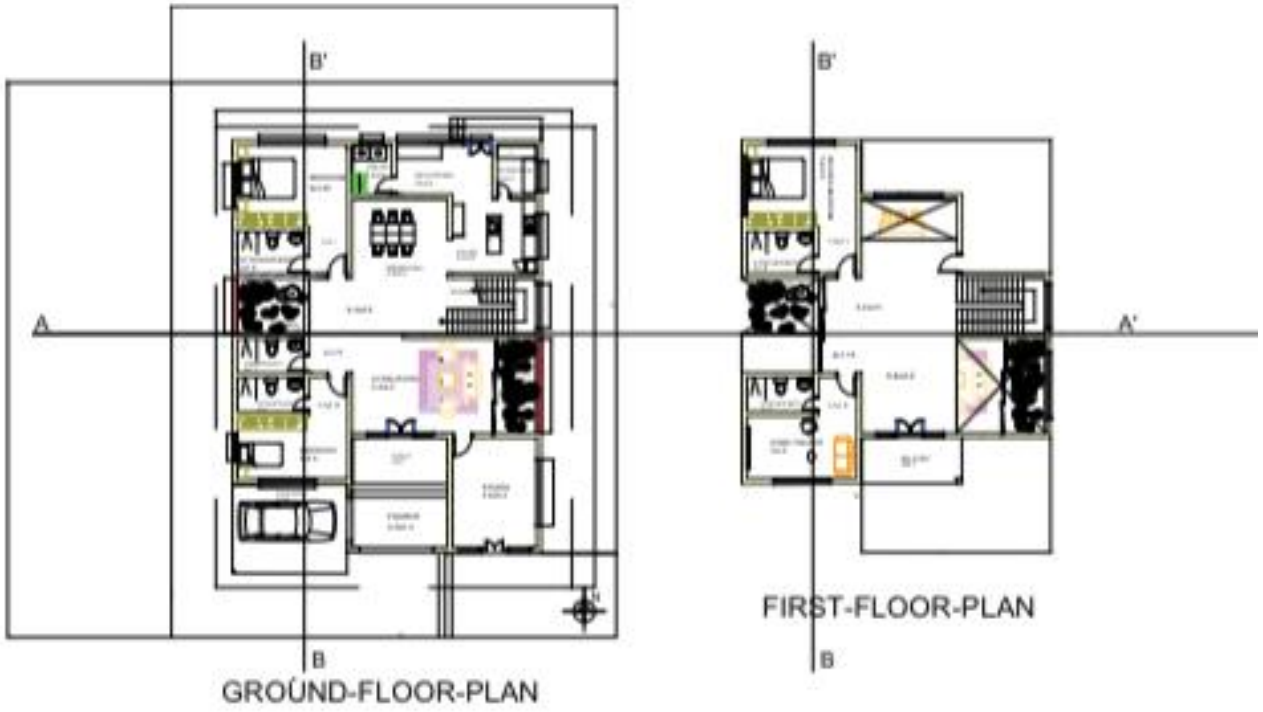
COURSE OBJECTIVES:

By the end of this 13-week course, I'll have mastered the art of conveying architectural designs using both manual drafting and Computer Aided Drafting (CAD) techniques. I'll be able to create visual representations of spatial concepts, rendering them in 3D with shading and shadows. Moreover, I'll be proficient in using basic commands in AutoCAD for drawing, modifying, annotating, and plotting architectural plans.

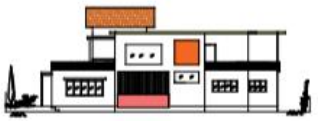
CONTENT:

2D & 3D drawings with knowledge of Surface development,Interpenetration of solids, Perspective Projections Sciography, and the use of CAD techniques ni architectural design and detailing.





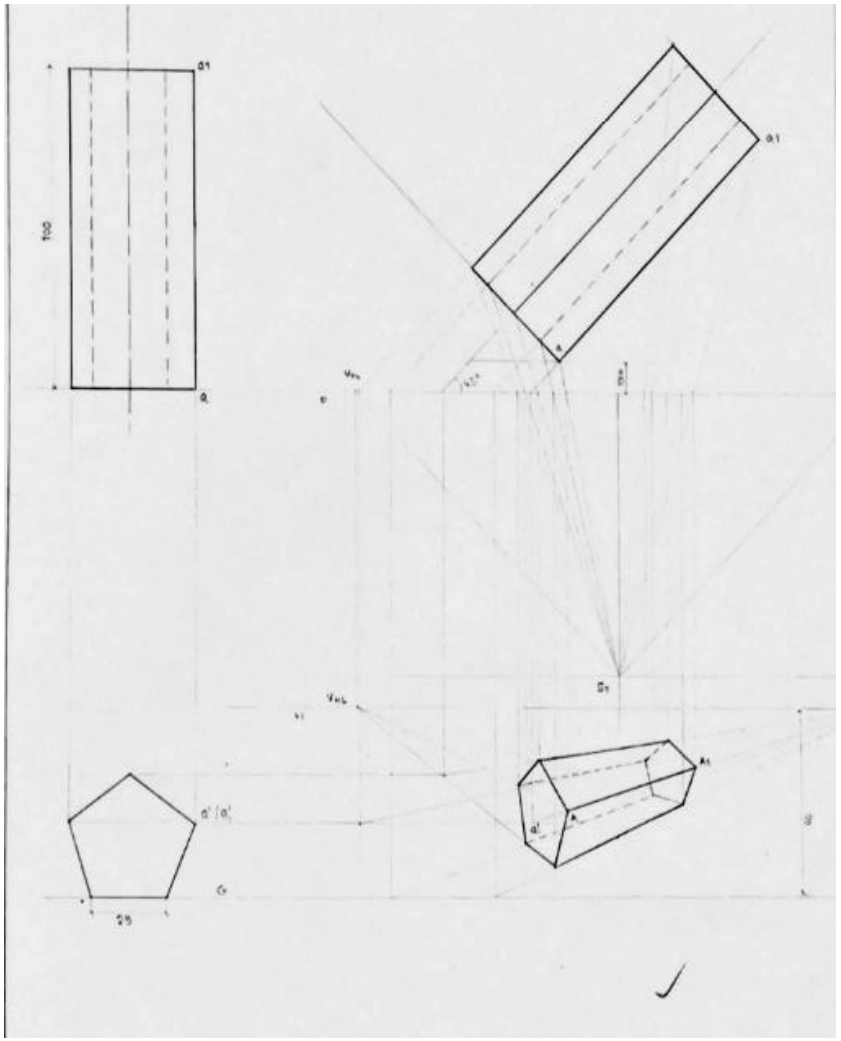

FRONT-ELEVATION

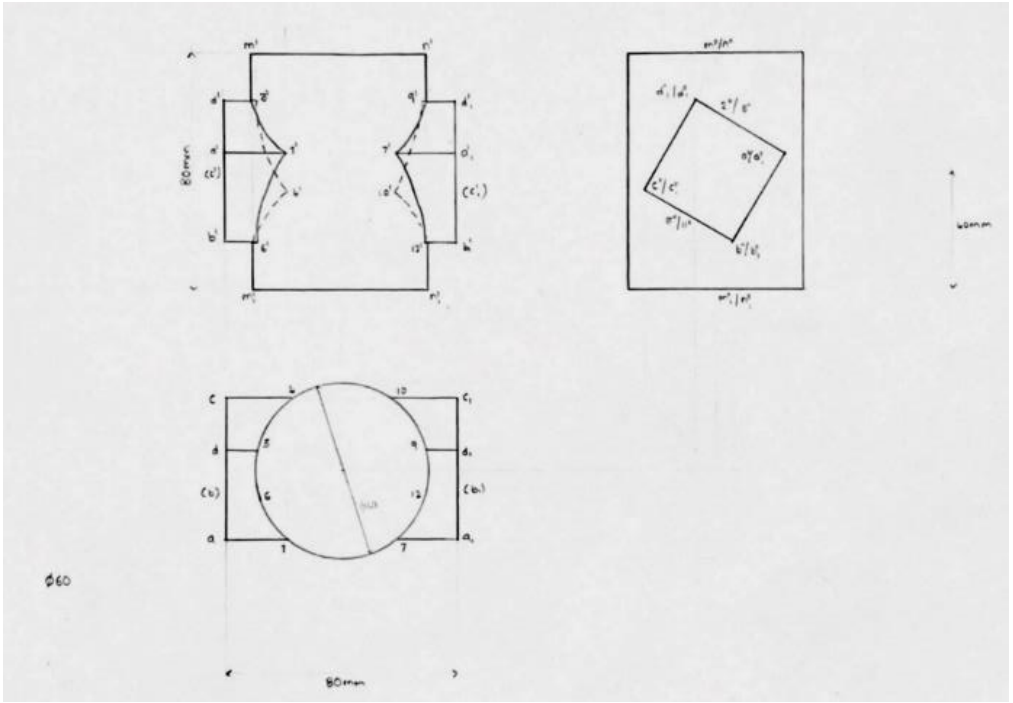

ELEVATION-EAST

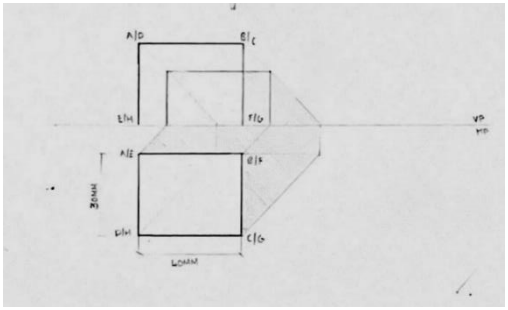

ELEVATION-BACK(N)

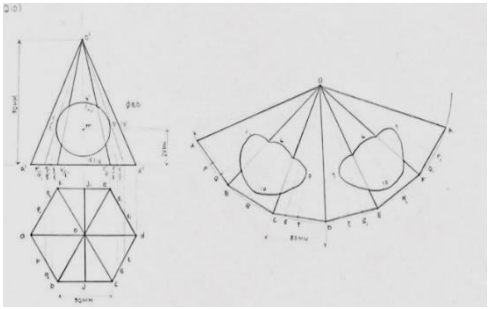

ELEVATION-WEST

STUDENT: AFLAH MUHAMMED ASAFALI(233701266)
FACULTY: MONIKA JADHAV , BABAR JAVED

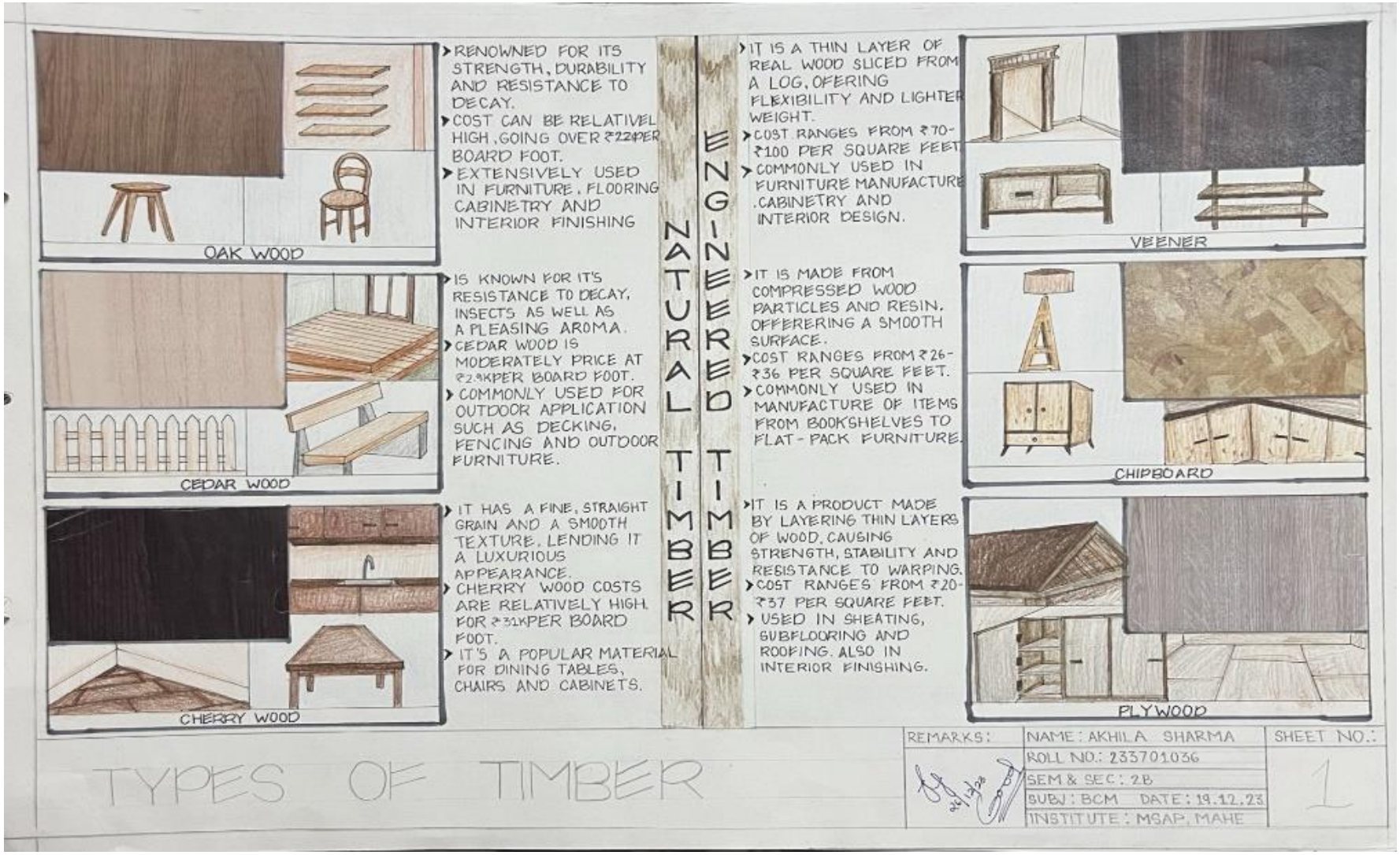


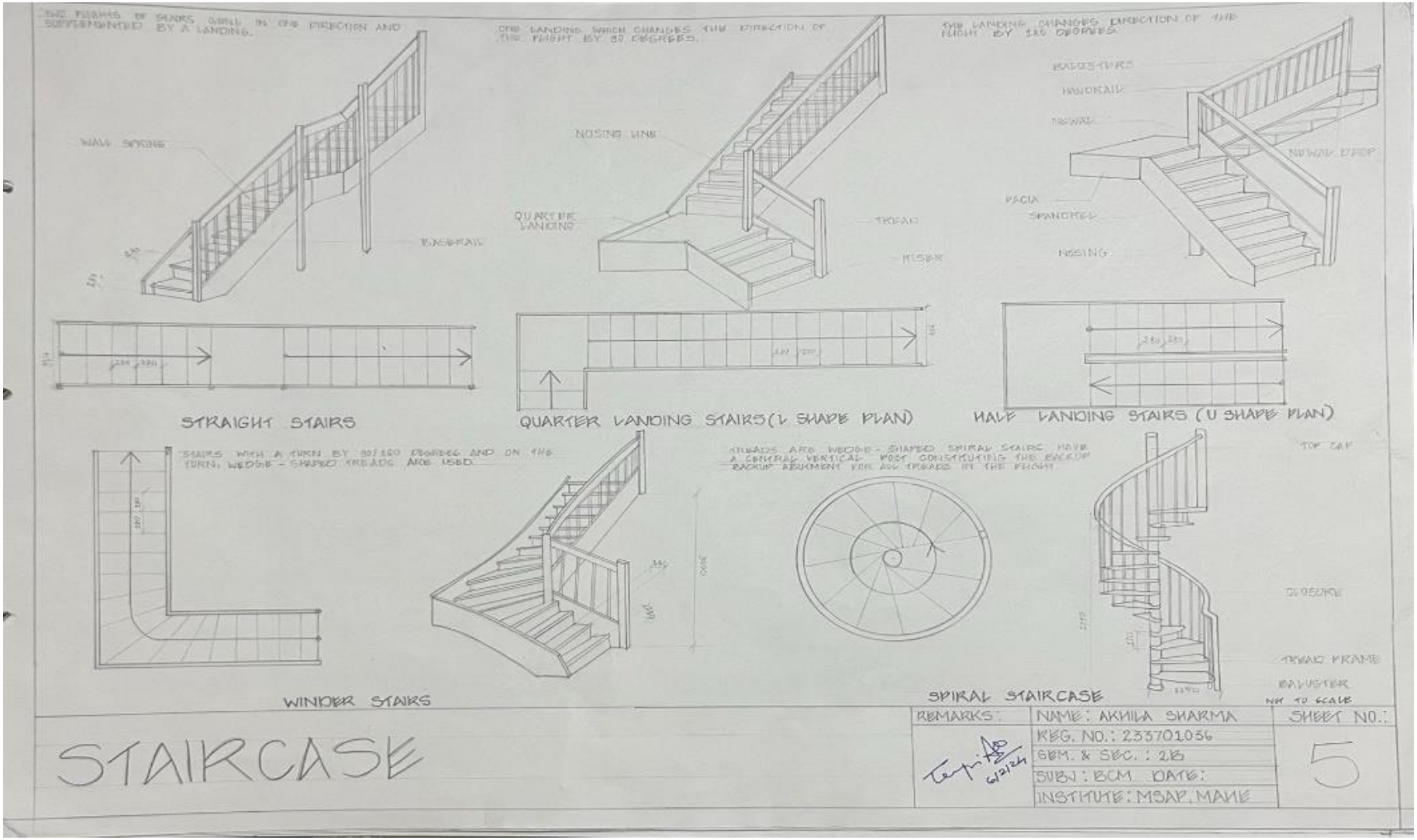






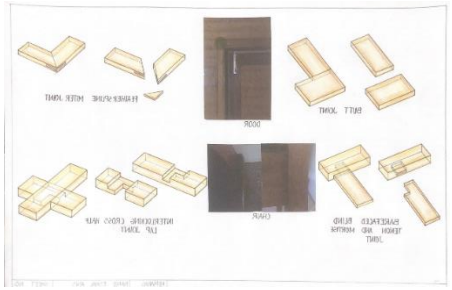
STUDENT: AFLAH MUHAMMED ASAFALI(233701266)
FACULTY: MONIKA JADHAV , BABAR JAVED

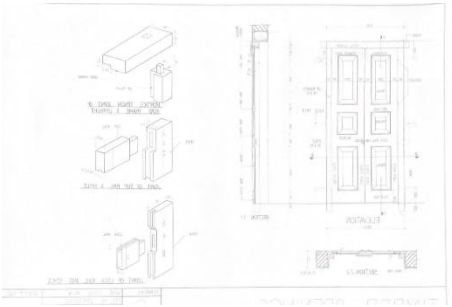

OAK WOOD
RENOWNED FOR ITS STRENGTH, DURABILITY AND RESISTANCE TO DECAY.
COST CAN BE RELATIVEL HIGH, GOING OVER ₹22/PER BOARD FOOT.
EXTENSIVELY USED IN FURNITURE, FLOORING CABINETRY AND INTERIOR FINISHING
CEDAR WOOD
IS KNOWN FOR IT'S RESISTANCE TO DECAY, INSECTS AS WELL AS A PLEASING AROMA.
CEDAR WOOD IS MODERATELY PRICE AT ₹2.9/PER BOARD FOOT.
COMMONLY USED FOR OUTDOOR APPLICATION SUCH AS DECKING, FENCING AND OUTDOOR FURNITURE.
CHERRY WOOD
IT HAS A FINE, STRAIGHT GRAIN AND A SMOOTH TEXTURE, LENDING IT A LUXURIOUS APPEARANCE.
CHERRY WOOD COSTS ARE RELATIVELY HIGH FOR ₹31/PER BOARD FOOT.
IT'S A POPULAR MATERIAL FOR DINING TABLES, CHAIRS AND CABINETS.
NATURAL TIMBER
ENGINEERED TIMBER
IT IS A THIN LAYER OF REAL WOOD SLICED FROM A LOG, OFFERING FLEXIBILITY AND LIGHTER WEIGHT.
COST RANGES FROM ₹70-₹100 PER SQUARE FEET
COMMONLY USED IN FURNITURE MANUFACTURE, CABINETRY AND INTERIOR DESIGN.
VEENER
IT IS MADE FROM COMPRESSED WOOD PARTICLES AND RESIN, OFFERERING A SMOOTH SURFACE.
COST RANGES FROM ₹26-₹36 PER SQUARE FEET.
COMMONLY USED IN MANUFACTURE OF ITEMS FROM BOOKSHELVES TO FLAT-PACK FURNITURE.
CHIPBOARD
IT IS A PRODUCT MADE BY LAYERING THIN LAYERS OF WOOD, CAUSING STRENGTH, STABILITY AND RESISTANCE TO WARPING.
COST RANGES FROM ₹20-₹37 PER SQUARE FEET.
USED IN SHEATING, SUBFLOORING AND ROOFING. ALSO IN INTERIOR FINISHING.
PLYWOOD
TYPES OF TIMBER
REMARKS:
NAME: AKHILA SHARMA
ROLL NO.: 233701036
SEM & SEC: 2B
SUBJ: BCM DATE: 19.12.23
INSTITUTE: MSAP, MAHE
SHEET NO.: 1

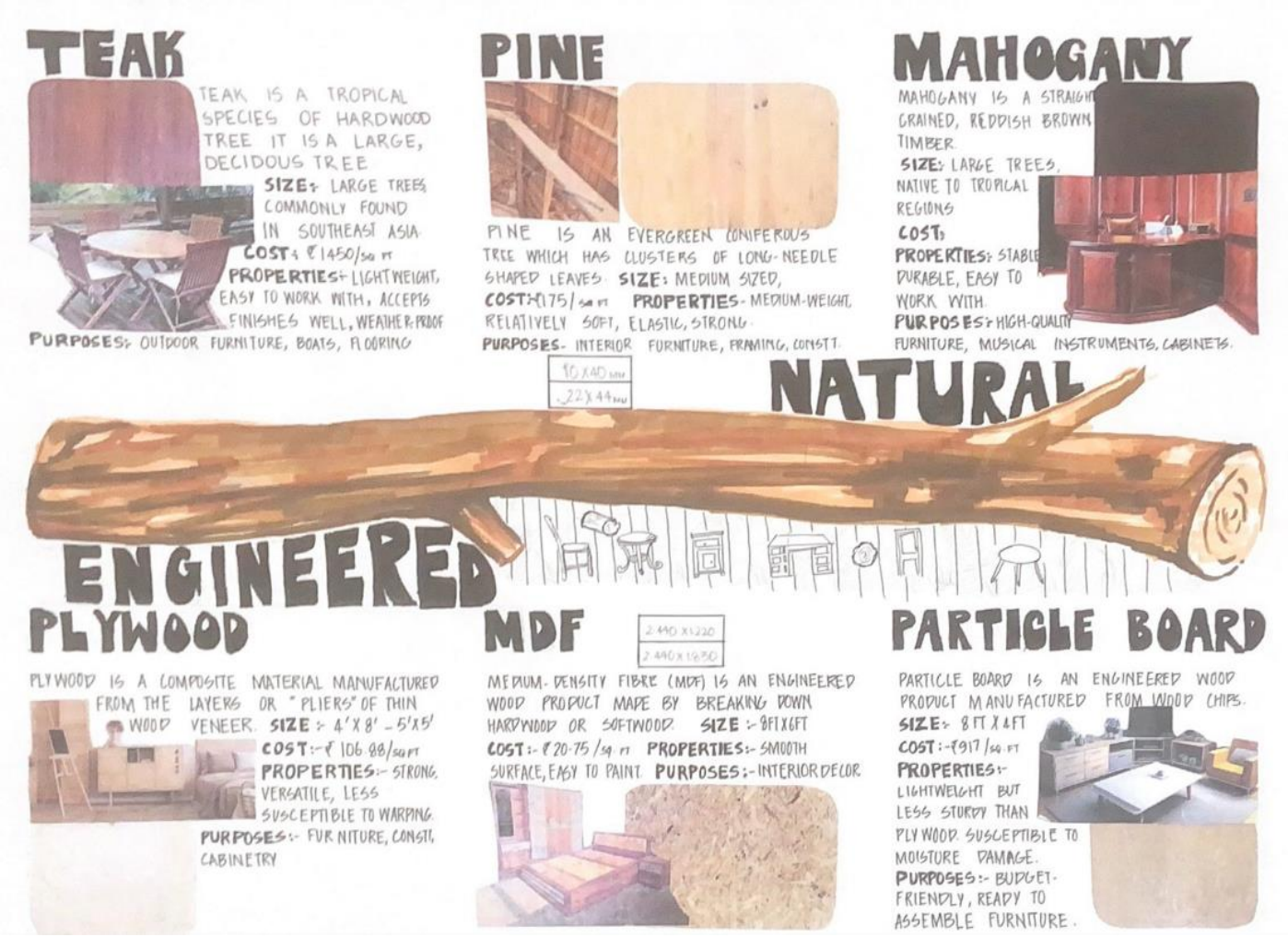

TWO FLIGHTS OF STAIRS SHALL IN ONE DIRECTION AND SUPPLEMENTED BY A LANDING.
ONE LANDING WHICH CHANGES THE DIRECTION OF THE FLIGHT BY 90 DEGREES.
TWO LANDING CHANGES DIRECTION OF THE FLIGHT BY 180 DEGREES.
WALL STRING
HANDRAIL
NOSING LINE
QUARTER LANDING
TREAD
RISER
BALUSTERS
NEWAL
NEWAL DROP
FACIA
SPANDREL
NOSING
STRAIGHT STAIRS
QUARTER LANDING STAIRS(L SHAPE PLAN)
HALF LANDING STAIRS (U SHAPE PLAN)
STAIRS WITH A TURN BY 90/120 DEGREES AND ON THE TURN, WEDGE - SHAPED TREADS ARE USED.
TREADS ARE WEDGE - SHAPED SPIRAL STAIRS HAVE A GENERAL VERTICAL POST CONSTRUCTING THE BACKUP BACKUP ABUTMENT FOR ALL TREADS IN THE FLIGHT.
TOP CAP
STRING
TREAD FRAME
BALUSTER
NOT TO SCALE
WINDER STAIRS
SPIRAL STAIRCASE
STAIRCASE
REMARKS:
NAME: AKHILA SHARMA
REG. NO.: 233701056
SEM. & SEC.: 2B
SUBJ: BCM DATE:
INSTITUTE: MSAP, MAHE
SHEET NO.: 5

COURSE OBJECTIVES:

Upon completion, students will be equipped to classify commercial timber and its products, categorize timber doors and windows, identify various types and configurations of timber stairs, illustrate timber floors and their components, and analyze timber components, joinery, fixing methods, and construction details.







ARC 1112 CLIMATOLOGY AND LAB - II

COURSE OBJECTIVES:

To study the global climate and classification of tropical climates and study the human heat balance and comfort. To learn how to read the sun path diagrams and understand shadow angles and learn how to design solar shading devices. All this data later helps in designing a climate responsive building.

PROJECT BRIEF:

This course intends to introduce and understand the position of the sun at multiple time periods and how these respective positions affect the shadow pattern created by a structure. It also makes us aware of the various climate types of our country which helps us to be more responsive in our design.

STUDENT: ANUSHA MALAIYA (233701304)
FACULTY: BABAR JAVED, ANOOP KUMAR SHUKLA

WORKING OF THE BUILDING SYSTEM:

- The sun's rays heat the black south wall leading to increase in temperature for the immediate surrounding environment. This causes the air in the cavity to rise upwards through convection. These convection currents are pulled up by the natural winds blowing south to north. This creates a vaccum at the top core of the structure. To fill this vacuum, air from inside is drawn up which is again pulled up by moving convection currents. This system of the hot air rising and drawing of the cool fresh air is a continuous process. Hence, reverse wind circulation is established by bringing in the fresh air from the north open face of the building and drawing it through the entire section of the structure and removing it by convection through solar wind vents.

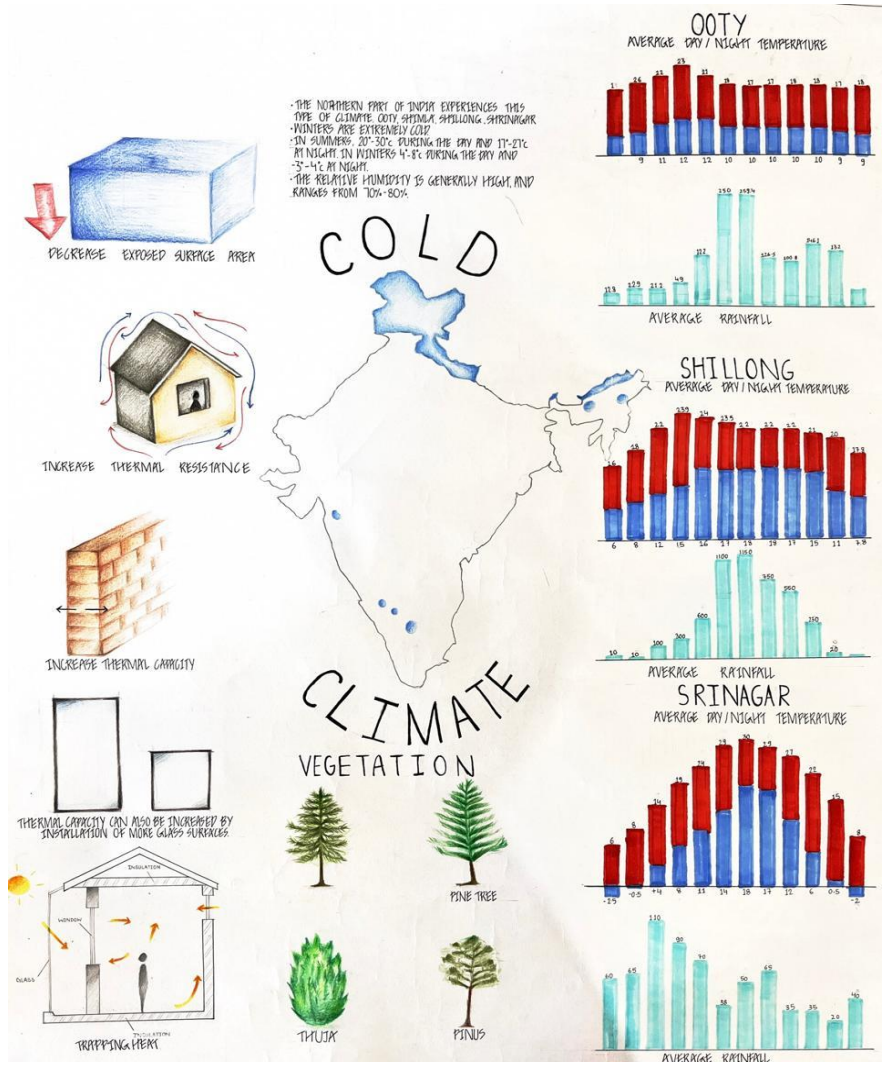
MATERIALS USED:

Building technologies and materials that reduces carbon emission by saving on the resources and embodied energies.

Materials used:

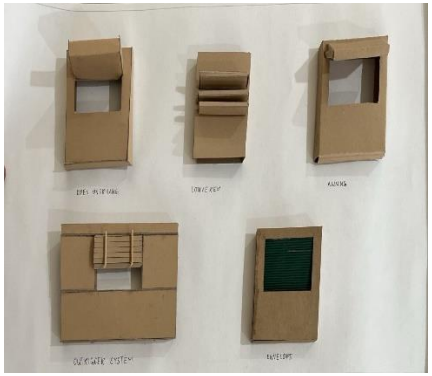
- Filler Slabs
- Use of fly ash bricks
- Soil stablised blocks
- Laterite blocks

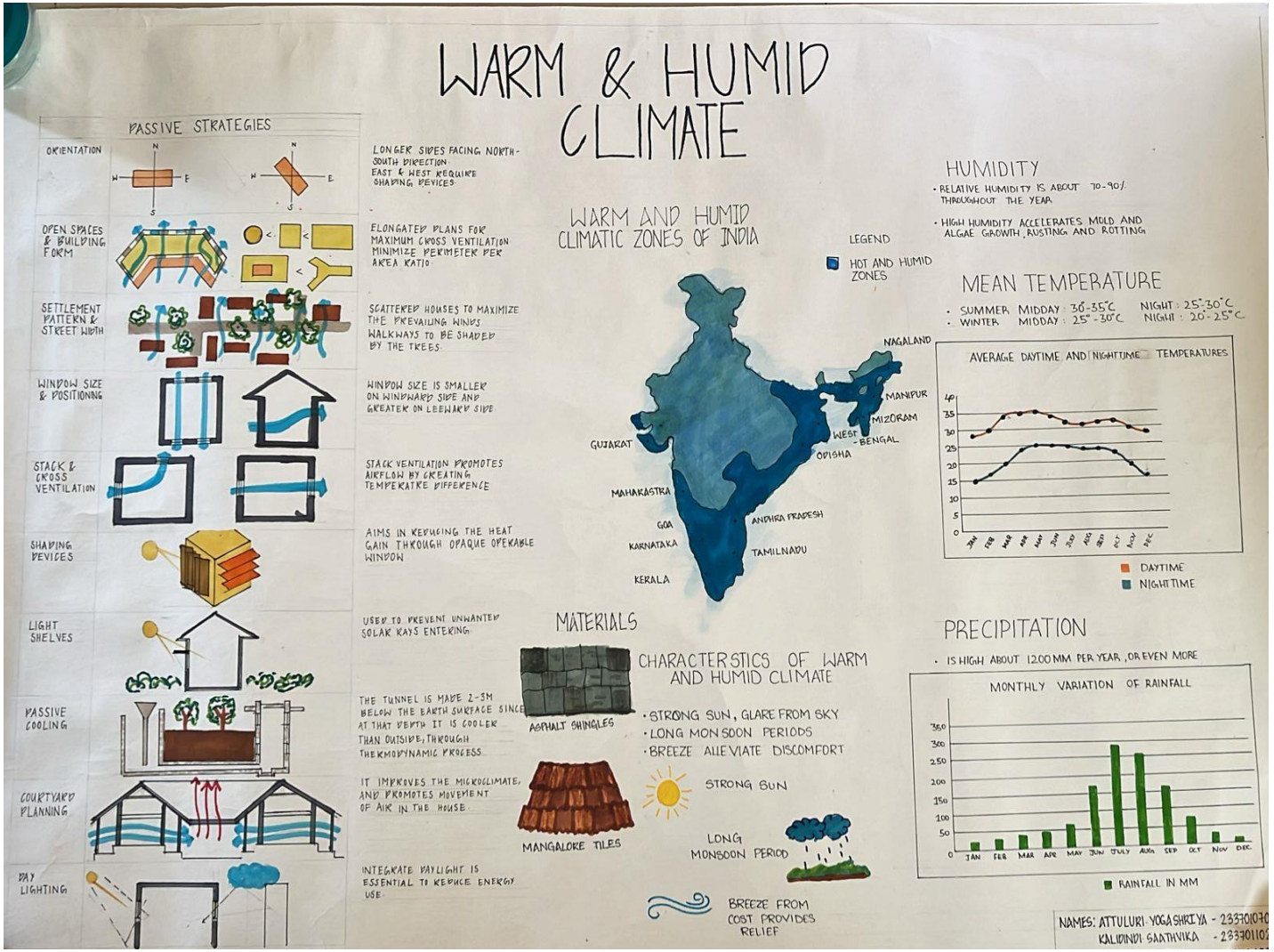
CLIMATOLOGY AND LAB



COURSE OBJECTIVES:

To understand the elements of warm and humid climate & its parameters.
To understand warm and humid climate in different context of scale & region. To understand the terminologies involved in designing shading devices.To understand the calculations required for the design of a shading device.





COURSE OBJECTIVES:

To understand the historical significance of architectural styles and basic elements of Hindu temples and their styles.

To interpret importance of social, cultural, political and regional influences.

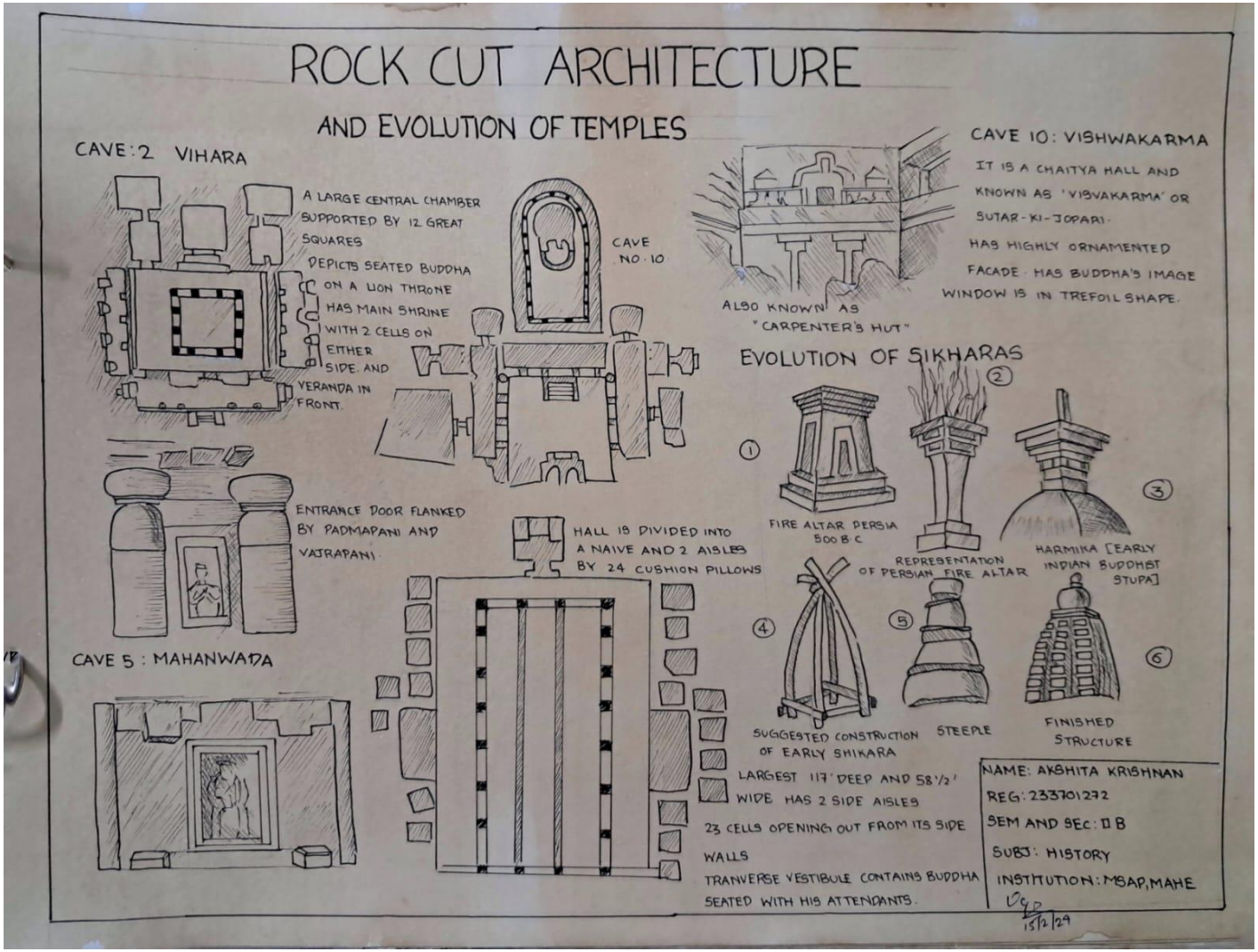
To identify and illustrate the building topologies, building construction techniques and material identification of various Hindu temples.

PROJECT BRIEF:

This course intends to introduce us to the Hindu and Buddhist temple architecture. It provides us information related to their basic elements and styles like latina, shekari, phamsana,etc.

It explains us about rock cut architecture which includes the viharas and chaitya halls and the evolution of sikharas.

It helps us learn about different mandapas and rathas and helps us understand the evolution of dravidian orders.



EVOLUTION OF TEMPLE ARCHITECTURE

FIRST PHASE

MANDAPAS - SANSKRIT TERM FOR SQUARE VESTIBULE OR PAVILLION

VARSHA MANDAPA

CAVE EXCAVATED FROM VERTICAL WALL. 4 SCULPTURES

MAMALLAPURAM

7TH - 8TH CENTUARY

PILLAR - 7FT HEIGHT AND 2FT DIAMETER SHAFT - SQUARE EXCEPT MIDDLE THIRD WHICH IS OCTAGONAL

RAMANUJA MANDAPA

HAS 3 CELLS. 6 CRUDELY FREE PILLARS WERE ADDED TO EXTEND MANDAPA

PANCHAPANDAVA MANDAPA

HAS 6 PILLARS AND 2 PILLASTERS IN FACADE

- LARGEST UNFINISHED TEMPLE CAVE OF MAMALLAPURAM

KOTIKAL MANDAPA

HAS 2 PILLARS AND 2 PILASTERS. HAS A MUKHAMANDAPA AND ARDHAMANDAPA

MAHISHAASURAMARDINI

ANOTHER NAME OF GODDESS DURGA AND DEDICATED TO HER. SHE IS AN INCARNATION OF POWER

KONERI MANDAPA

DEDICATED TO LORD SHIVA. HAS 5 SHRINES ATTACHED TO MAIN HALL. FACADE HAS ENTABLATURE. CYLINDRICAL PILLARS

EVOLUTION OF DRAVIDIAN ORDER

620 A.D. MAMALLAPURAM

625 A.D. TRICHINOPOLY

SIMHA [LION]

625 A.D.

700 A.D.

PALLAVA. 7TH AND 8TH A.D.

CHOLA 11TH A.D.

PANDYA 13TH A.D.

RATHAS

STUPA

SIKARA

GRIVA

PRASTARA

PADAVARGA

ADISTHANA

UPAPITHA

MONOLITH RATHAS CARVED OUT OF GRANITE. MULTI-STORYED VIMANA WAS DEVELOPED AND THESE STORIES ARE CALLED TALAS WITH UPPER TALA HAS TO BE SMALLER THAN LOWER TALA.

ARJUNA RATHA

SHARES PLATFORM WITH DRAUPADI RATHA

MEASURES 11.5 FT X 16 FT WITH HEIGHT 20 FT

WEST FACING ENTRANCE. SUPPORTED BY 2 PILLARS AND 2 PILASTERS

DRAUPADI RATHA

SMALLEST AND SIMPLE

RATHA LIONS AND ELEPHANTS CARVED ON FRIEZE

COLUMNS PRESENT AT THE CORNERS

ROOF HAS FOLIAGE

BHIMA RATHA

- BULKY, LARGE APPEARANCE
- ROOF INSPIRED FROM CHAITYA HALL

IT IS 42' LONG, 25' WIDE AND 25' HIGH.

DHARMARAJA RATHA

GRANDEST AND LARGEST, WEST PLAN IT IS A TRY + TOO. FRIST LOW DECOND FOR SANSCRIT

GROUND FLOOR IS INCOMPLETE. 1ST AND 2ND FLOOR HAS PILLARS FOR SUPPORTING DEITIES.

SAHADEVA

HAS SEPARATE BOLDER 2 ELEPHANT RAISED ABOVE ADHISTHANA 2 PILASTER WITH ELEPHANTS

GANESH RATHA

WEST FACING GROUND FLOOR CORNICE ADORNED WITH KUDU. GROUND FLOOR HAS PROJECTING MUKHA-MANDAPA

15/2/24

NAME: AKSHITA KRISHNAN

REG NO: 233701272

SEM AND SEC : II B

SUBJ : HISTORY

INSTITUTION: MSAP, MAHE

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

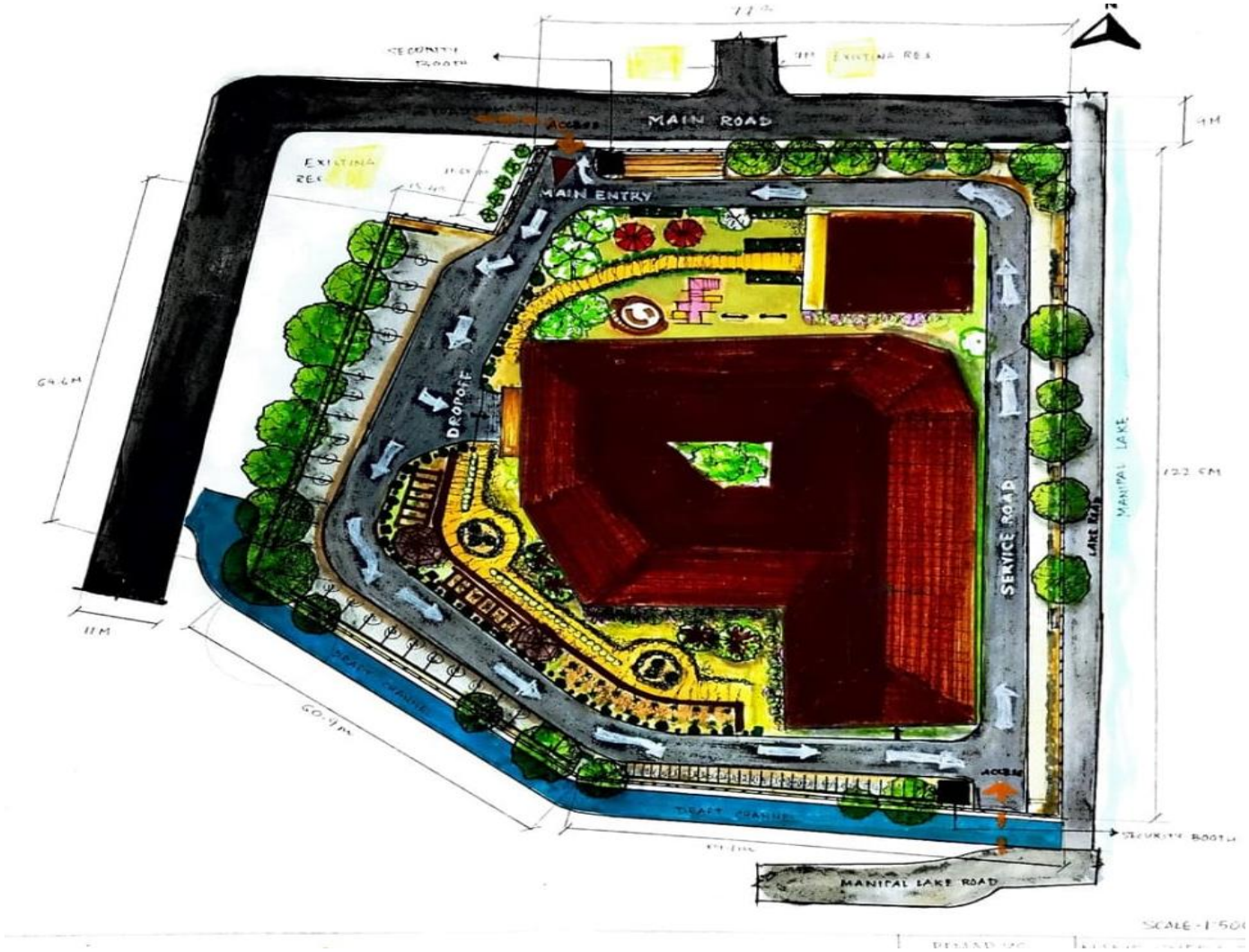
2

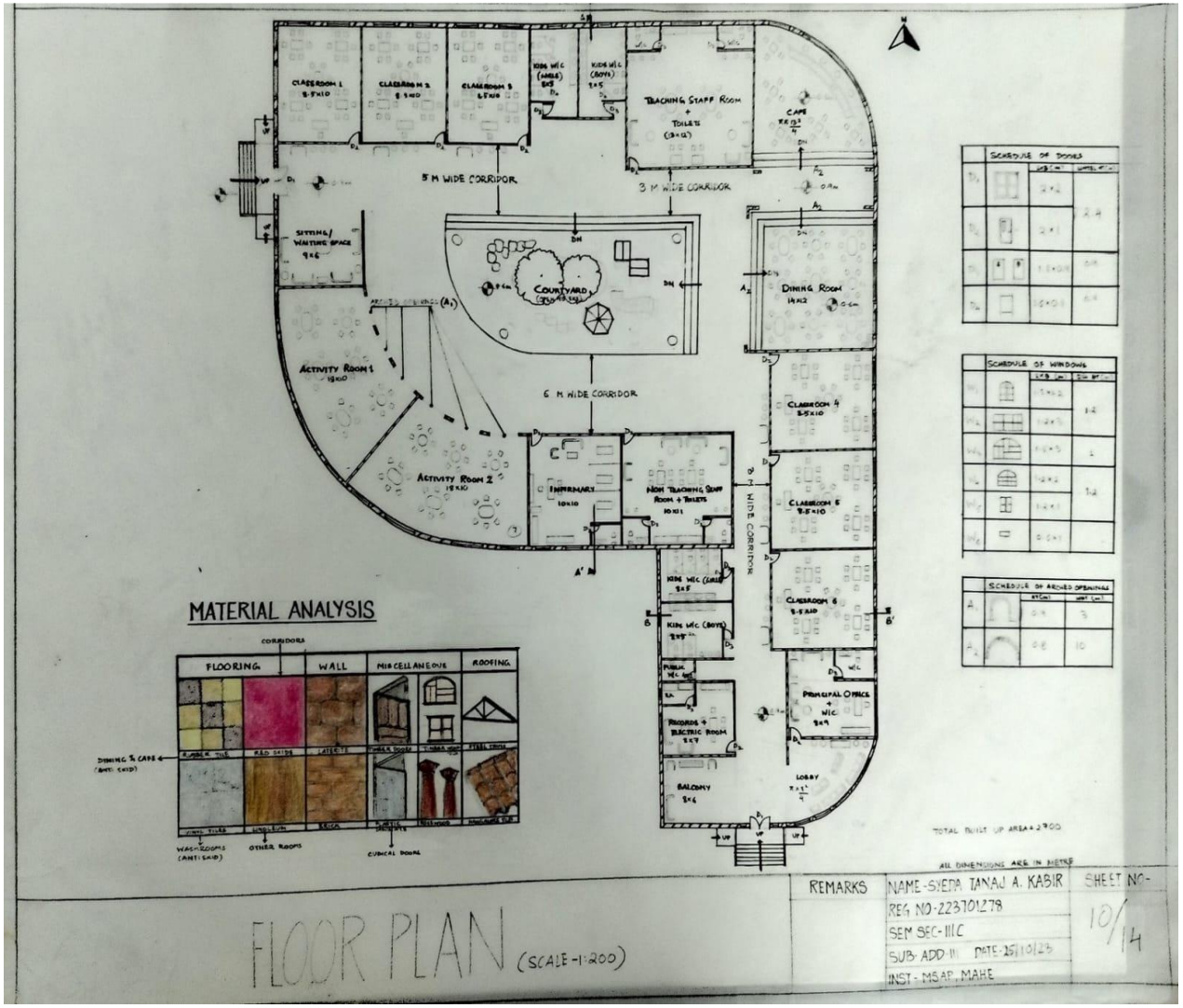
COURSE OBJECTIVE:

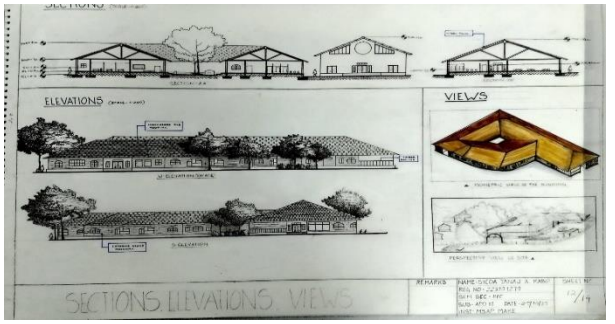
This course would provide the basic knowledge of developing detailed design programme of Campus Building Design while incorporating the building norms and regulations as well as with a focus on Timber structures and Masonry. This course would enable the students to understand the design pattern by relating the built and unbuilt spaces by incorporating the prevailing site conditions.

PROJECT BRIEF:

A preschool, also known as a nursery school, pre-primary school, play school, or creche, is an educational establishment or learning space offering early childhood education to children before they begin compulsory education at primary school. The design seeks to provide children aged 2-6 with an atmosphere that encourages independent exploration, hands-on learning, and holistic development. The school aims to provide a nurturing and engaging environment for children aged 2-6 years, following the principles of the formal educational approach.







FLOOR PLAN + SCHEDULES _ MATERIAL DETAILS

MODEL

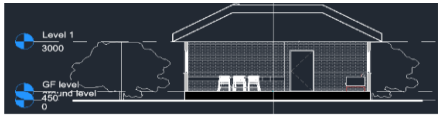
ARC 2103 ARCHITECTURAL REPRESENTATION-III(BIM)

COURSE OBJECTIVES:

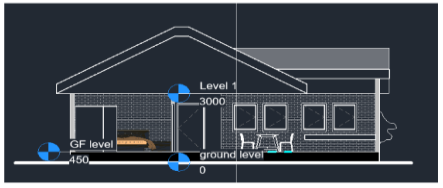
To build digital 3D models and develop rendered images, make use of different command to build BM midel, develop simple animations, build basic parametric revit families for BIM model , build virtual walkthrough and experience architectural designs in VR.

PROJECT BRIEF:

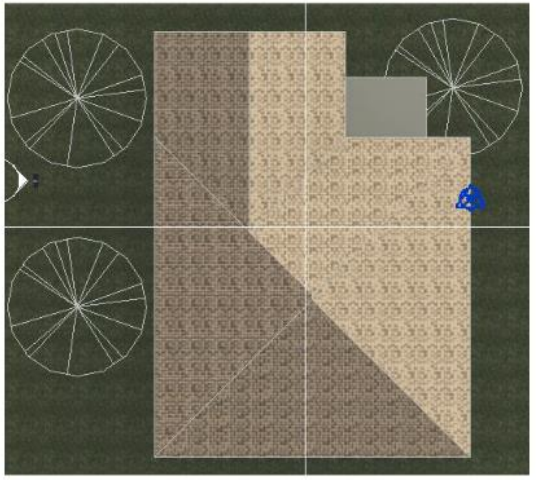
This course intends to introduce and teach techniques of creating and presenting digital 3D models using various softwares.



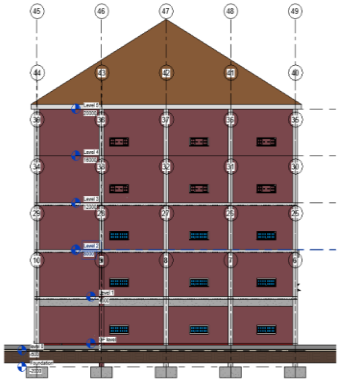
SECTION 1



FLOOR PLAN



SITE PLAN



ELEVATION OF BUILDING

SECTION OF BUILDING

NORTH ELEVATION

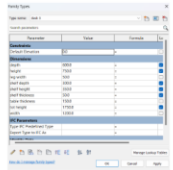
EAST ELEVATION

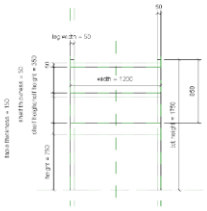
SOUTH ELEVATION

WEST ELEVATION

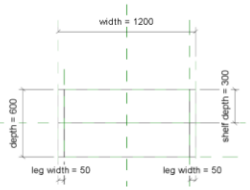
Sheet No. 2

Sheet No. 13



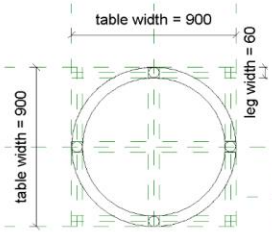


DETALIS OF
STUDY DESK

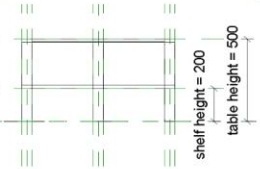


PLAN

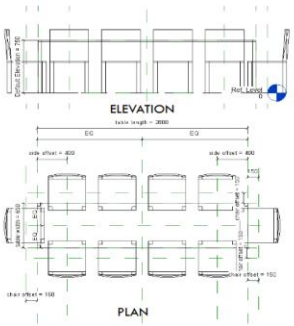
Sheet No. 18



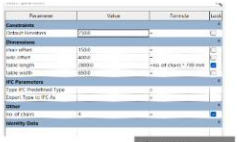
COFFEE TABLE



Sheet No. 21



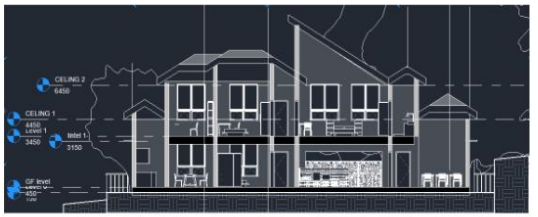
PARAMETRIC TABLE



Sheet No. 20

FIRST FLOOR PLAN

GROUND FLOOR PLAN



SECTION 1

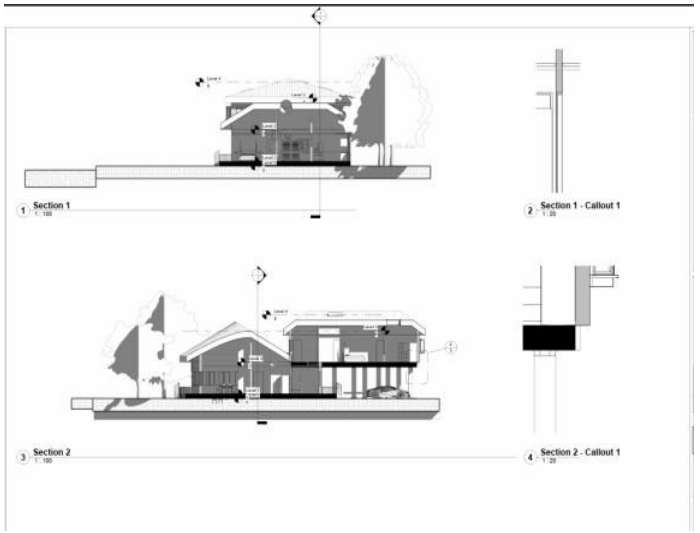
SECTION 2

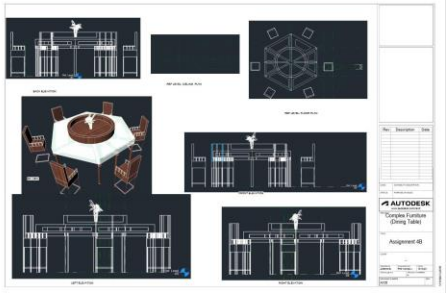
Sheet No. 4

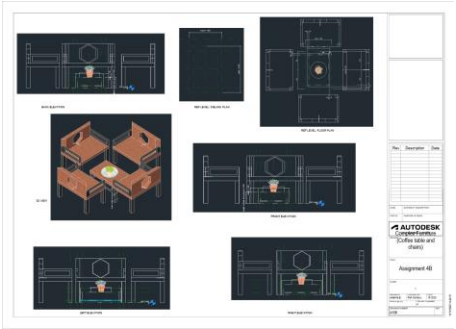
ARC 2103 ARCHITECTURAL REPRESENTATION III (BIM)

COURSE OBJECTIVES:

To develop awareness and familiarity with Advanced Computer applications in Architecture. To equip students with skills required in using digital tools to conceive, develop and present architectural ideas. To introduce the students with the concept of Building Information Modelling and the software used to develop the BIM models. .







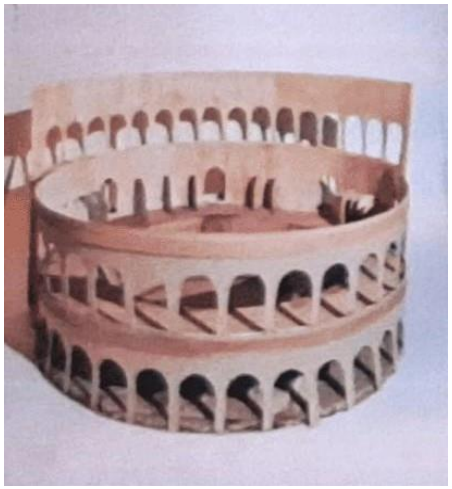
ARC 2111 LANDSCAPE AND LAB(EXTERIOR)

COURSE OBJECTIVES:

To study and analyze 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:

This assignment will have a comprehensive site plan for ADD 3, incorporating the principles and elements of landscape design. Propose softscape and hardscape elements that enhance the site's functionality and aesthetics. Additionally, there will be an incorporation of site services.



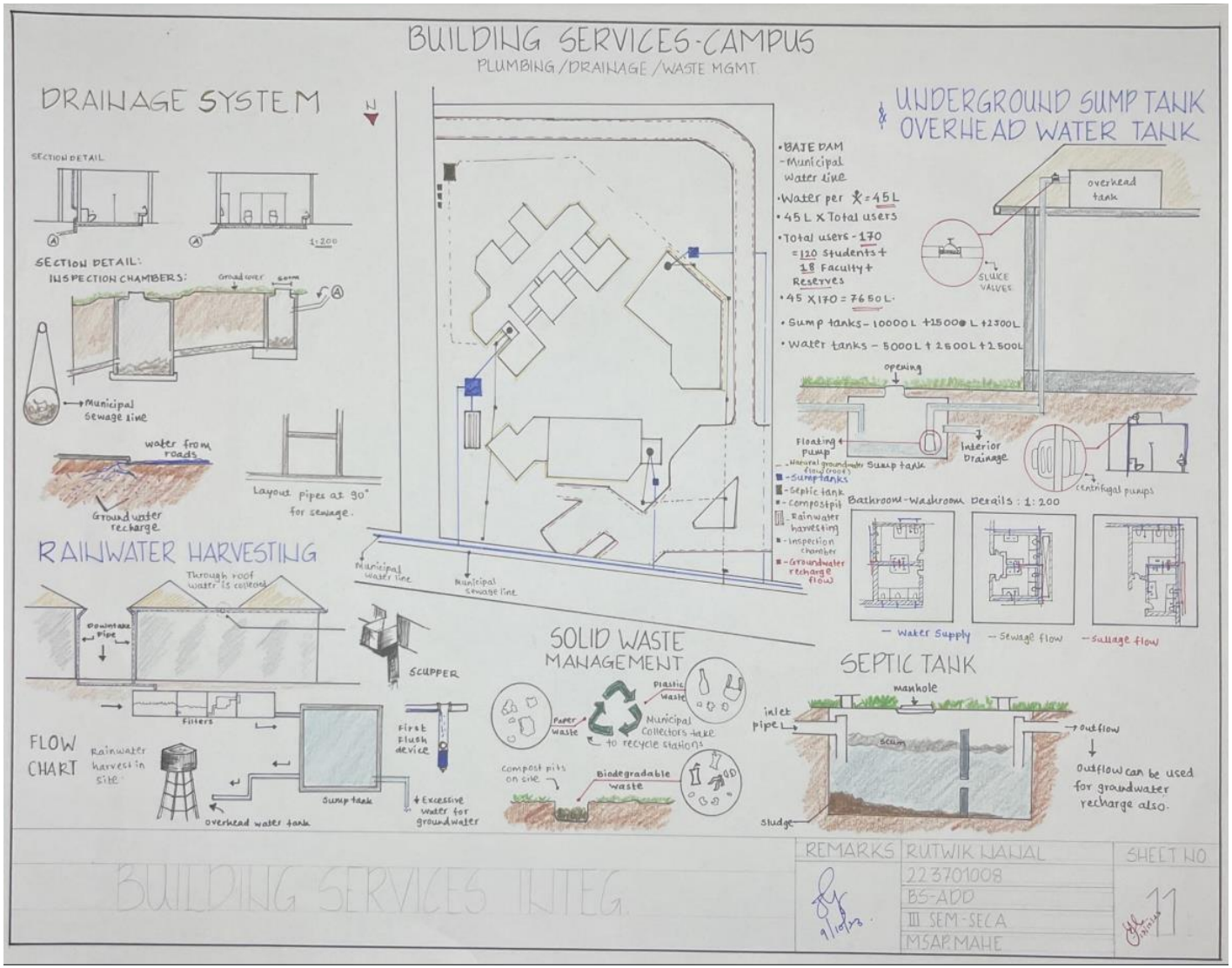
ARC 2109 BUILDING SERVICES-I

COURSE OBJECTIVES:

To equip students with proper understanding of the water distribution system in planning at macro and micro levels and the necessity of proper drainage and sanitation facility.

PROJECT BRIEF:

Detail and Representation of all the aspects discussed in each CO for Building Services(Water supply, plumbing, sanitation, RHW and Waste Management) with drawing layout at site and building level for ADD project.



COURSE OBJECTIVES:

This course aims to provide students with a comprehensive and in depth understanding of the environmental effects caused by human activities . It explores the intricate interactions between human actions and the environment , along with the diverse challenges associated with environmental degradation and aims to explore potential solutions and strategies to mitigate and address these issues

Assignment brief :

Air pollution , climate change , current status of air pollution , national solar mission , national storage mission , initiative measures taken , environmental scenario , global warming , solid waste management , 2016, ban on single plastic , national green tribunal act 2010, agenda 21

Air pollution effect on human health

- Air pollution, along with climate change, is one of the major environmental hazards to human health, according to the WHO (World Health Organization).
- Each year, it's thought that air pollution exposure results in 7 million early deaths and the loss of millions more years of healthy living.

AIR POLLUTION

Any substance that alters the natural properties of the atmosphere, whether it be chemical, physical, or biological, is considered an air pollutant. Air pollution can

occur indoors or outdoors.

Cause of air pollution

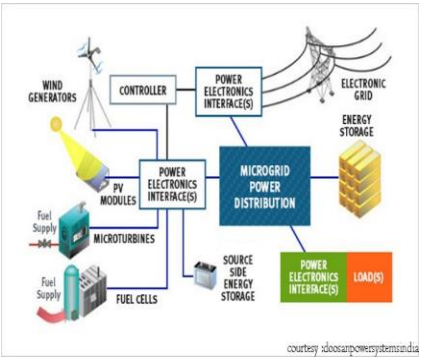
I. Burning of fossil fuels
II. Automobile

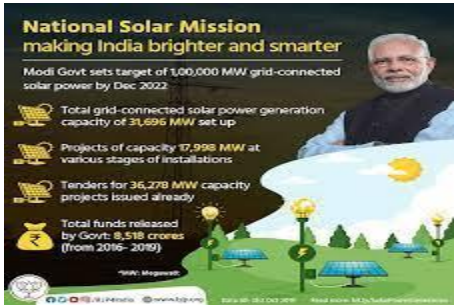
Effects of air pollution

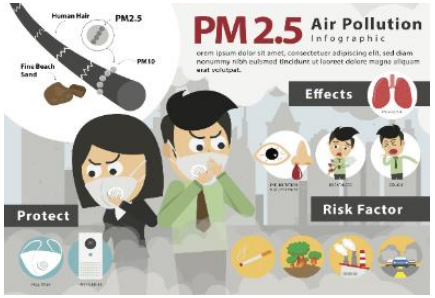
I. Diseases
II. Global warming
III. Acid rain
IV. Ozone layer depression

Air pollution control

I. Avoid using vehicles
II. Energy conversation

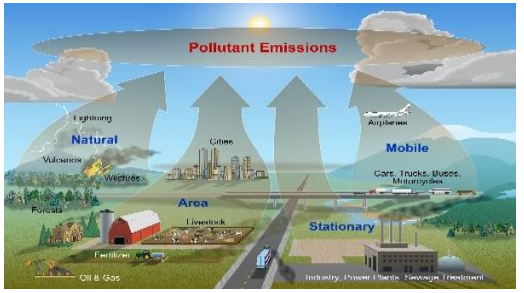






Mission for National Energy Storage

To propose a draft for the establishment of the National Energy Storage Mission (NESM) for India, the Ministry of New & Renewable Energy established an Expert Committee in February 2018 with representatives from relevant Ministries, industry associations, research institutions, and experts under the chairmanship of the Secretary, Ministry of New and Renewable Energy.



On January 11th, 2010, the National Solar Mission (NSM) was launched.

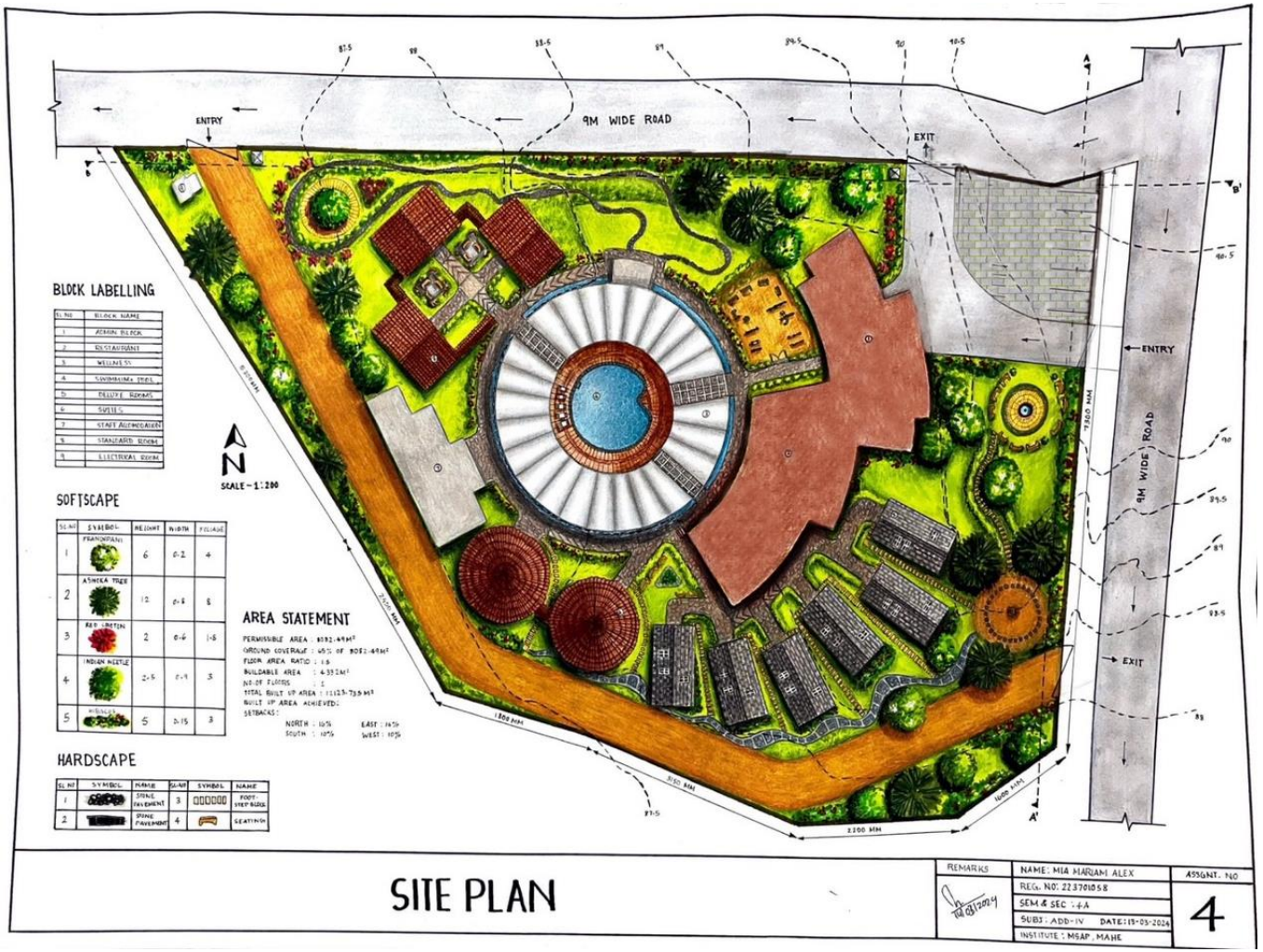
The Government of India and State Governments have launched the National Solar Mission to promote solar energy. The mission is one of the National Action Plan on Climate Change's several policies. The National Solar Mission's goal is to position India as a leader in solar energy by establishing the political framework for its rapid adoption throughout the nation. By 2022, the government wanted to install 20 GW worth of solar power, acc to the initial plan

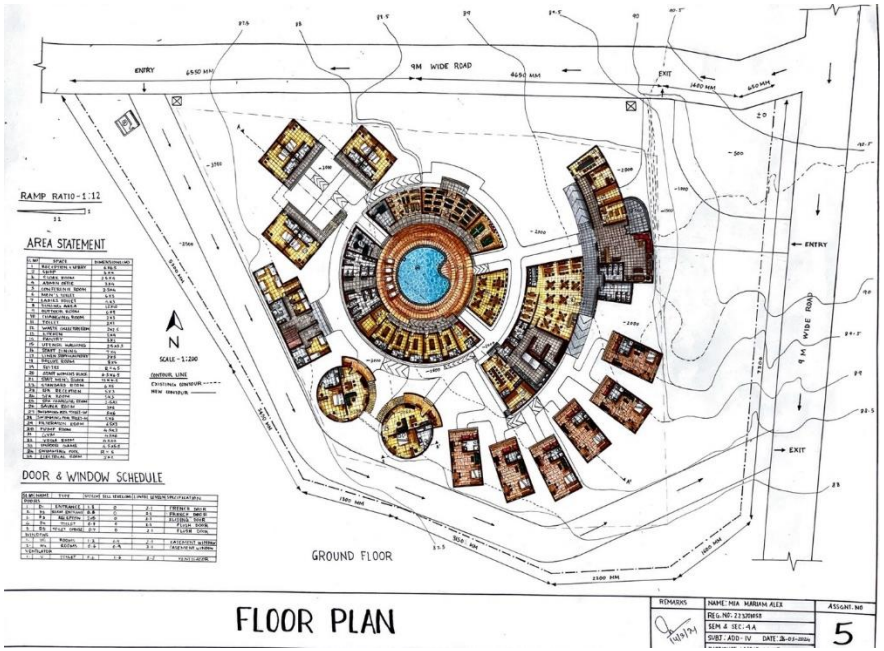
COURSE OBJECTIVES:

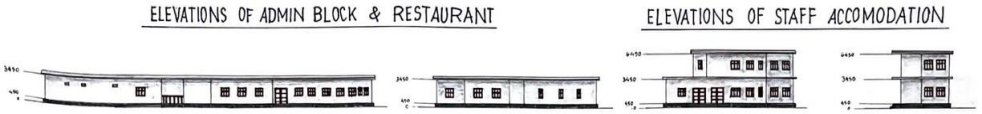
To develop a detailed design integrating aspects of climate responsive design adopting alternative building technologies as an underlying construction system. To implement passive design concepts and techniques with their application in hospitality projects like resorts, hotels, public buildings etc. in a given climatic zone.

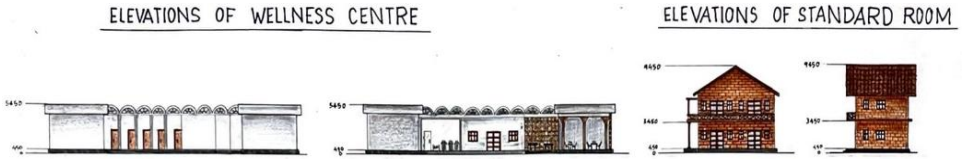
PROJECT BRIEF:

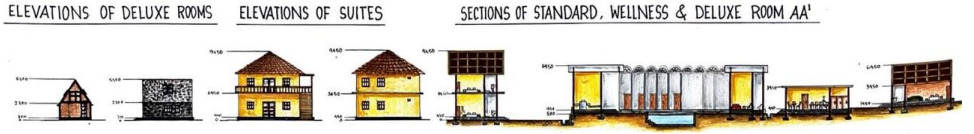
Passive design strategies such as building orientation, shading devices and insulating walls and roofs in the design of the given studio project. The engagement should help in the comprehension of design program development with the articulation of multi-user spaces focusing on adopting alternative building technologies as a moderator in hospitality design.




ENTRY
9M WIDE ROAD
EXIT
RAMP RATIO - 1:12
AREA STATEMENT
DOOR & WINDOW SCHEDULE
GROUND FLOOR
FLOOR PLAN
5


ELEVATIONS OF ADMIN BLOCK & RESTAURANT
ELEVATIONS OF STAFF ACCOMODATION


ELEVATIONS OF WELLNESS CENTRE
ELEVATIONS OF STANDARD ROOM


ELEVATIONS OF DELUXE ROOMS
ELEVATIONS OF SUITES
SECTIONS OF STANDARD, WELLNESS & DELUXE ROOM AA'


SITE SECTION BB'

ARC 2102 ARCHITECTURAL DESIGN & DETAILING - IV

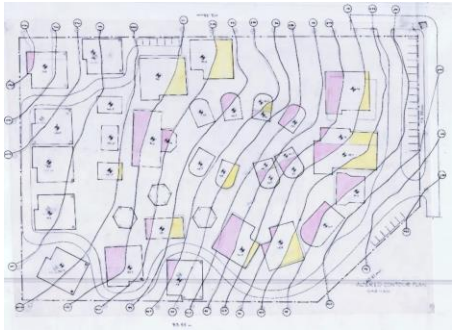
RESORT DESIGN

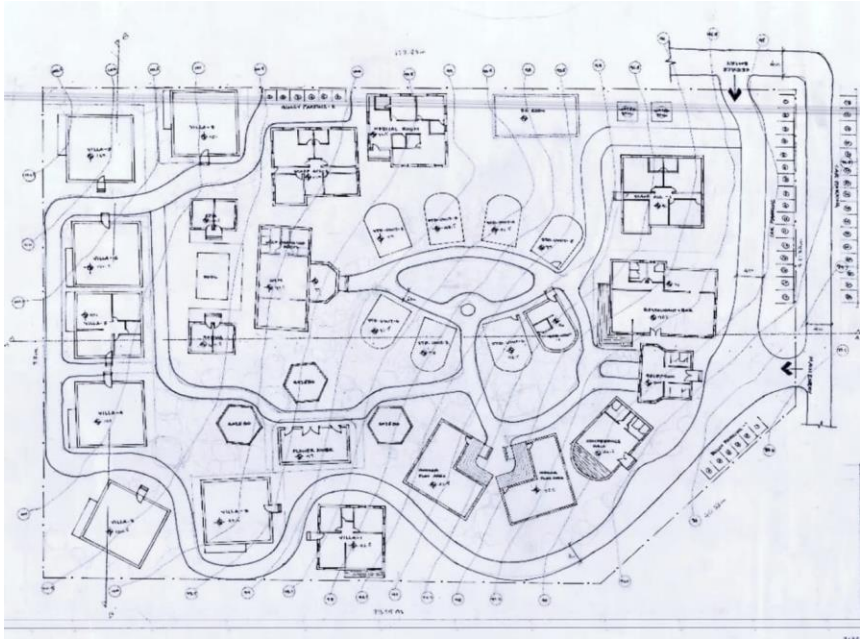
COURSE OBJECTIVES:

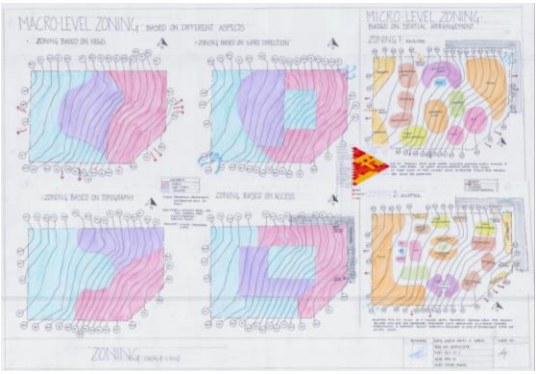
To develop a detailed design integrating aspects of climate responsive design adopting alternative building technologies as an underlying construction system. To appraise the site and its context and their value as prime attributes of design towards incorporating passive design strategies as a design solution. To implement passive design concepts and techniques with their application in hospitality projects like resorts, hotels, public buildings etc. in a give climatic zone

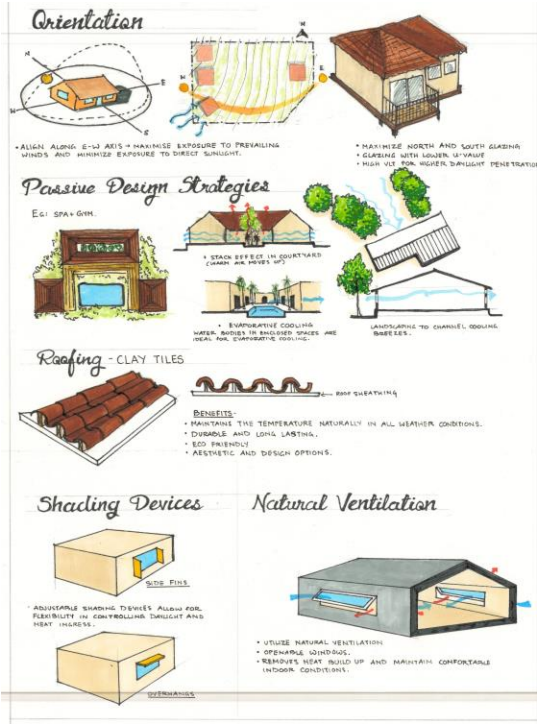
PROJECT BRIEF:

This course intends to introduce and understand the use of passive design strategies, adopting alt building technologies, use of local materials and the impact of climatic factors and co friendly architecture while handling projects like resorts.









STUDENT: SYEDA TANAJ A. KABIR(223701278)
FACULTY: AKSHATHA RAO, KUMAR GAURAV, KIRTI NIKAM, PRAJOSH K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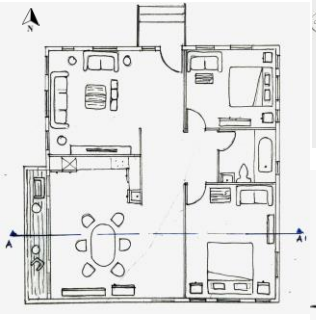
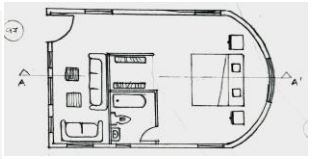
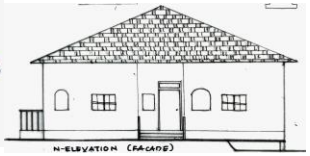
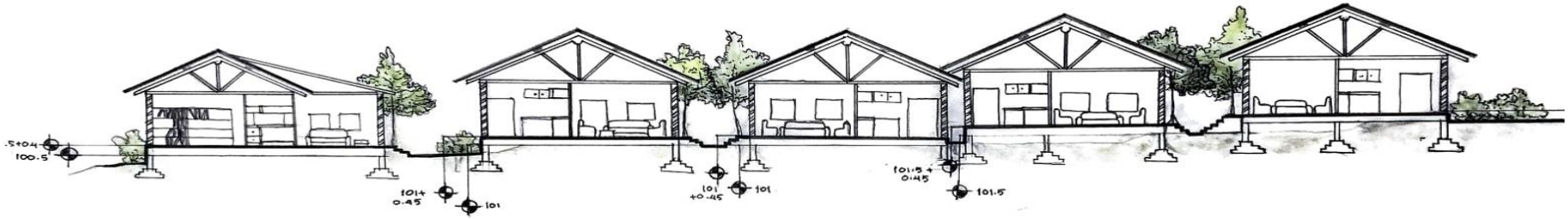





N-ELEVATION (FACADE)


ECO RESORT
SITE MODEL

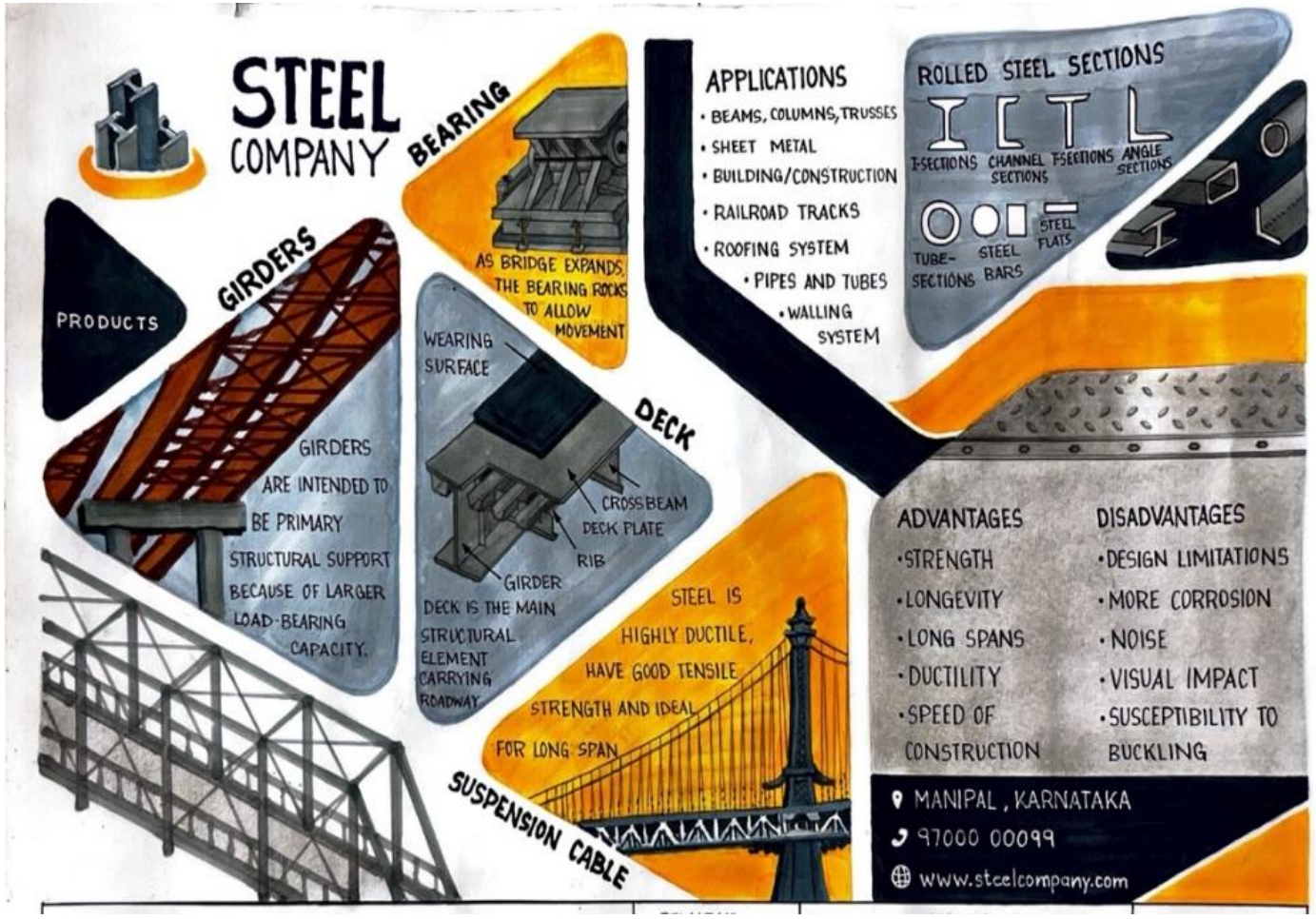

100.5
101+ 0.45
101
101
+0.45
101
101.5 + 0.45
101.5

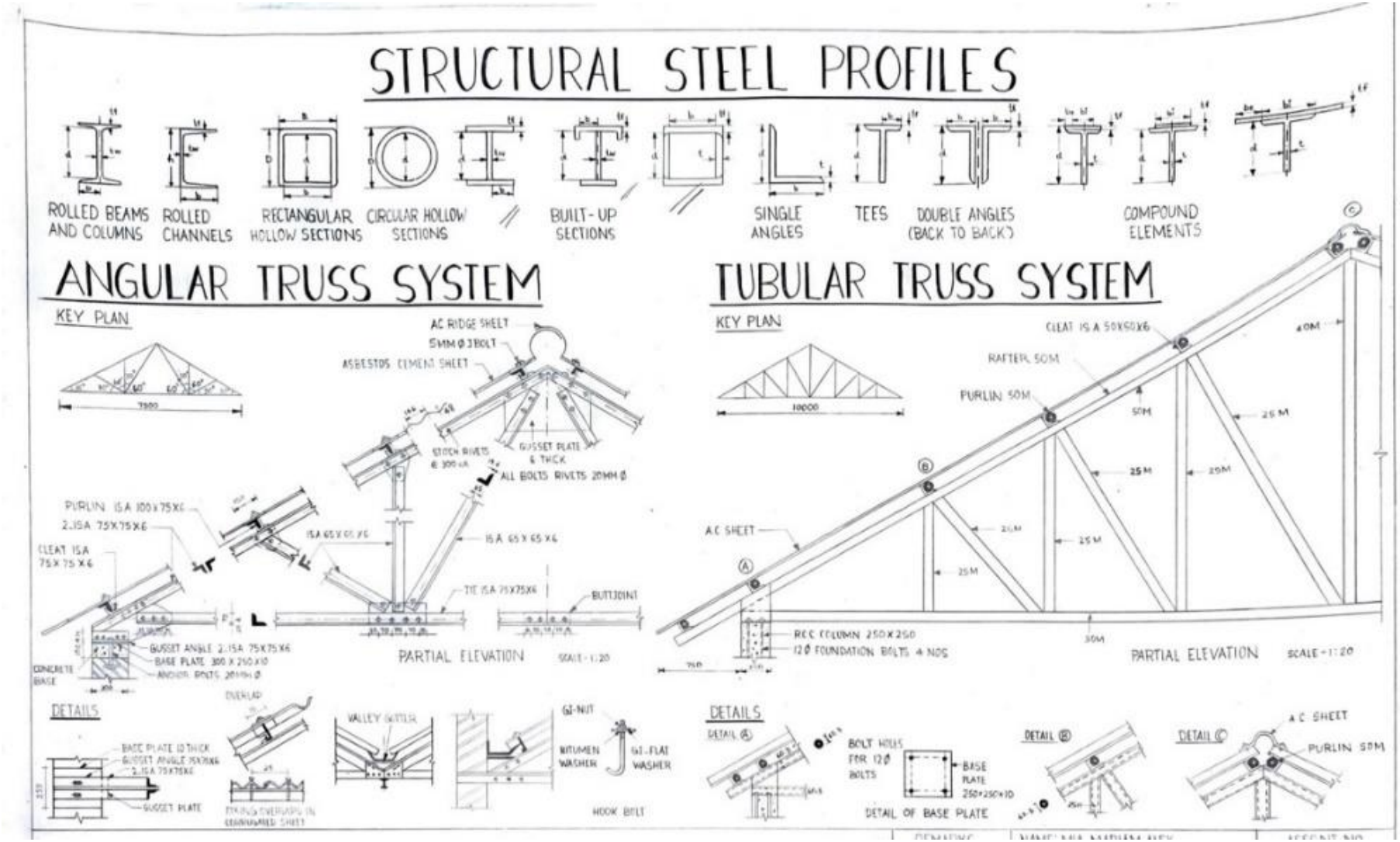
COURSE OBJECTIVES:

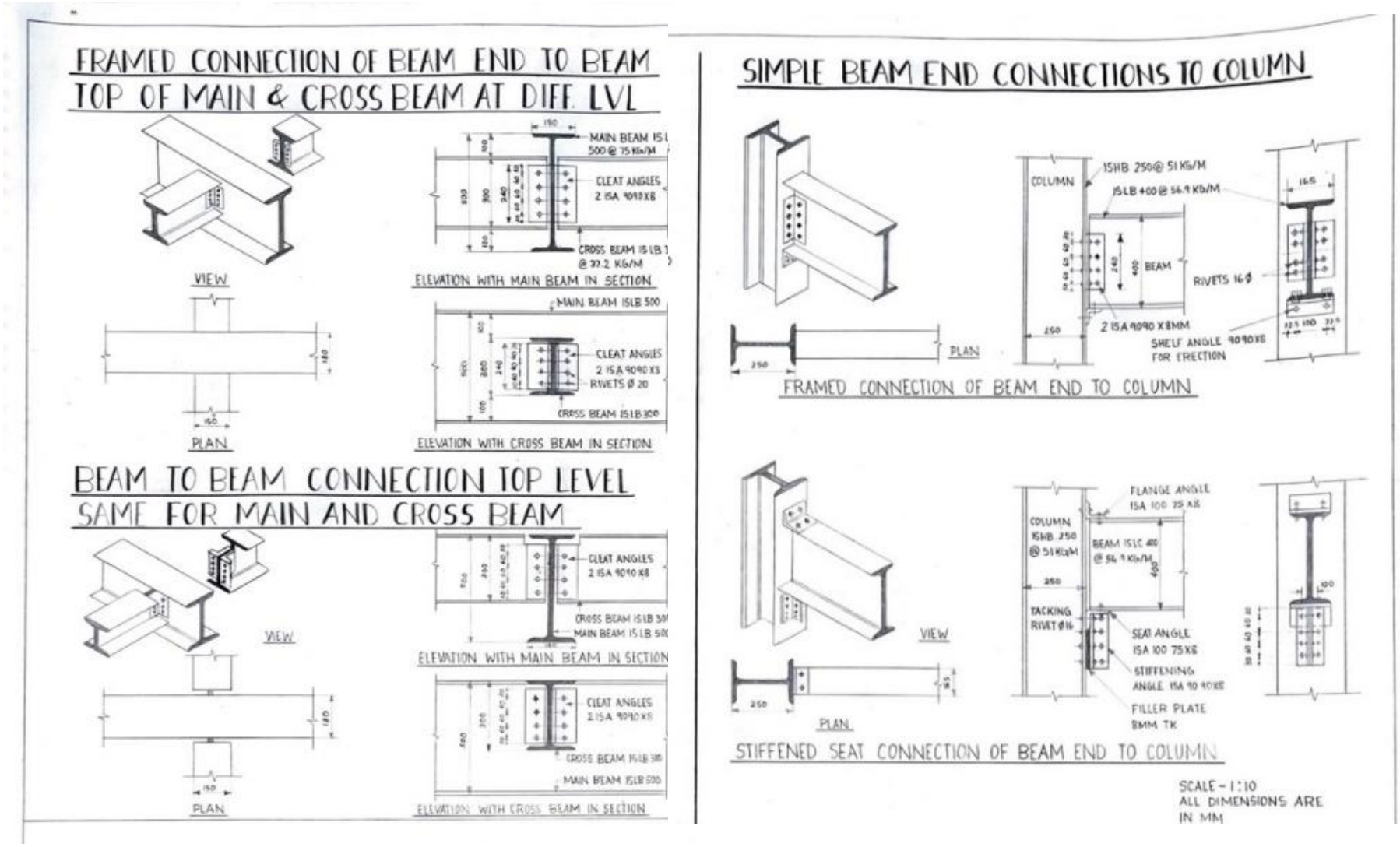
To understand steel as a building material & the involved construction techniques w.r.t chemical, physical properties, classification, composition and its varied uses to enhance the structural strength, usability, and aesthetic qualities of the spaces inside / outside of the building.

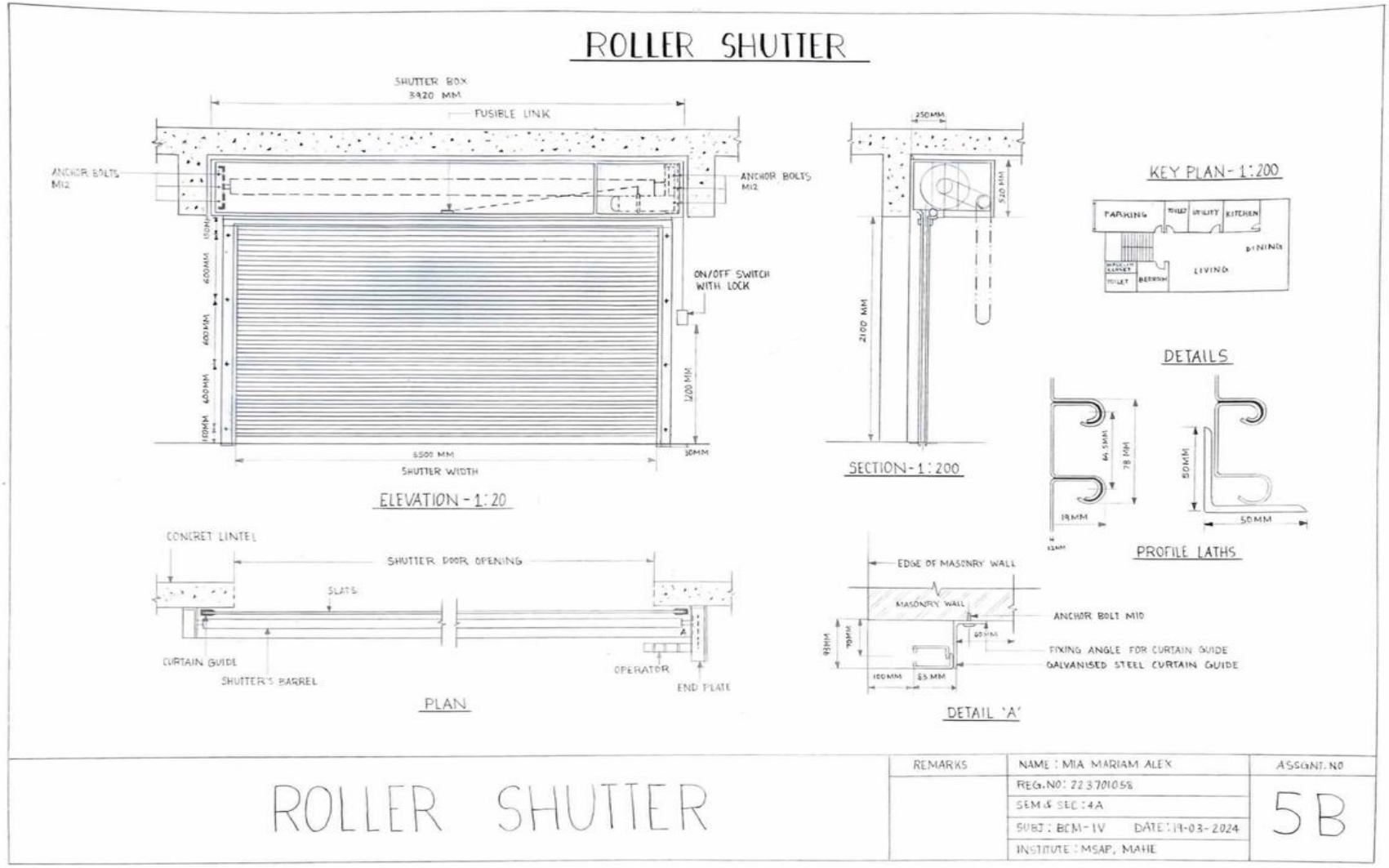
PROJECT BRIEF:

Introduction to steel & alloys, types, composition, mechanical & physical properties of steel truss, openings: steel doors & windows, other openings: Collapsible gates & rolling shutter.




STRUCTURAL STEEL PROFILES
ROLLED BEAMS AND COLUMNS
ROLLED CHANNELS
RECTANGULAR HOLLOW SECTIONS
CIRCULAR HOLLOW SECTIONS
BUILT-UP SECTIONS
SINGLE ANGLES
TEES
DOUBLE ANGLES (BACK TO BACK)
COMPOUND ELEMENTS
ANGULAR TRUSS SYSTEM
KEY PLAN
AC RIDGE SHEET
ASBESTOS CEMENT SHEET
GUSSET PLATE
ALL BOLTS RIVETS 20MM Ø
PURLIN ISA 100X75X6
2 ISA 75X75X6
CLEAT ISA 75X75X6
ISA 65X65X6
TIE ISA 75X75X6
BUTTJOINT
GUSSET ANGLE 2 ISA 75X75X6
BASE PLATE 300 X 250 X10
CONCRETE BASE
PARTIAL ELEVATION
SCALE - 1:20
DETAILS
BASE PLATE 10 THICK
GUSSET ANGLE 75X75X6
2 ISA 75X75X6
GUSSET PLATE
OVERLAP
VALLEY GUTTER
GI NUT
BITUMEN WASHER
GI FLAT WASHER
HOOK BOLT
TUBULAR TRUSS SYSTEM
KEY PLAN
CLEAT ISA 50X50X6
RAFTER 50M
PURLIN 50M
AC SHEET
RCC COLUMN 250X250
12Ø FOUNDATION BOLTS 4 NOS
PARTIAL ELEVATION
SCALE - 1:20
DETAILS
DETAIL A
BOLT HOLES FOR 12Ø BOLTS
BASE PLATE 250X250X10
DETAIL OF BASE PLATE
DETAIL B
DETAIL C
AC SHEET
PURLIN 50M


FRAMED CONNECTION OF BEAM END TO BEAM
TOP OF MAIN & CROSS BEAM AT DIFF LVL
VIEW
PLAN
MAIN BEAM ISLB 500 @ 75 KG/M
CLEAT ANGLES 2 ISA 90*90 X8
CROSS BEAM ISLB @ 37.2 KG/M
ELEVATION WITH MAIN BEAM IN SECTION
MAIN BEAM ISLB 500
CLEAT ANGLES 2 ISA 90*90 X8
RIVETS Ø 20
CROSS BEAM ISLB 300
ELEVATION WITH CROSS BEAM IN SECTION
BEAM TO BEAM CONNECTION TOP LEVEL
SAME FOR MAIN AND CROSS BEAM
VIEW
PLAN
CLEAT ANGLES 2 ISA 90*90 X8
CROSS BEAM ISLB 300
MAIN BEAM ISLB 500
ELEVATION WITH MAIN BEAM IN SECTION
CLEAT ANGLES 2 ISA 90*90 X8
CROSS BEAM ISLB 300
MAIN BEAM ISLB 500
ELEVATION WITH CROSS BEAM IN SECTION
SIMPLE BEAM END CONNECTIONS TO COLUMN
PLAN
FRAMED CONNECTION OF BEAM END TO COLUMN
COLUMN
ISHB 250@ 51 KG/M
ISLB 400 @ 56.9 KG/M
BEAM
RIVETS 16Ø
2 ISA 90*90 X8MM
SHELF ANGLE 90*90 X8 FOR ERECTION
VIEW
PLAN
COLUMN ISHB 250 @ 51 KG/M
BEAM ISLC 400 @ 56.9 KG/M
FLANGE ANGLE ISA 100 75 X8
TACKING RIVET Ø16
SEAT ANGLE ISA 100 75 X8
STIFFENING ANGLE ISA 90 90 X8
FILLER PLATE 8MM TK
STIFFENED SEAT CONNECTION OF BEAM END TO COLUMN
SCALE - 1:10
ALL DIMENSIONS ARE IN MM

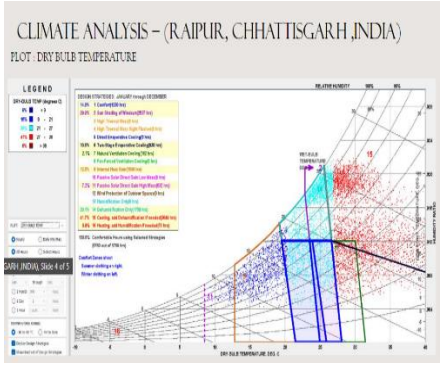

ROLLER SHUTTER
SHUTTER BOX
3420 MM
FUSIBLE LINK
ANCHOR BOLTS M12
ANCHOR BOLTS M12
ON/OFF SWITCH WITH LOCK
6500 MM
SHUTTER WIDTH
ELEVATION - 1:20
250MM
520 MM
2100 MM
SECTION - 1:200
KEY PLAN - 1:200
PARKING
TOILET
UTILITY
KITCHEN
DINING
LIVING
BEDROOM
DETAILS
46.5MM
78 MM
19MM
50MM
50 MM
PROFILE LATHS
CONCRETE LINTEL
SHUTTER DOOR OPENING
SLATS
CURTAIN GUIDE
SHUTTER'S BARREL
OPERATOR
END PLATE
PLAN
EDGE OF MASONRY WALL
MASONRY WALL
ANCHOR BOLT M10
FIXING ANGLE FOR CURTAIN GUIDE
GALVANISED STEEL CURTAIN GUIDE
100MM
65 MM
DETAIL 'A'
ROLLER SHUTTER
REMARKS
NAME : MIA MARIAM ALEX
REG. NO: 223701058
SEM & SEC : 4A
SUBJ : BCM - IV
DATE : 19-03-2024
INSTITUTE : MSAP, MAHE
ASSGNT. NO
5B

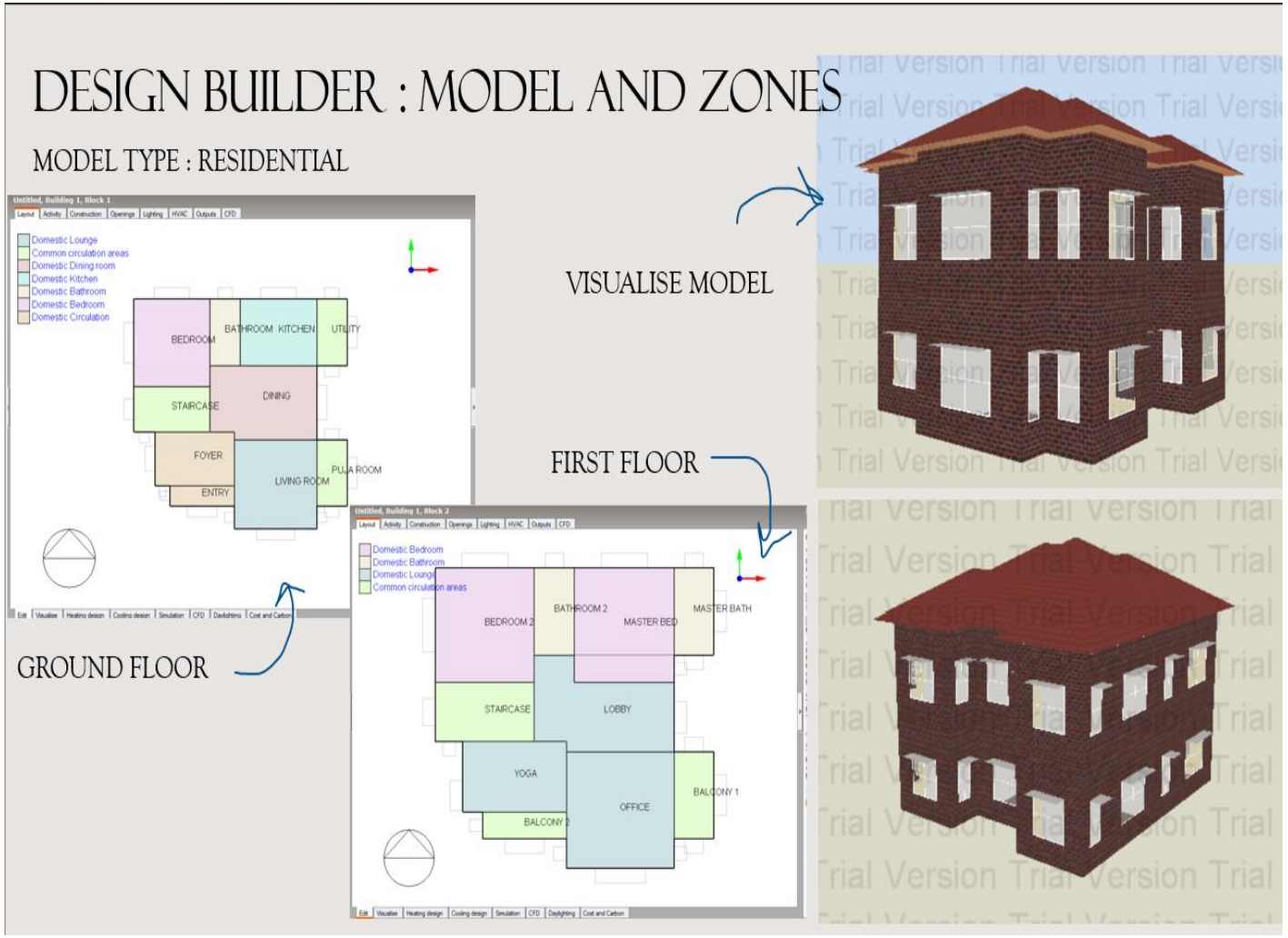
COURSE OBJECTIVES:

To analyze building performance for various parameters. To apply the constraints from building energy codes in various building components. To decide the design outcome using an integrated design approach for code compliance. To understand the role of design/architectural variables using energy simulation software. To develop the code-compliant building design using codes like ECBC, NBC, BIS SP 41, etc..

PROJECT BRIEF:

This course intends to introduce and understand Building envelope detailing with constraints from building codes, such as, ECBC. Compliance approaches covering prescriptive (as a constraint) and whole building performance method (through appropriate Objectives functions) as per ECBC.





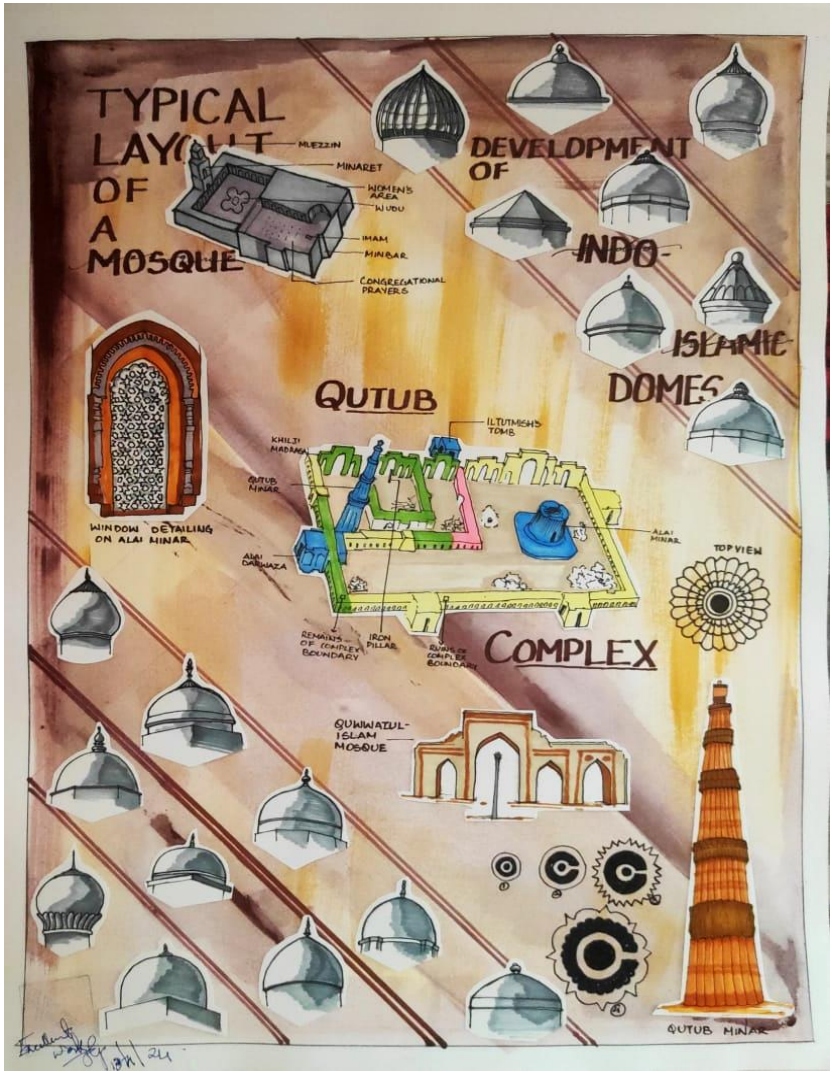
COURSE OBJECTIVES:

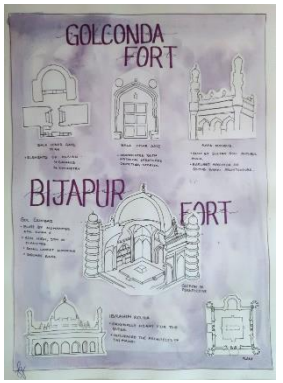
To explain the historical significance and concepts of built form/fort architecture. Analyse the evolution of various architectural typologies, components, and its styles with respect to construction technology, material influence and design principles.

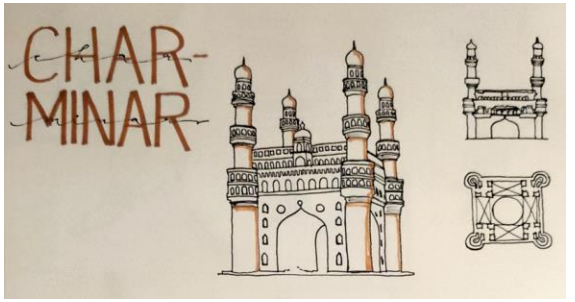
Compare the distinct typologies of the built forms/forts based on their geographical locations and periods

PROJECT BRIEF:

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.





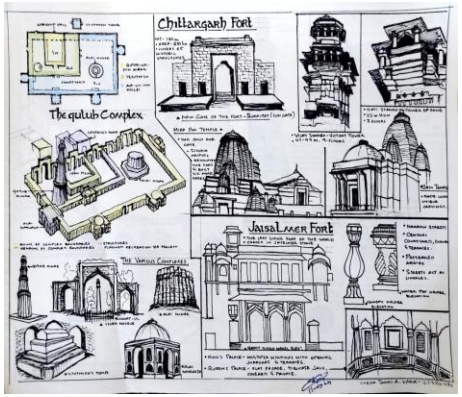


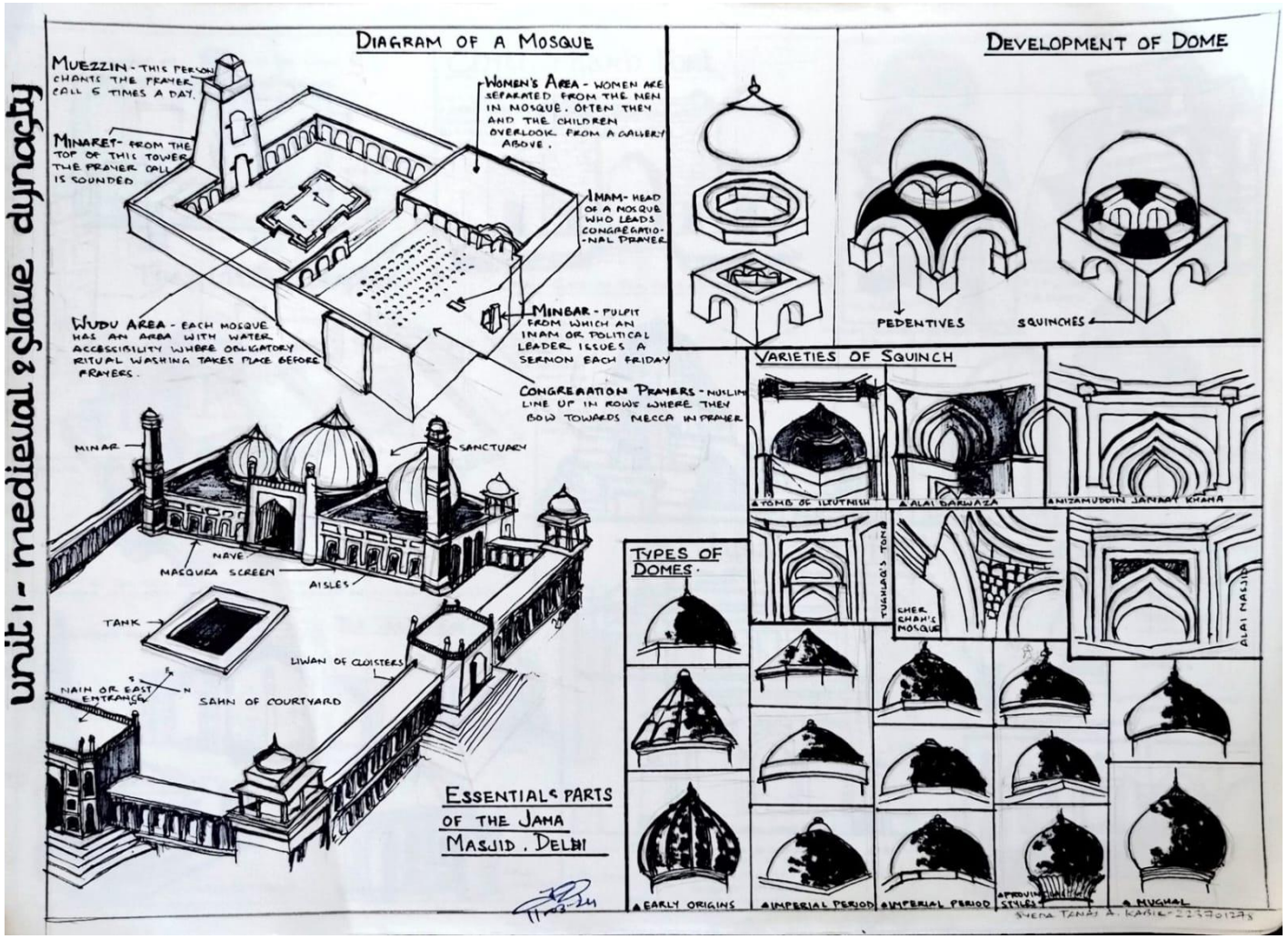
COURSE OBJECTIVES:

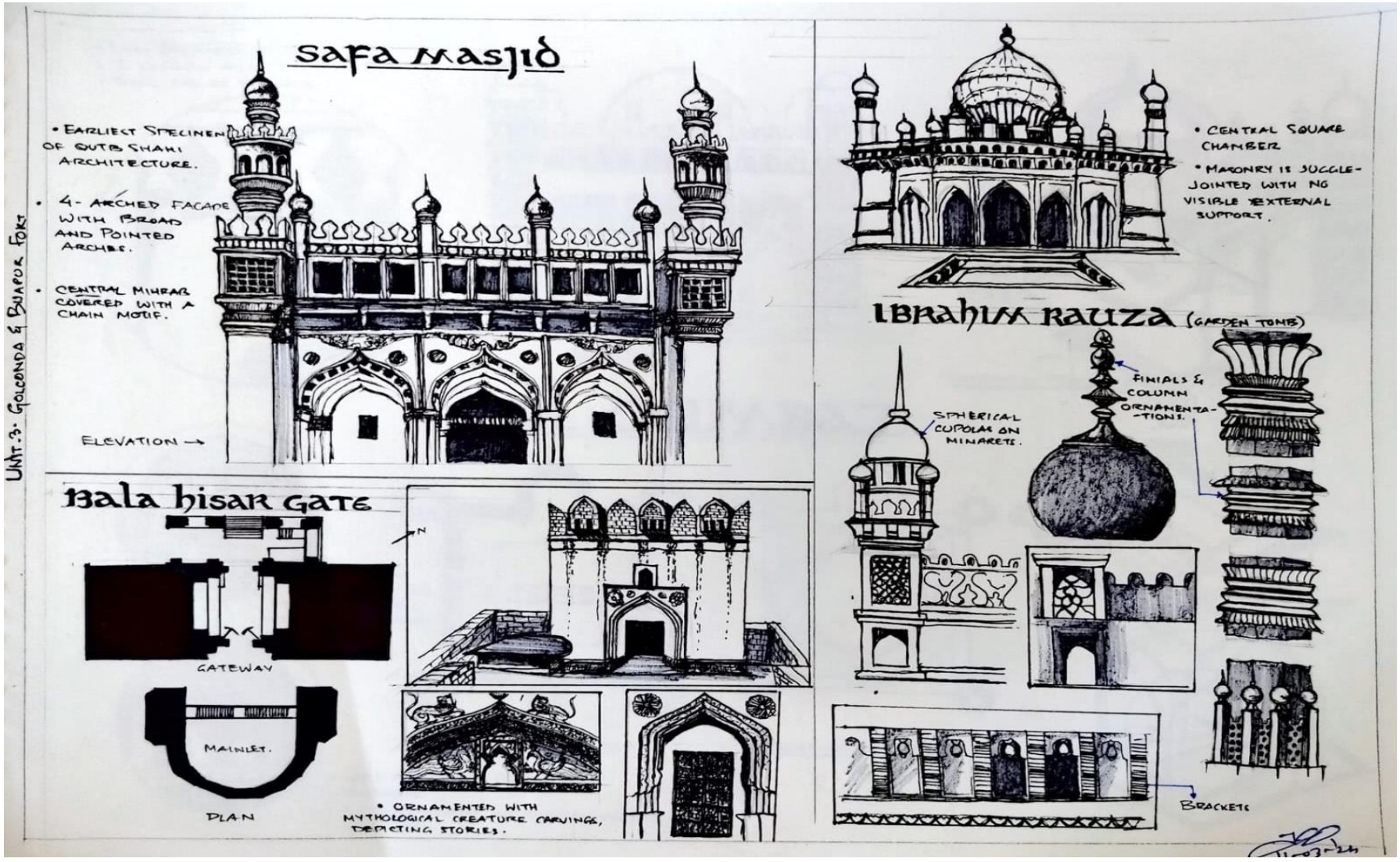
To understand the historical significance and concepts of built form. To analyze the evolution of various architectural typologies, components, and its style with respect to construction technology, material influence and design principles. To understand the terminologies and methods involved in the development of various architectural elements. To represent various architectural details learned through the various periods of history

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






UNIT 3: GOLCONDA & BIJAPUR FORT
Safa Masjid
• EARLIEST SPECIMEN OF QUTB SHAHI ARCHITECTURE.
• 4- ARCHED FACADE WITH BROAD AND POINTED ARCHES.
• CENTRAL MIHRAB COVERED WITH A CHAIN MOTIF.
ELEVATION →
• CENTRAL SQUARE CHAMBER
• MASONRY IS JUGGLE-JOINTED WITH NO VISIBLE EXTERNAL SUPPORT.
IBRAHIM RAUZA (GARDEN TOMB)
FINIALS & COLUMN ORNAMENTATIONS.
SPHERICAL CUPOLAS ON MINARETS.
Bala hisar GATE
N
GATEWAY
MAINLET.
PLAN
• ORNAMENTED WITH MYTHOLOGICAL CREATURE CARVINGS, DEPICTING STORIES.
BRACKETS

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

3

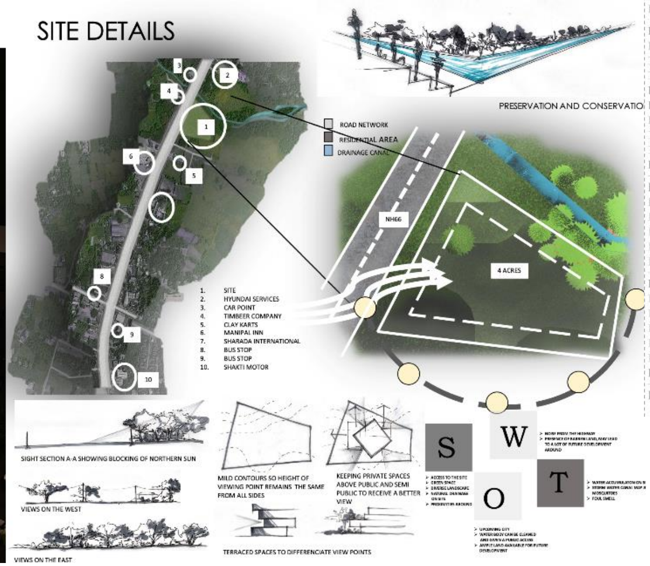
Architecture

THE HUB

AN OFFICE COMPLEX IN UDUPI, MANGALORE.

THE PROJECT

SITE DETAILS



AREA STATEMENT

AREA OF FLOOR PLATE	
SPACES	AREA IN SQ. MTRS
RETAIL BLOCK	1380
FOOD COURT	640
MLCP GROUND LEVEL	2574
TOTAL AREA	4594
AREA STATEMENT OF INDIVIDUAL BLOCKS	
SPACES	AREA IN SQ. MTRS
RETAIL BLOCK	
CAFÉ	220
RESTAURANT	180
RETAIL STORES	240
LOUNGE	80
CONFERENCE ROOM	80
TOTAL AREA	3500
FOOD COURT	650
ANCILLARY SPACES	
AUDITORIUM	1020
BANQUET	450
SWIMMING POOL	600
GYM	1088
INDOOR GAMES	600
TOTAL AREA	6750
MLCP CAR PARK	
TOTAL AREA	10,296
TOWER A	
BANK	
AREA PER BANK	1020
TOTAL AREA	3060
START UP	
AREA PER START UP	1020
TOTAL AREA	3060
TOWER A TOTAL AREA	6120
TOWER B	
IT HUB	
AREA PER COMPANY	2176
TOTAL AREA	6528
BUSINESS HUB	
AREA PER COMPANY	2176
TOTAL AREA	6528
TOWER B TOTAL AREA	13056
TOTAL BUILT UP AREA	39773

A SEMI OPEN FOOD COURT
LEVEL +0.6
NO. OF LEVELS- 1
AREA OF FLOOR PLATE = 650 SQ. MTRS

B RETAIL BLOCK
LEVEL +0.6, +5.1, +9.6
NO. OF LEVELS- 3
AREA OF FLOOR PLATE-1300 SQ. MTRS
TOTAL AREA- 3900 SQ. MTR

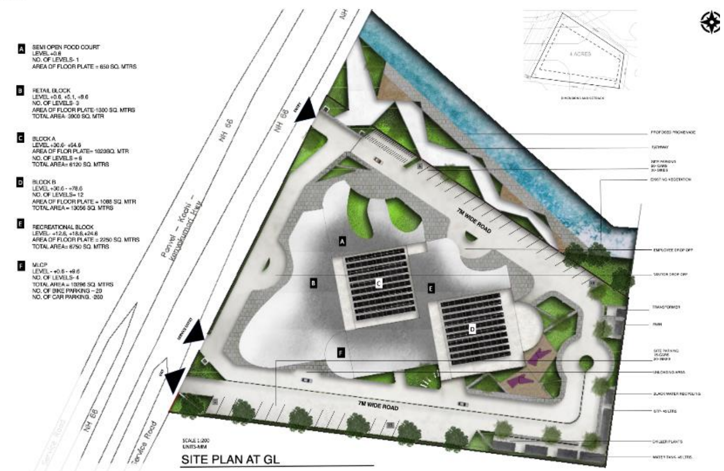
C BLOCK A
LEVEL +30.6- +54.6
AREA OF FLOR PLATE= 1020SQ. MTR
NO. OF LEVELS = 6
TOTAL AREA= 6120 SQ. MTRS

D BLOCK B
LEVEL +30.6 - +78.6
NO. OF LEVELS= 12
AREA OF FLOOR PLATE = 1088 SQ. MTR
TOTAL AREA = 13056 SQ. MTRS

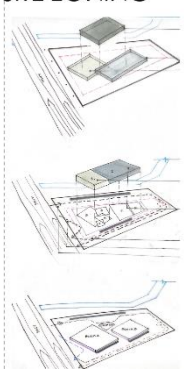
E RECREATIONAL BLOCK
LEVEL- +12.6, +18.6,+24.6
AREA OF FLOOR PLATE = 2250 SQ. MTRS
TOTAL AREA= 6750 SQ. MTRS

F MLCP
LEVEL - +0.6 - +9.6
NO. OF LEVELS- 4
TOTAL AREA = 10296 SQ. MTRS
NO. OF BIKE PARKING – 20
NO. OF CAR PARKING. -260

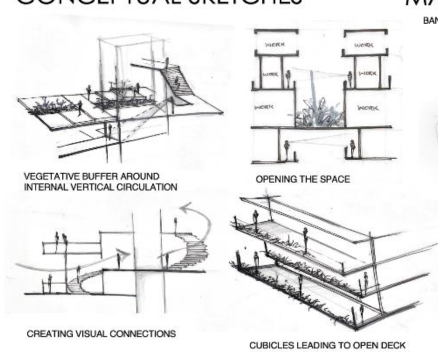
MASTER PLAN



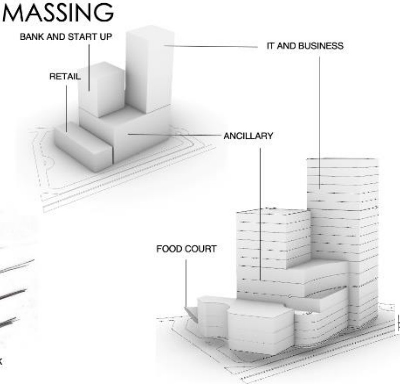
SITE ZONING



CONCEPTUAL SKETCHES

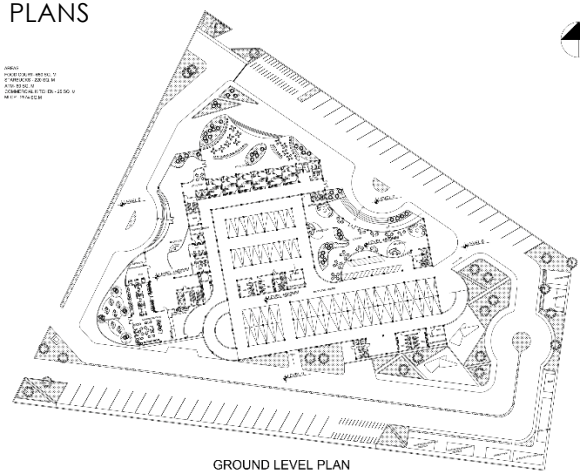


MASSING

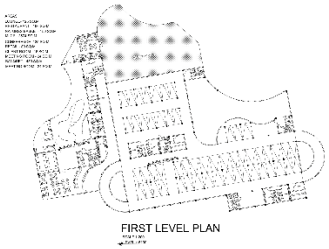


SITE SECTIONS

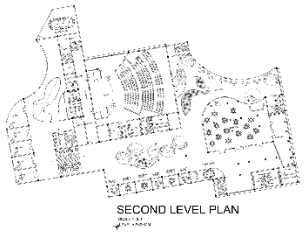
PLANS



GROUND LEVEL PLAN



FIRST LEVEL PLAN

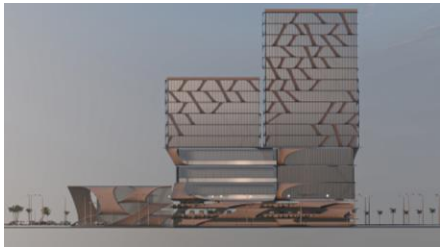


SECOND LEVEL PLAN

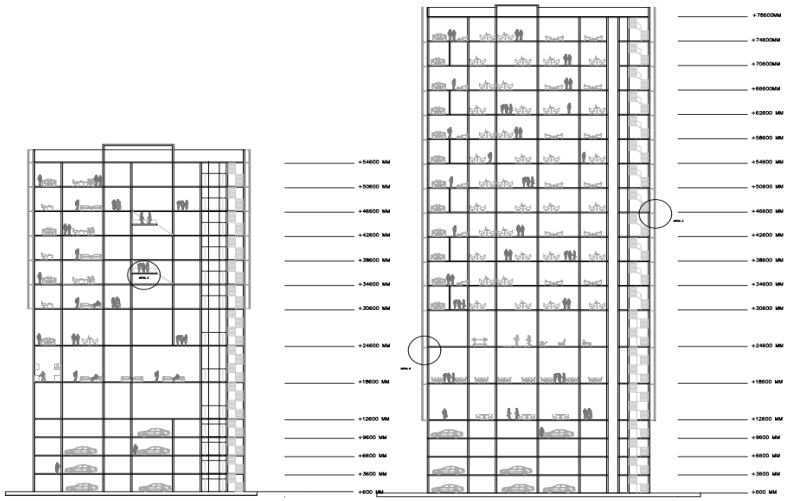
START UP AND BUSINESS OFFICE

FOURTH LEVEL PLAN

THIRD LEVEL PLAN



ELEVATIONS



SECTIONS

ARC 3101 ARCHITECTURAL DESIGN & DETAILING -V

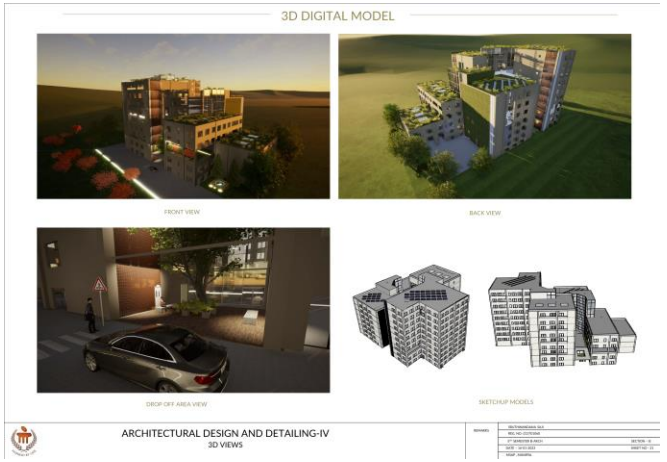
ENVIORNMENT DESIGN

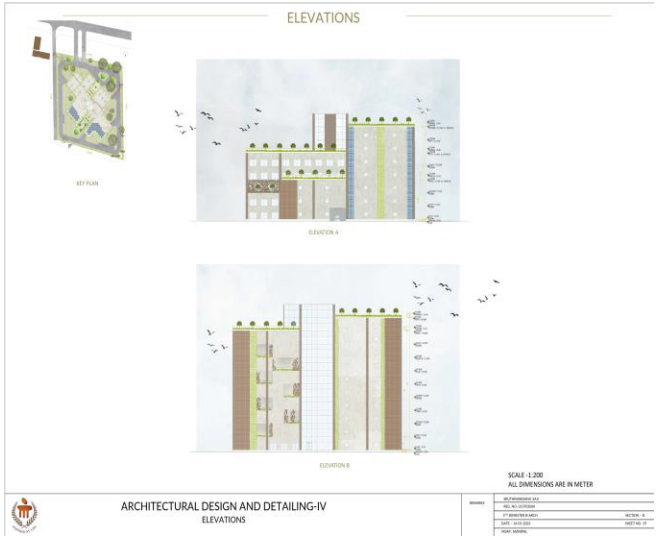
COURSE OBJECTIVES:

To understand the concept of green building assessment systems, understand and analyze the best practices in sustainablr and green buildings through case studies suggesting a sustainable design.To design and evaluate though energy optimization and simulation in commercial ex. Office buildings, shopping malls, retail buildings.

PROJECT BRIEF:

The project is about creating a corporate building with green building aspects . The building tries to achieve a sustainable design and is assessed through energy optimizing and simulation software.





STUDENT: SRUTHINANDANA SAJI(213701060)
FACULTY: KAILAS M & ROSHAN S SHETTY

ARC 3101 ARCHITECTURAL DESIGN & DETAILING -V

ENVIORNMENT DESIGN

COURSE OBJECTIVES:

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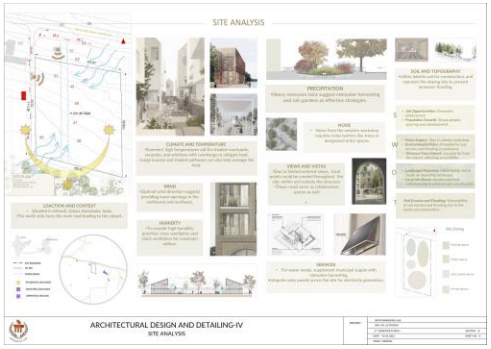
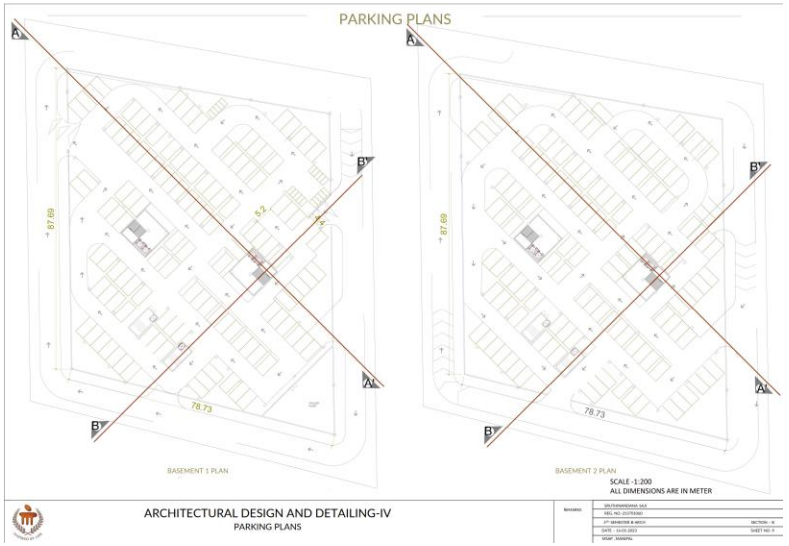
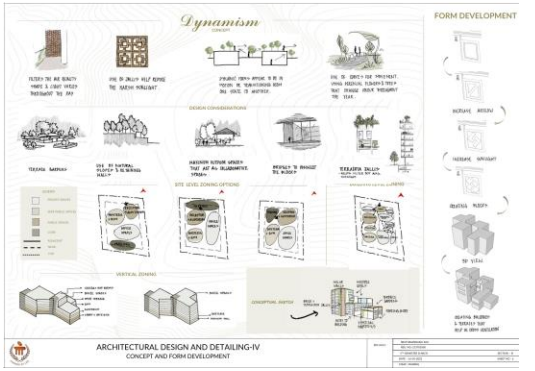
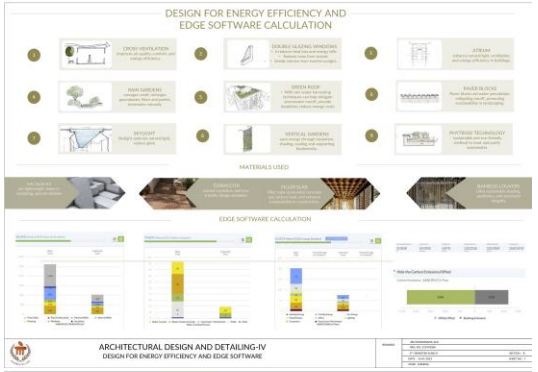
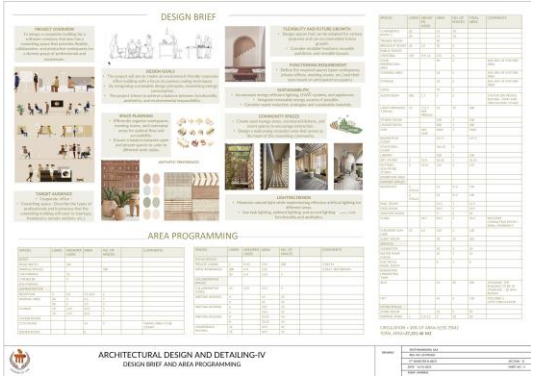










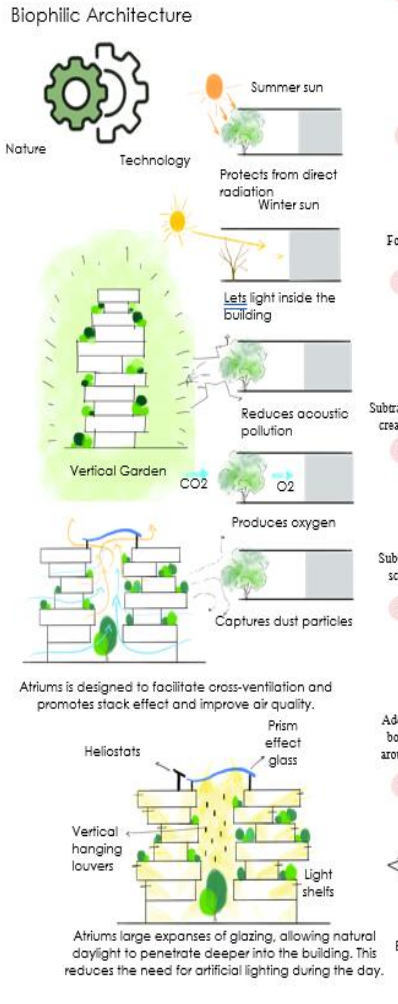
STUDENT: SRUTHINANDANA SAJI (213701060)
FACULTY: KAILAS M & ROSHAN S SHETTY

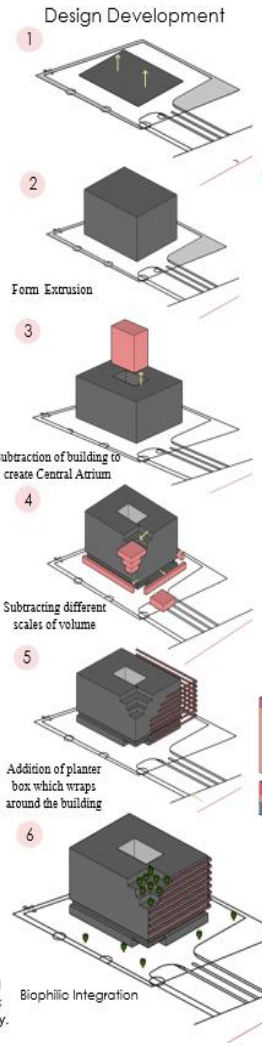
COURSE OBJECTIVES:

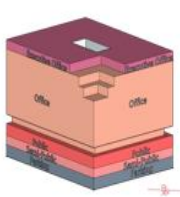
To understand and analyze the best practices in sustainable and green buildings through case studies. Helps to evaluate sustainable design from site planning to built form, indoor environment, Energy conservation, and design optimization and to represent all the principles and features of green building and sustainable techniques in design..

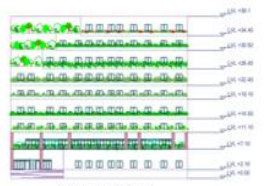
PROJECT BRIEF:

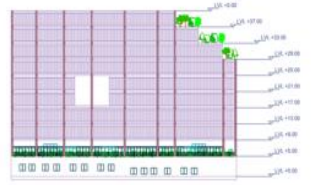
The Office Building Project is a sustainable and environmentally conscious design endeavor that prioritizes energy efficiency, reduced carbon footprint, and occupant well-being. Incorporating features such as energy-efficient HVAC systems, solar panels, green roofs, and natural lighting, it aims to minimize resource consumption and environmental impact. The design also emphasizes eco-friendly materials, water conservation, and smart technology for energy management. By promoting a healthy work environment, this project seeks to enhance employee productivity and overall sustainability.









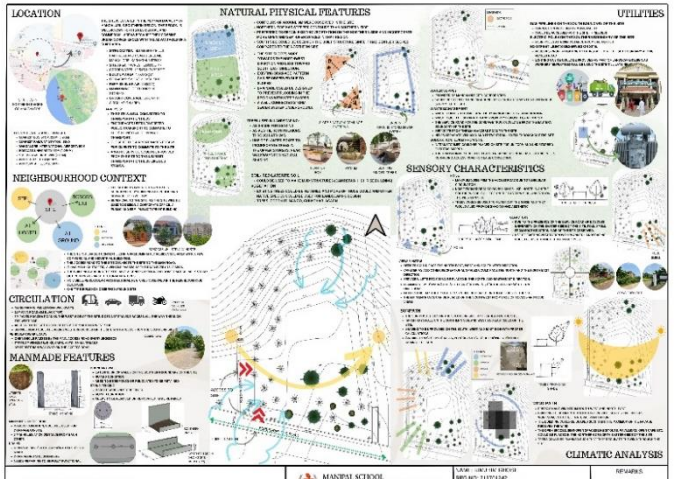


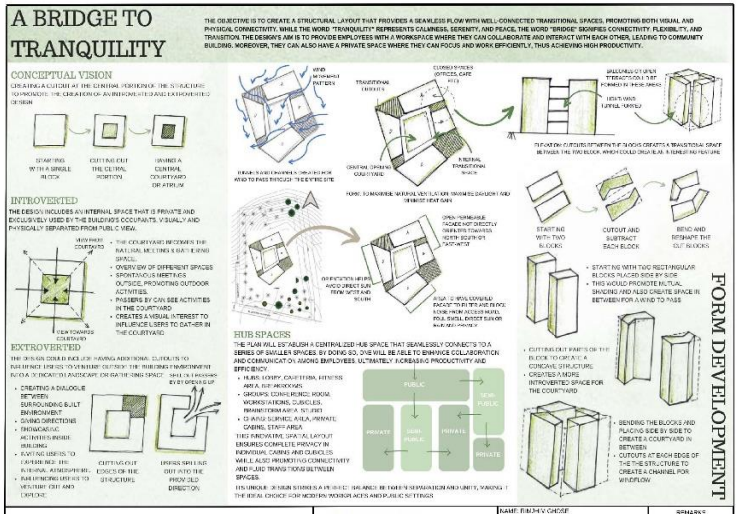
COURSE OBJECTIVES:

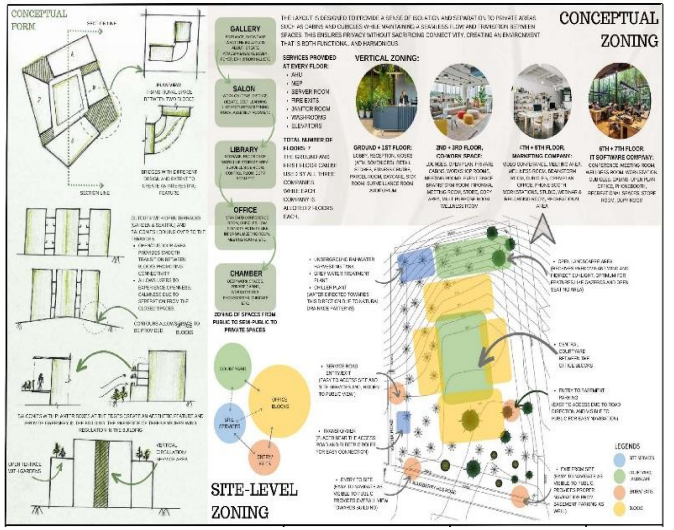
This course provides knowledge and essential skills to understand the concept of green building credits, an assessment system, and develop sustainable development design programs.

PROJECT BRIEF:

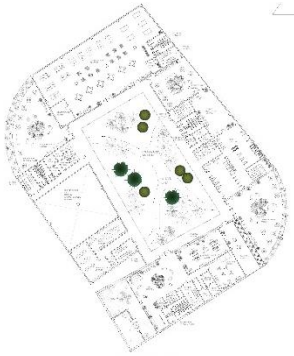
The project was to design an office complex while adopting energy efficiency techniques. The use of passive strategies, adopting alternative building technologies and to understand the use of local materials etc. to achieve a green building. The use of energy-efficient building services, and renewable energy sources in the project is being exercised



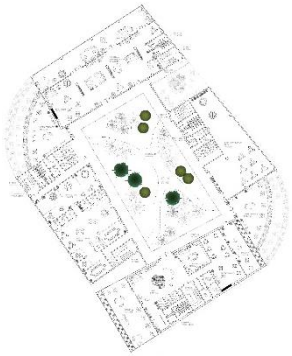




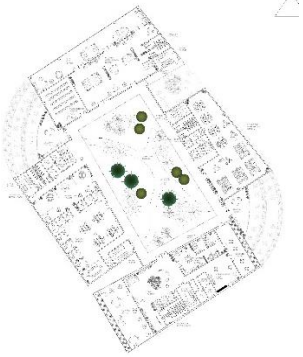
STUDENT: RIMJHIM GHOSE (213701242)
FACULTY: CHARLINE STELLA SAMUEL, JOICY K J



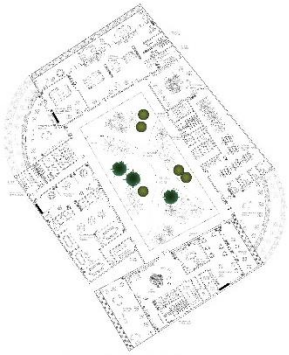
FIRST FLOOR



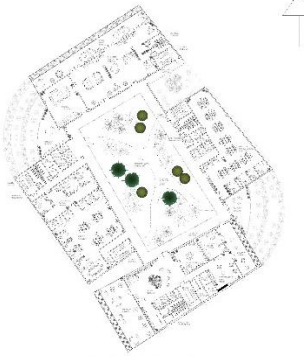
SECOND FLOOR



THIRD FLOOR



FOURTH & SIXTH FLOOR



FIFTH & SEVENTH FLOOR

SOUTH-WEST VIEW

SOUTH-EAST VIEW

NORTH-EAST VIEW

MASTER PLAN (GROUND FLOOR PLAN)

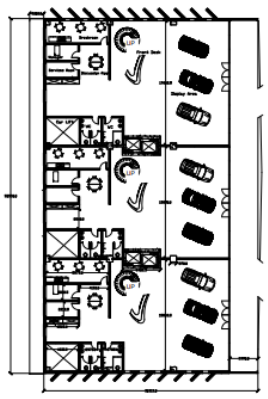
COURSE OBJECTIVES:

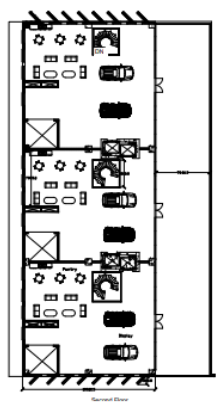
This project aimed to develop a Sustainable design for a corporate office with a unique concept and Energy efficiency. The focus was to bring a sustainable design through built form, energy optimization, etc.

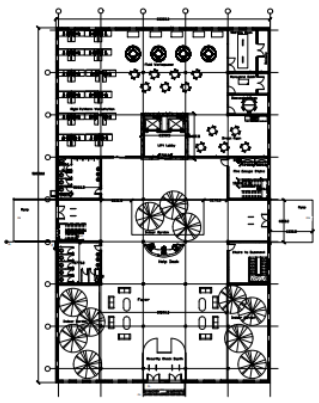
PROJECT BRIEF:

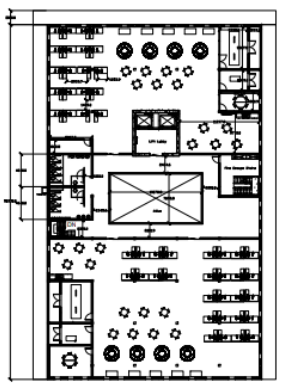
The project was to design a corporate office building for Shankar Vittal's company in Mangaluru, Karnataka. The Company wanted to house the corporate and sales offices of its 3 Auto franchises, ARM KIA, Mandovi Motors (Suzuki), and Hyundai at their property at Yeyyadi in Mangaluru. They required a space for the company's administration, client meetings, data processing, experience center, and other day-to-day processes. It also plans to accommodate co-working rental spaces within the property to cater the increasing demand for office spaces in the city.

The office buildings are also supposed to meet LEED and GRIHA green rating standards. A unique design solution was comprehended with the help of the design concept and client requirements.


SHOWROOM FIRST FLOOR


SHOWROOM SECOND FLOOR


OFFICE GROUND FLOOR

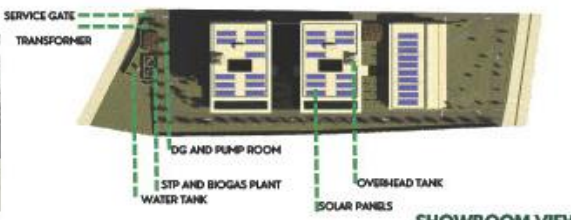

OFFICE FIRST FLOOR

STUDENT: AADITYA KUYYAMUDI (223701228)
FACULTY: KALA CHOYIMANI KANDIYIL, JOHN BENETTE JOHN, AARY PEARL LOBO & SUNIL TALITHAYA
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

EXTERIOR VIEWS

EAST FACADE

SHEET NO 13



SHOWROOM VIEW

SOUTH FACADE

INTERIOR VIEWS

SKYLIGHT

LOBBY

TERRACE GARDEN

WORKSTATION

UNIQUE FORM

WORKSTATIONS

GYM

ATRIUM

SHOWROOM

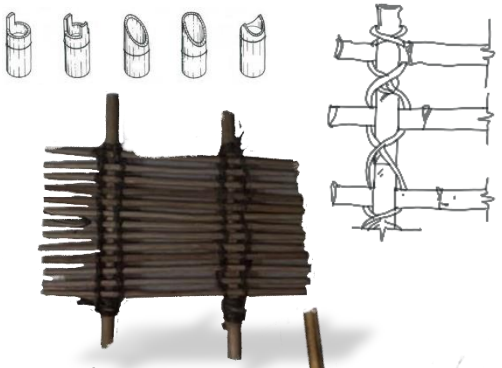
SHOWROOM

COURSE OBJECTIVES:

The course creates awareness of alternative building materials/techniques in a specified context & to respond to different designs solutions using alternative building materials and construction technique .

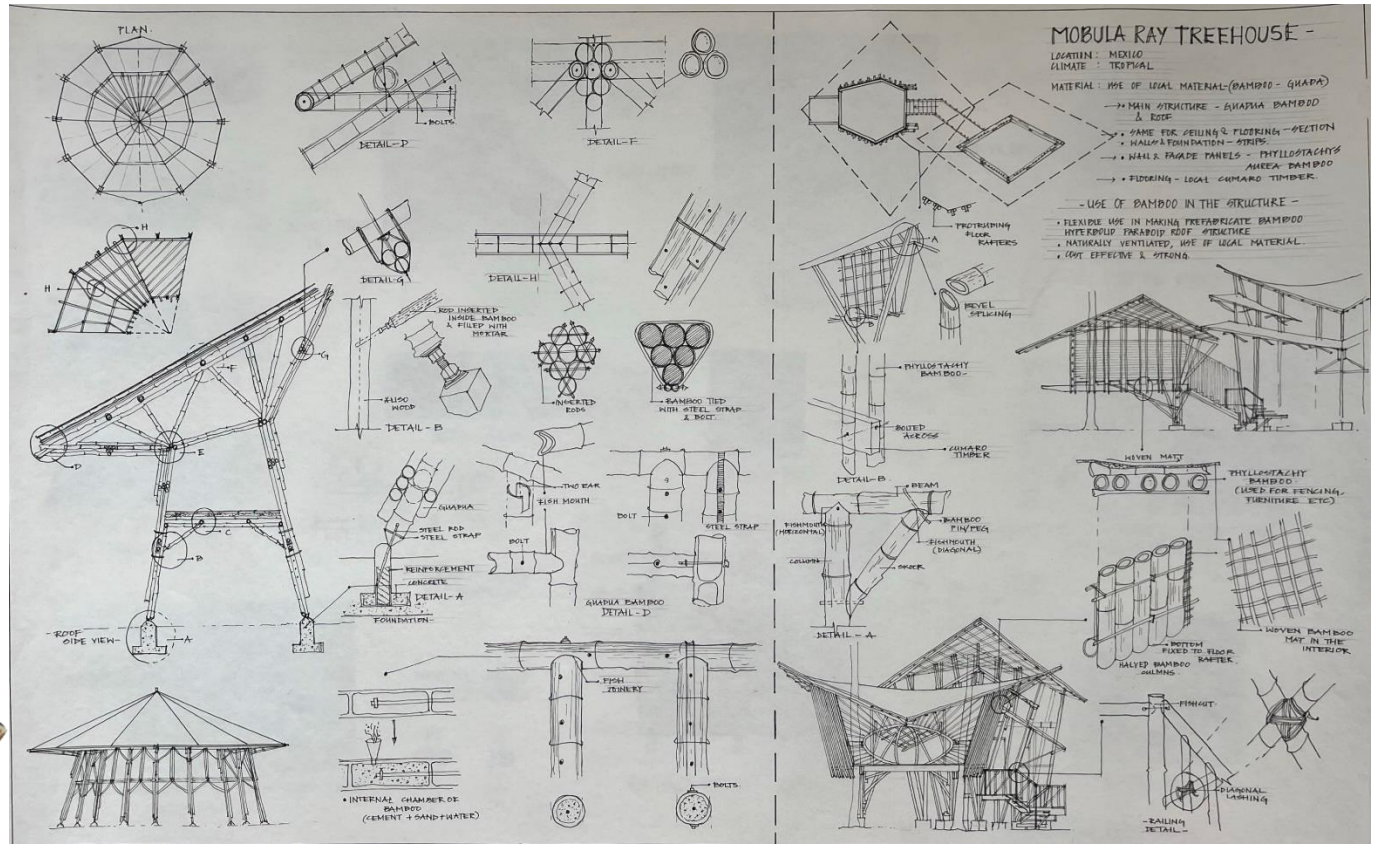
PROJECT BRIEF:

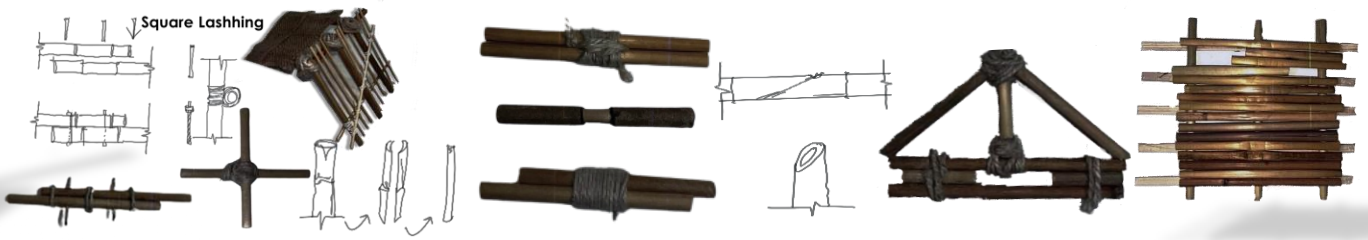
To understand Bamboo joinery through a case study and 3D model



Continuous Lashing

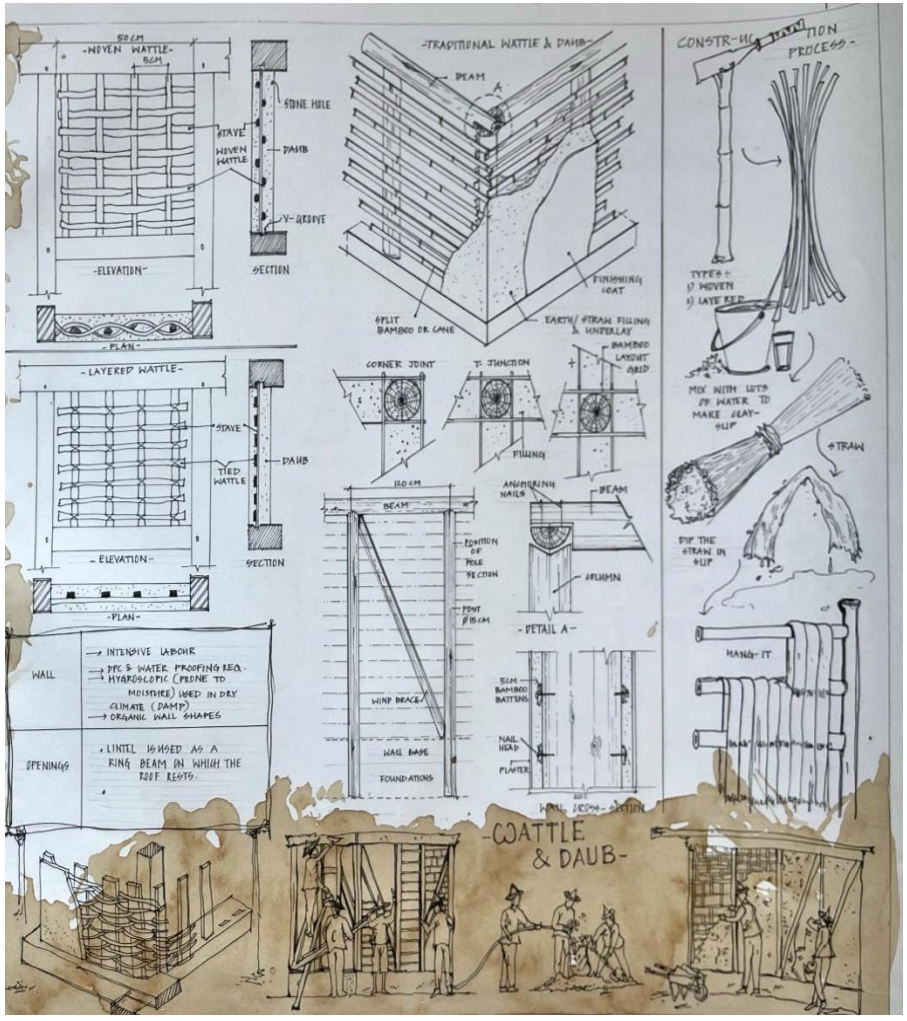
Foundation System

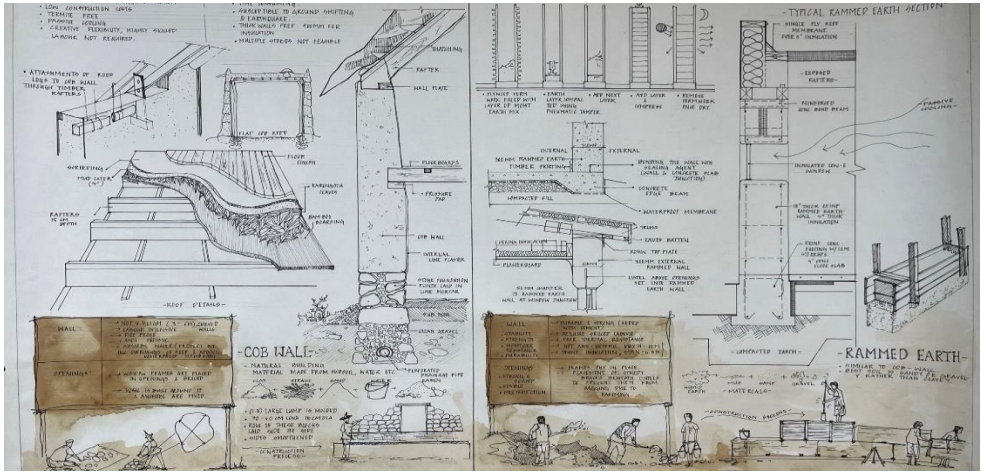


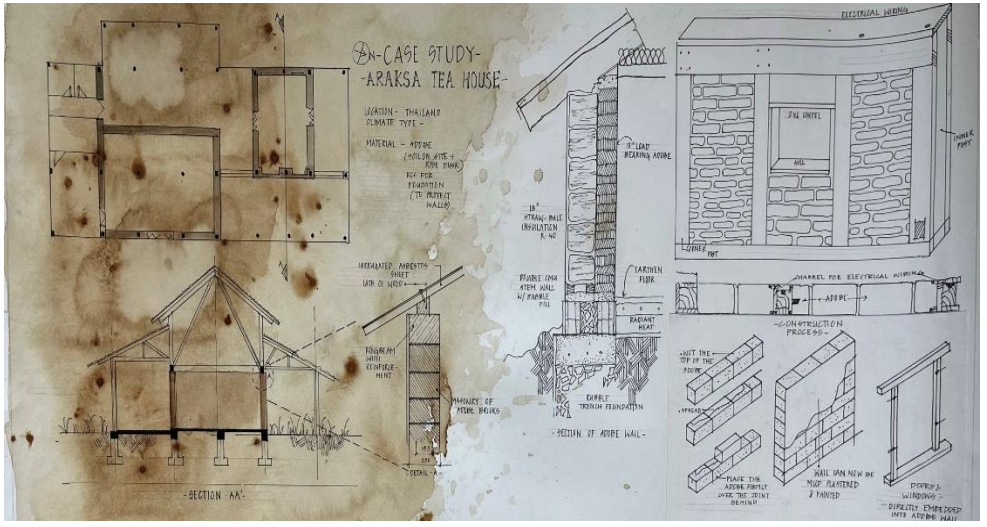


STUDENT: AYUSHI SINGHAL(213701176)
FACULTY: LAKSHMY MENON

PROJECT BRIEF:
Understanding Mud as a construction material.







STUDENT: AYUSHI SINGHAL(213701176)
FACULTY: LAKSHMY MENON

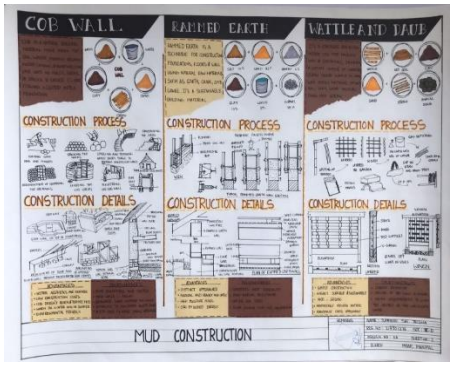
COURSE OBJECTIVES:

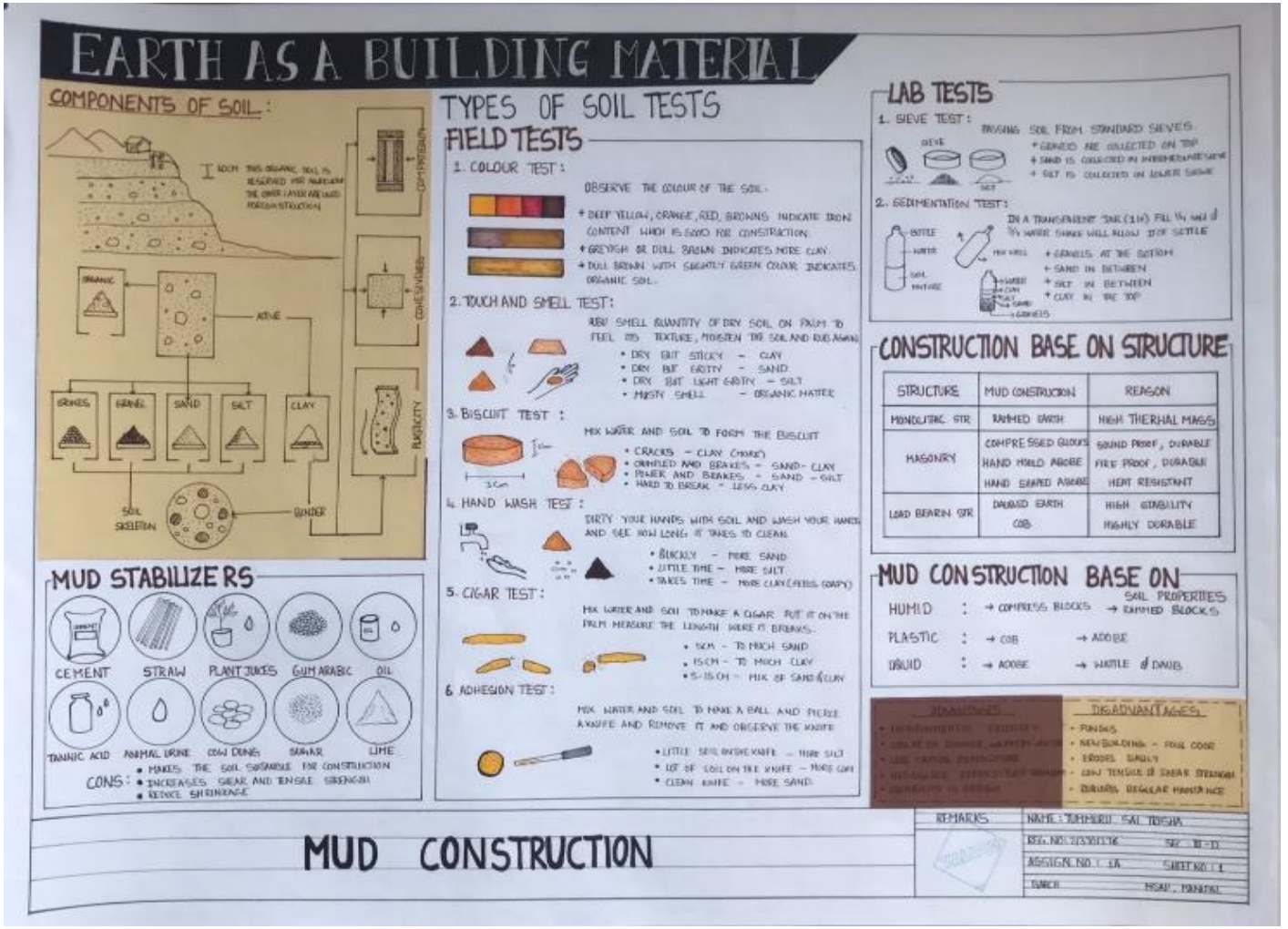
The course creates awarness of alternative building materiales/ techniques in a specified context. we learnt to respond to different design solutions using alternative materiales and construction techniques to maintain a sustainable and eco friendly environment.

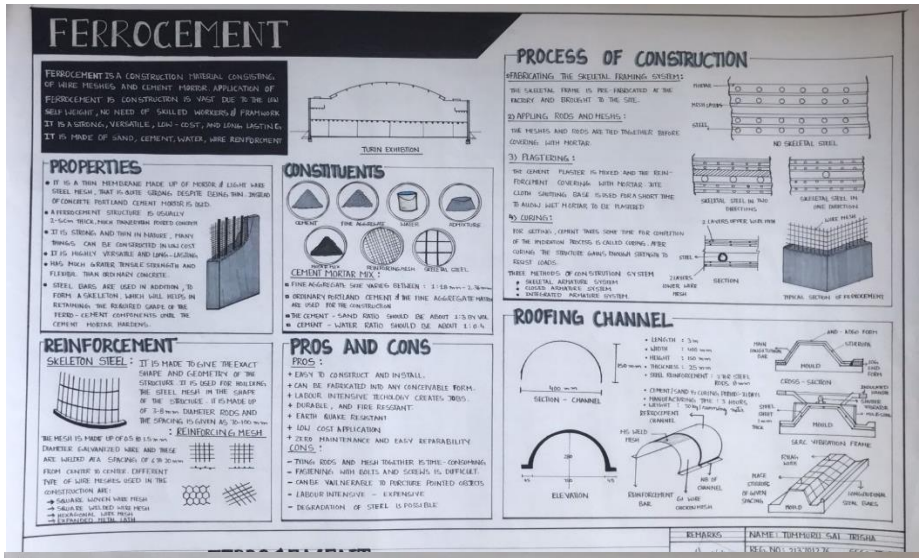
mud construction, feroocement, filler slab, bamboo construction techniques and using sustainable materials for water proofing, insulation and wall, cieling and floor finishes were our main focus.

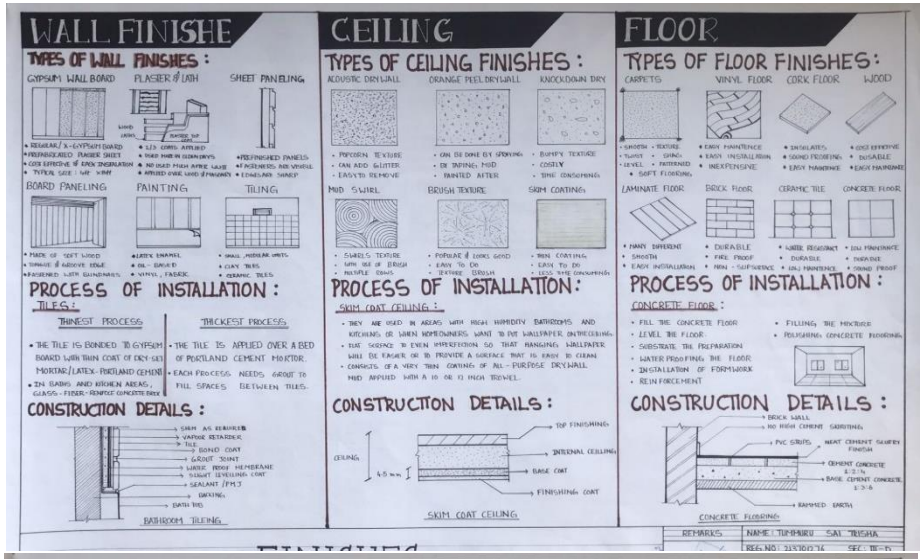
PROJECT BRIEF:

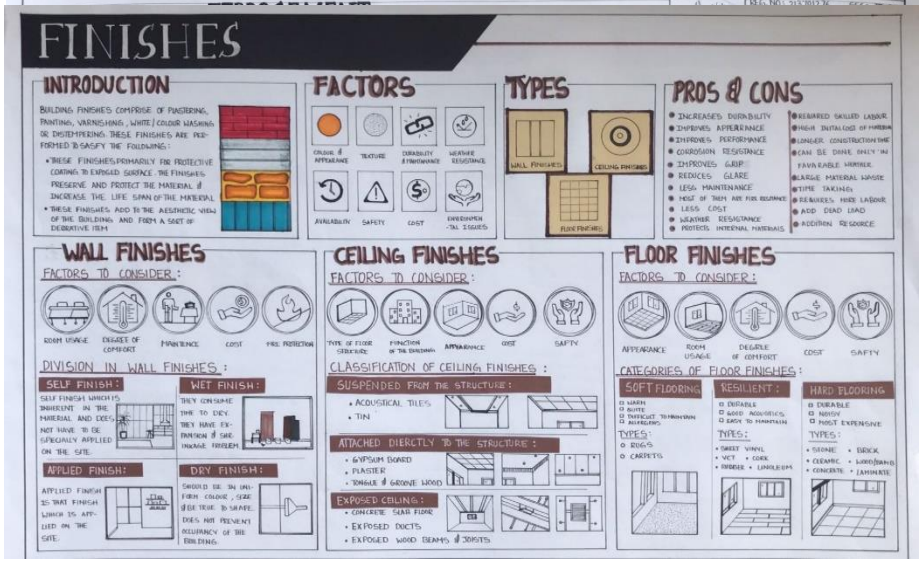
understadning the materials used, throught its constituents, process and methods of making and its construction details helped us understand the advantages and disadvantages

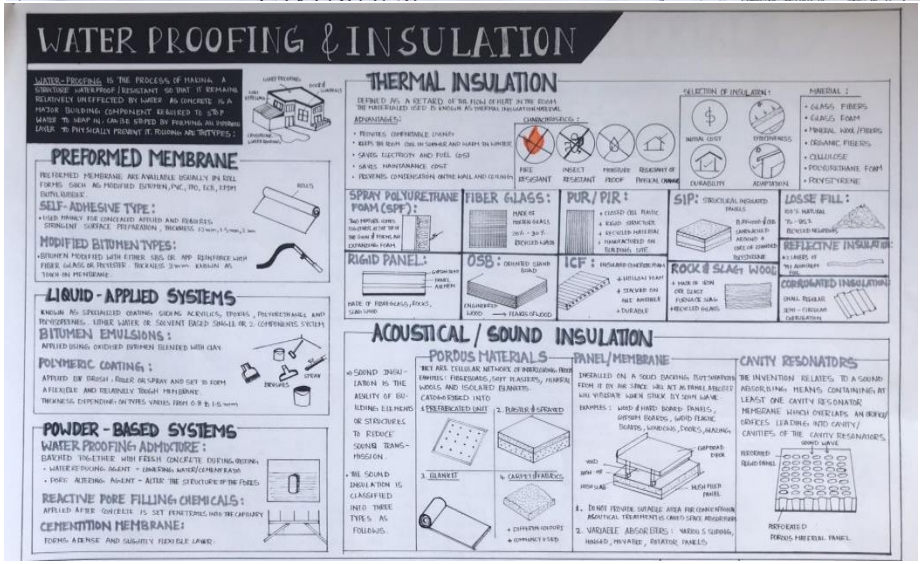




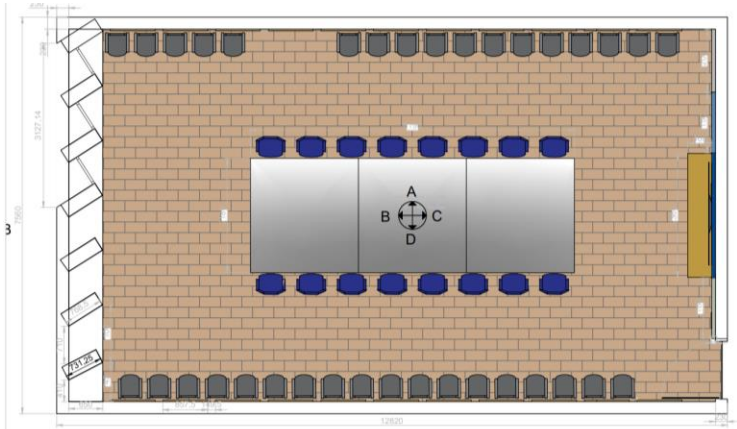

FERROCEMENT
PROCESS OF CONSTRUCTION
PROPERTIES
CONSTITUENTS
REINFORCEMENT
PROS AND CONS
ROOFING CHANNEL


WALL FINISHE
TYPES OF WALL FINISHES :
CEILING
TYPES OF CEILING FINISHES :
FLOOR
TYPES OF FLOOR FINISHES :
PROCESS OF INSTALLATION :
CONSTRUCTION DETAILS :

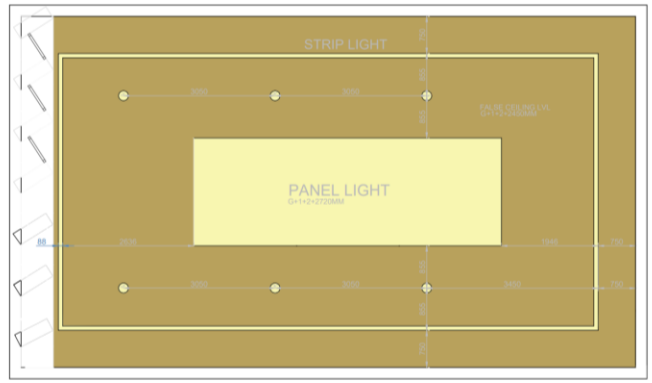

FINISHES
INTRODUCTION
FACTORS
TYPES
PROS & CONS
WALL FINISHES
CEILING FINISHES
FLOOR FINISHES


WATER PROOFING & INSULATION
PREFORMED MEMBRANE
LIQUID-APPLIED SYSTEMS
POWDER-BASED SYSTEMS
THERMAL INSULATION
ACOUSTICAL / SOUND INSULATION

ARC 3103 MEASURED DRAWING



BOARD ROOM PLAN
SCALE - 1:50



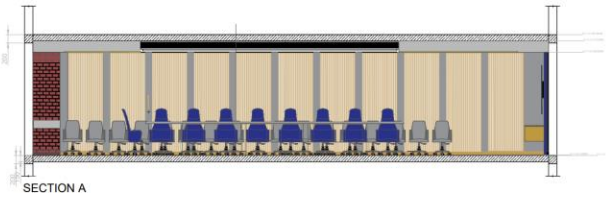
REFLECTED CEILING PLAN
SCALE - 1:50

ELECTRICAL FIXTURES SCHEDULE

S.no	ITEM NAME	SYMBOL	LENGTH	BREADTH	DEPTH	SPECIFICATION
1.	LIGHT		6190 MM	2180 MM	20 MM	LED LIGHTS
2.	SPOT LIGHT		100 MM RADIUS 200 MM DIAMETER	100 MM RADIUS 200 MM DIAMETER	25 MM	LED LIGHTS
3.	STRIP LIGHT		10860 MM 5600 MM	88 MM	25 MM	LED LIGHTS
4.	SWITCH BOARD 1 (SB1)		296 MM	85mm	2 MM	7 LIGHT SWITCHES
5.	SWITCH BOARD 2 (SB2)		85 MM	55 MM	2 MM	2 AC SWITCHES
6.	SWITCH BOARD 3 (SB3)		87 MM	87 MM	2 MM	SINGLE SWITCH FOR TV
7.	SWITCH BOARD 4 (SB4)		220 MM	87 MM	2 MM	2 SWITCH ,2 SOCKET, 5A

SCHEDULE OF OPENINGS

S.no	ITEM NAME	ARC	SILL LEVEL	LINTEL LEVEL	SIZE(mm)	MATERIAL SPECIFICATION
1.	ENTRANCE DOOR	D1	-	2350 MM	2300 X 1100 X 45 MM	WOOD WITH STEEL HANDLE AND LOCK
2.	WINDOW FOR VENTILATION	W1	830 MM	2450.64 MM	1605 X 492.5 X 40 MM	FRAME-ALUMINUM HANDLE-PLASTIC GLASS FOR WINDOW



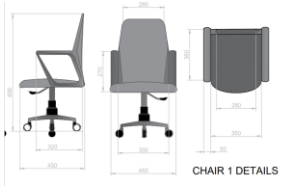
SECTION A

SECTION D

SECTION B

3D VIEWS OF THE ROOM

FURNITURE DETAILS



CHAIR 1 DETAILS

STUDENT: JAYOSMITA DAS, SANIKA RANE, SHABANA PARVEEN, SANGAMITHRA S, KAUSHANI CHAKRABORTY
FACULTY: AARY PEARL LOBO, LULWA KHALEEL

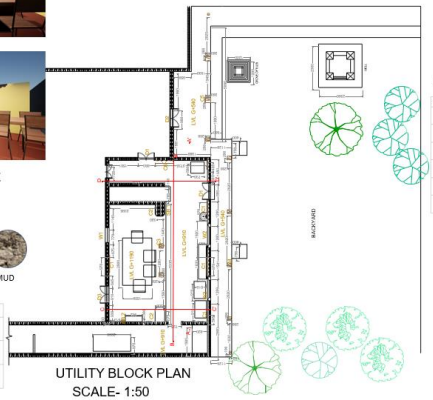
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

INTERIOR VIEWS OF THE KITCHEN

DETAILED PLAN

THE UTILITY BLOCK OF THE SHETTYBETTU HOUSE IS LOCATED TOWARDS THE NORTHEAST PORTION OF THE HOUSE.
IT IS ADJOINED BY THE BACKYARD WHICH GETS SUFFICIENT AMOUNT OF LIGHT, THE UTILITY BLOCK IN ITSELF IS POORLY LIT. DUE TO ITS PLACEMENT IT IS NOT ACCESSIBLE TO THE PUBLIC AND IS A PRIVATE ZONE.

KEY PLAN



SCHEDULE OF OPENINGS

D.no	ITEM NAME	NOS	SILL LEVEL	LINTEL LEVEL	SIZE(mm)	MATERIAL SPECIFICATION
1.	DOOR1	D1	-	1985.00 MM	900 X 1985MM	WOODEN DOOR
2.	DOOR2	D2	-	1920.00 MM	900 X 1730 MM	WOODEN DOOR
3.	DOOR3	D3	-	1920.00 MM	710 X 1915 MM	WOODEN DOOR
4.	WINDOW 1	W1	600 MM	1520.00 MM	775 X 915 MM	WOODEN WINDOW
5.	WINDOW 2	W2	457 MM	1985.00 MM	1200 X 1075 MM	WOODEN WINDOW
6.	WINDOW 3	W3	457 MM	1985.00 MM	1200 X 1075 MM	WOODEN WINDOW

MATERIALS

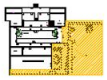
LEGEND

S.no	HATCH	DESCRIPTION
1.		CLAY WALL
2.		WOOD
3.		FLOORING

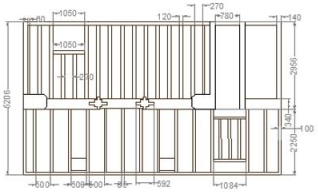
UTILITY BLOCK PLAN
SCALE- 1:50

VIEW OF THE BACKYARD

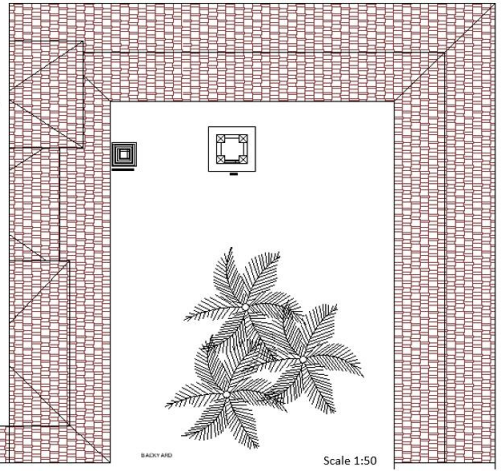
KEY PLAN



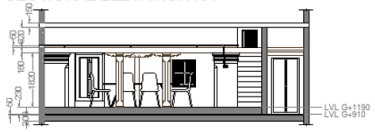
REFLECTED CEILING PLAN



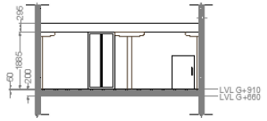
ROOF PLAN OF UTILITY BLOCK



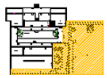
SECTIONAL ELEVATION AA'



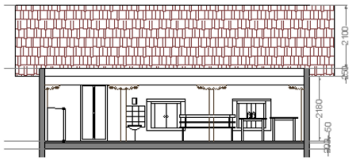
SECTIONAL ELEVATION CC'



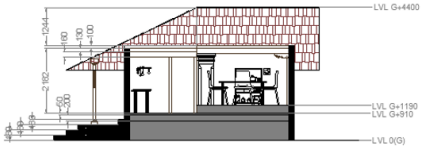
KEY PLAN



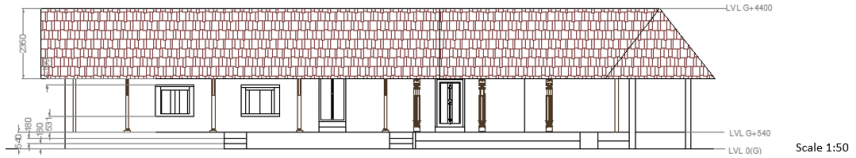
SECTIONAL ELEVATION BB'



SECTIONAL ELEVATION DD'

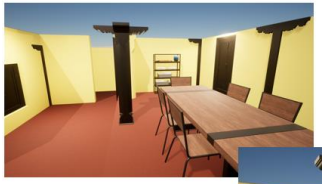


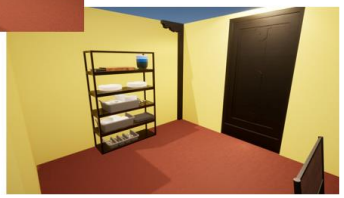
BACKYARD ELEVATION



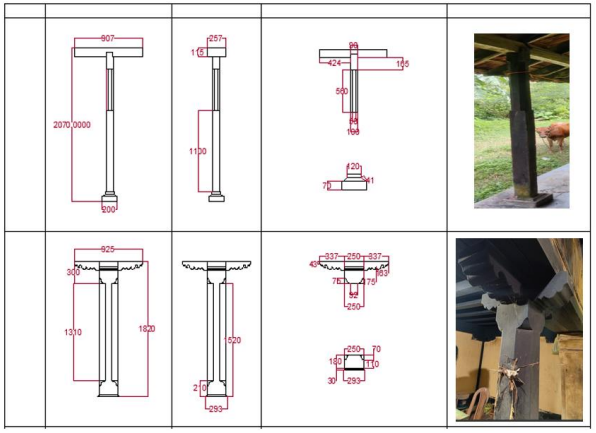
Scale 1:50

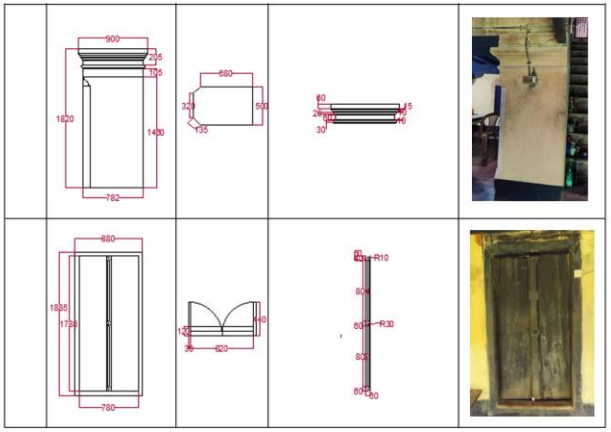
3D VIEWS

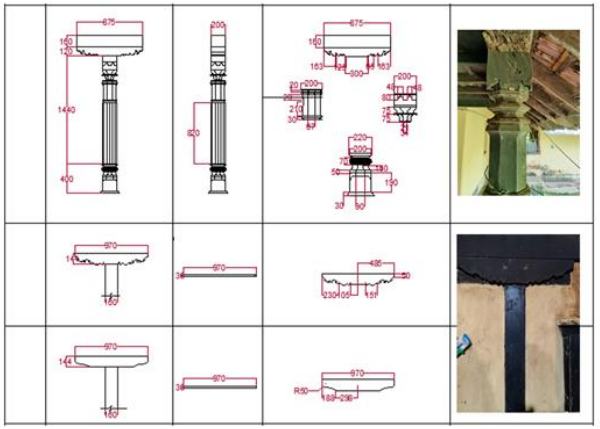


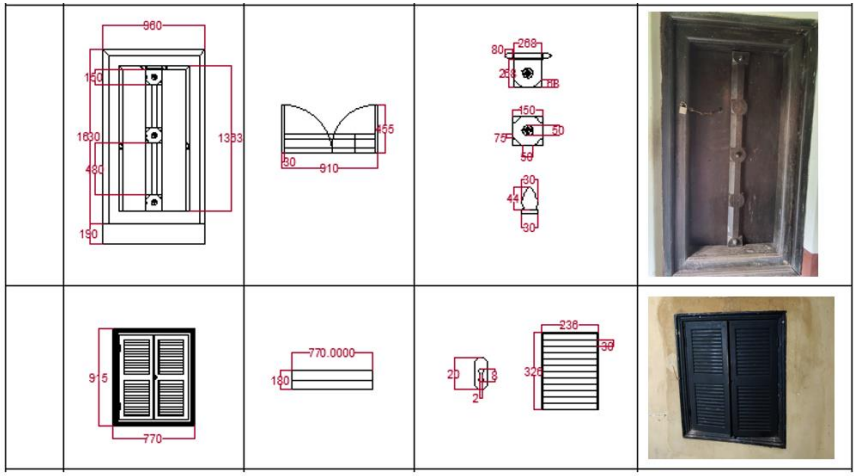


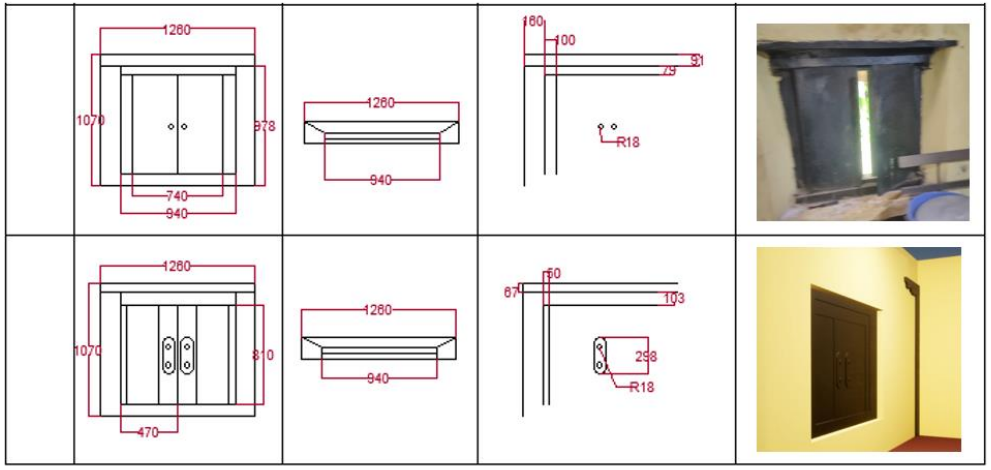
DETAILS





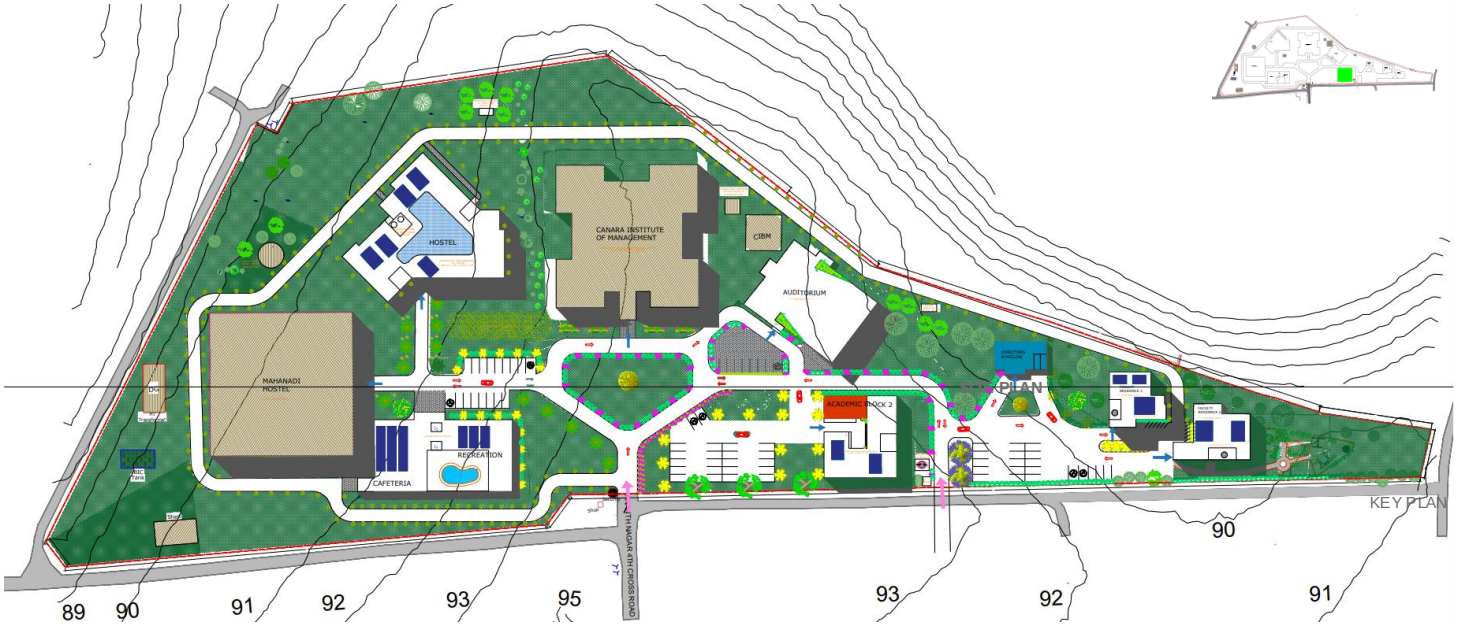


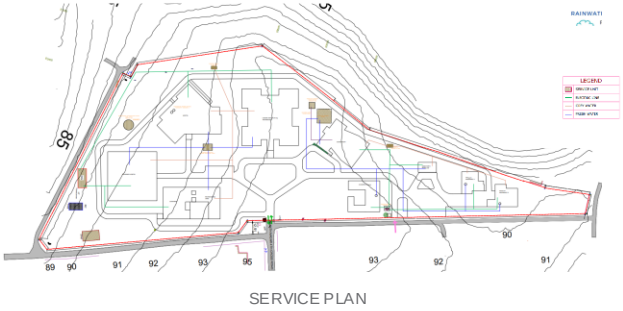




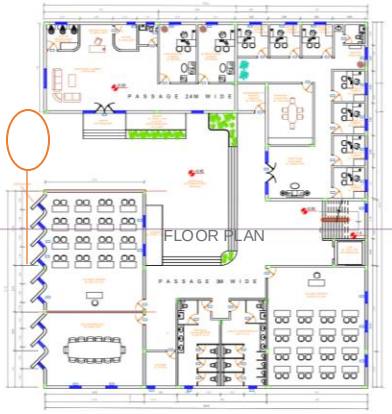
STUDENT: JAYOSMITA DAS, SANIKA RANE, SHABANA PARVEEN, SANGAMITHRA S, KAUSHANI CHAKRABORTY
FACULTY: AARY PEARL LOBO, LULWA KHALEEL

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

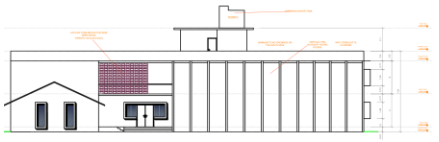




SERVICE PLAN



FLOOR PLAN

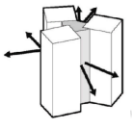


SOUTH FACING FACADE

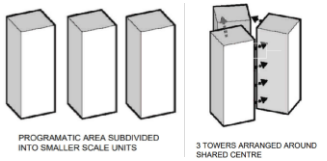
SECTION A-A

1. ACADEMIC BLOCK

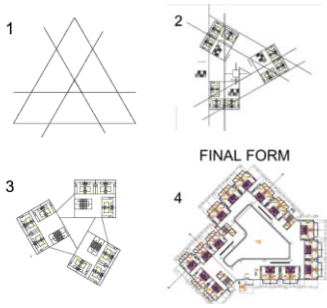
2. HOSTEL BLOCK



FORM DEVELOPMENT

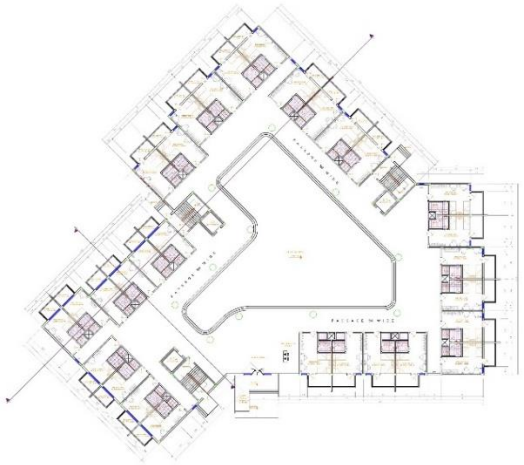


PROCESS



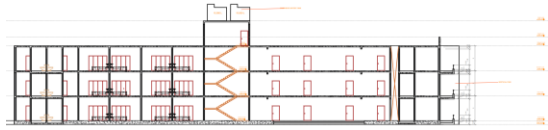
STUDENT: YASHASWINI BIRJERANE (213701116)
FACULTY: YOGESH CHAKRA DHARA, AMIT KINJAWADEKAR, KOMAL JAISWAL, ANUPAMA PAVITHRAN

3. HOSTEL



FLOOR PLAN

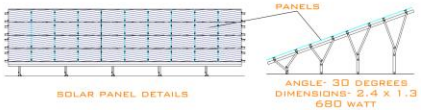
VIEWS



SECTION A-A

SECTION B-B

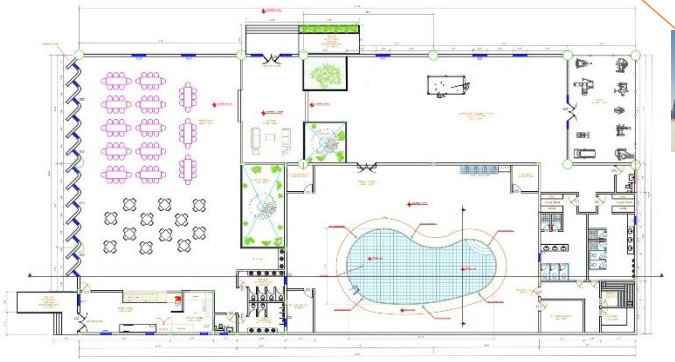
ELEVATION



ROOF PANEL DETAILS

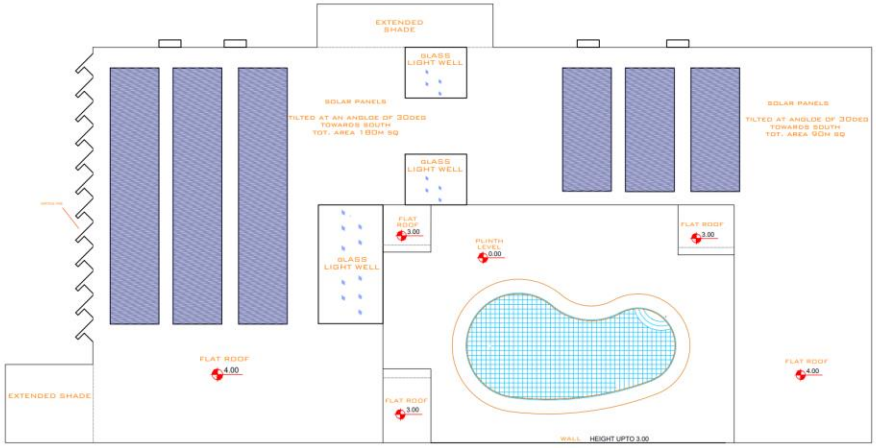
4. CAFETERIA + RECREATIONAL SPACE

ELEVATION- WEST FACING



FLOOR PLAN

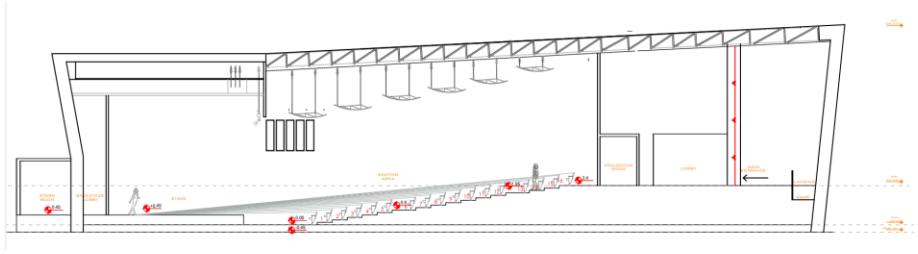
SKYLIGHT CONCEPT

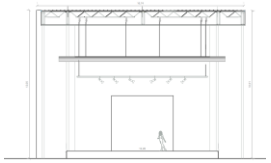


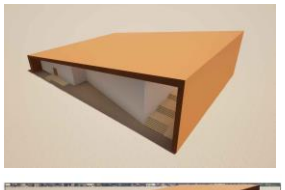
ROOF PLAN

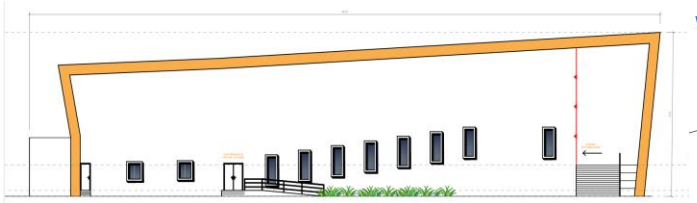
STUDENT: YASHASWINI BIRJERANE (213701116)
FACULTY: YOGESH CHAKRA DHARA, AMIT KINJAWADEKAR, KOMAL JAISWAL, ANUPAMA

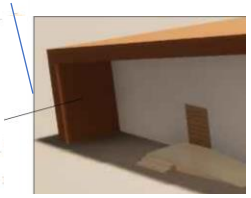
5. AUDIOTORIUM

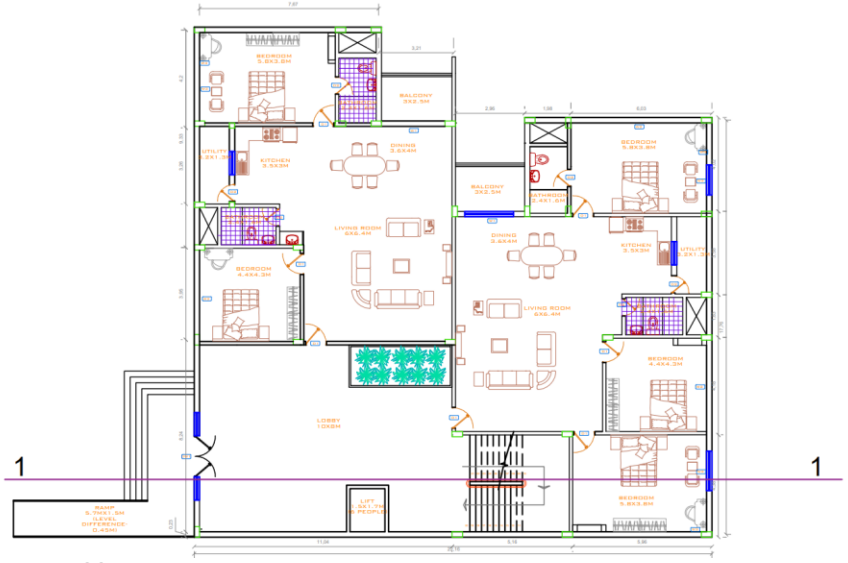






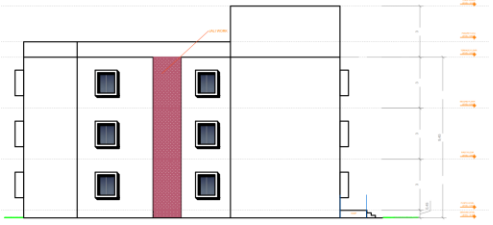




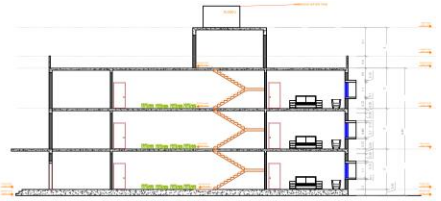


FLOOR PLAN

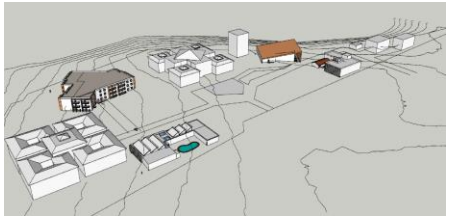
SOUTH FAC ELEVATION



EAST FACE ELEVATION



SECTION



SITE MODEL

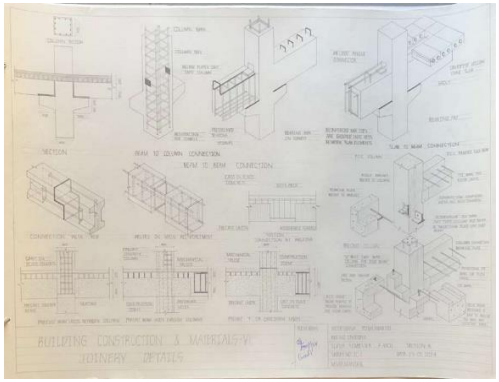
STUDENT: YASHASWINI BIRJERANE (213701116)
FACULTY: YOGESH CHAKRA DHARA, AMIT KINJAWADEKAR, KOMAL JAISWAL, ANUPAMA PAVITHRAN

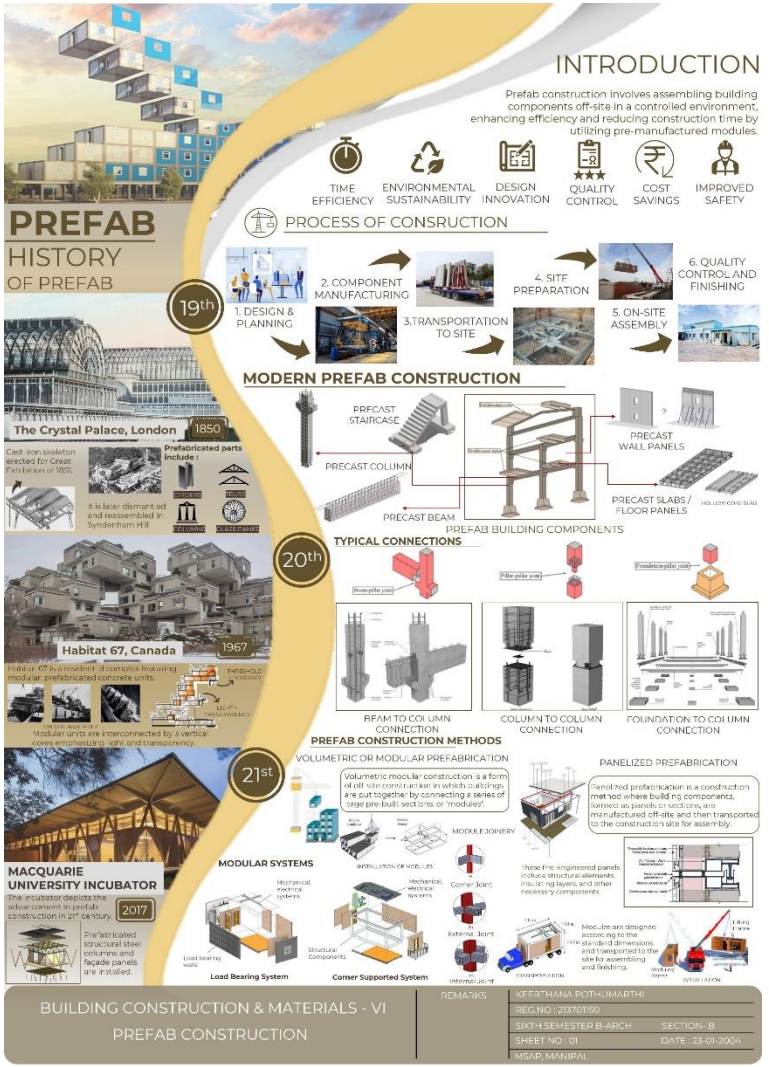
COURSE OBJECTIVES:

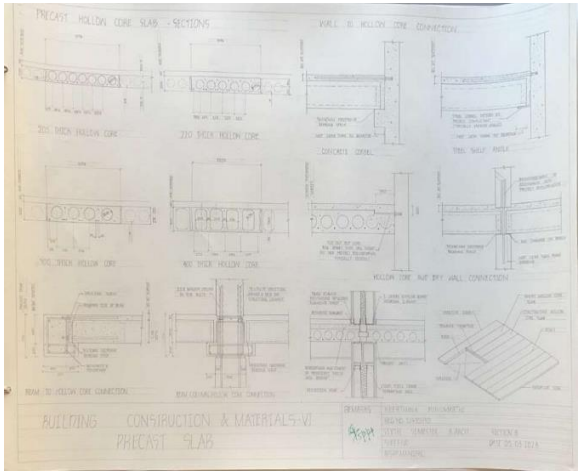
To compare structural concepts and identify suitable construction systems, to identify and recommend joinery details for roofing and paneling. To identify Glass and Ceramics as construction materials. Relate types, compositions, physical & mechanical properties. To develop an understanding about advances materials and the latest technologies. To recommend construction equipment for various stages un the process of building construction (pre and during the construction process). Recommend transportation & erection methods.

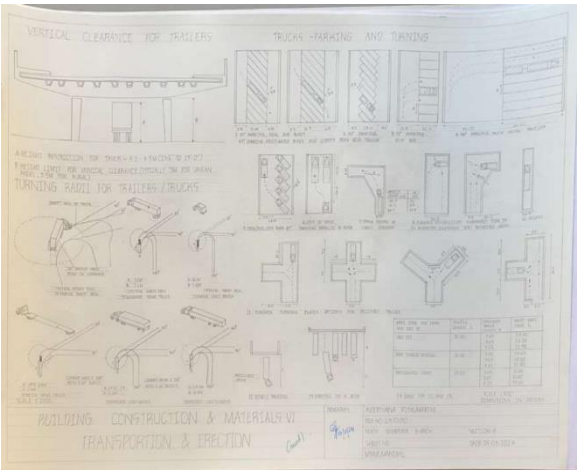
PROJECT BRIEF:

This course intends to introduce Prefab & Precast- Substructure & Support System, Precast Foundations. Roof & Wall Systems, Glass And Ceramics. Paints And Varnishes.

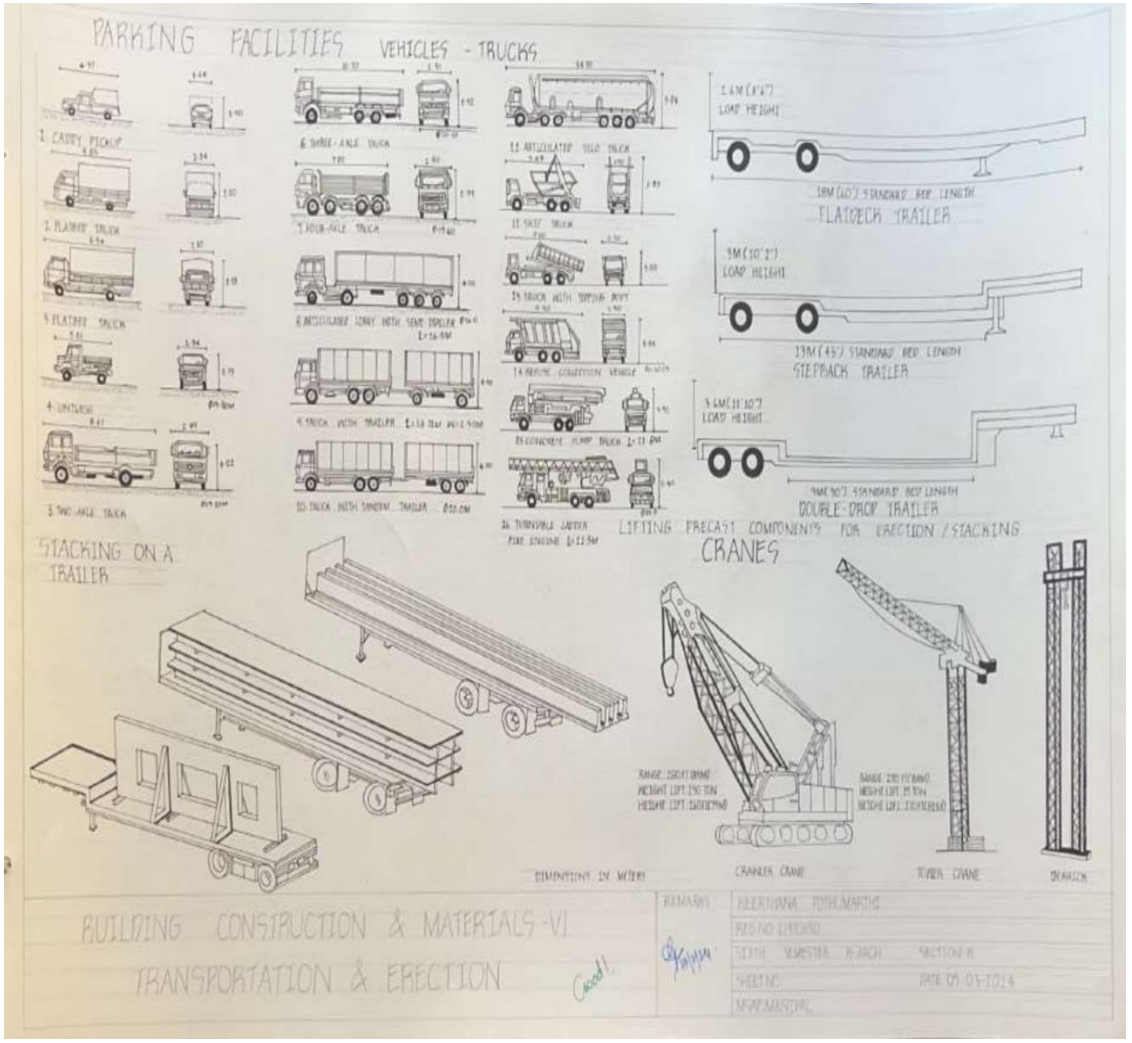









NUVOCOTTO
TERRACOTTA TILES
EDAN JAALI
TOPAZ JAALI
AMBER JAALI
OPAL JAALI
CERAMICS
SANITARY WEAR
PORCELAIN TILES
REFIN
RIMLESS WALL HUNG EWC
DUROPLAST SOFT CLOSE SEAT COVER
480 X 360 X 340 MM
₹21,500
₹27,390
THIN RIM TABLE TOP WASH BASIN
600 X 400 X 150 MM
₹ 11,000
RIMLESS WALL HUNG EWC
1830 X 915 X 450 MM
CERA
LUCE
FUMO
INCENSO
GRES
₹45-65 PER SQFT
SIZES 1200 X 600 MM
₹95-125 PER SQFT
SIZES 1200 X 1200 MM
GLASS
MIRROR GLASS
12MM - ₹ 150
8MM - ₹ 90
5MM - ₹ 50
₹150 PER 12 MM
TINTED GLASS
12MM - ₹ 150
8MM - ₹ 90
5MM - ₹ 50
₹150 PER 12 MM
APPLICATION - KITCHEN SURFACES, WALL CLADDING
LACQUERED GLASS
12MM - ₹ 250
8MM - ₹ 110
5MM - ₹ 80
2MM - ₹ 45
₹250 PER 12 MM
WALL CLADDING
VITRIFIED TILES
NITCO
BRECCIA AURORA
PEACH ONYX
OYSTER BLUE ONYX
ALPINE ASH INFINITE
GREEN ONYX
₹65 PER SQFT
HEXAGON
₹55 PER SQFT
PICKETS
12MM - ₹ 320
8MM - ₹ 200
5MM - ₹ 115
2MM - ₹ 65
WARDROBE SURFACE
DECOR
MENDIX GLASS
₹320 PER 12 MM
KEERTHANA POTHUMARTHI-213701150, SANIYA SUDHIR-213701002
SIXTH SEMESTER B-ARCH
SECTION B
SHEET NO
DATE : 05-03-2024

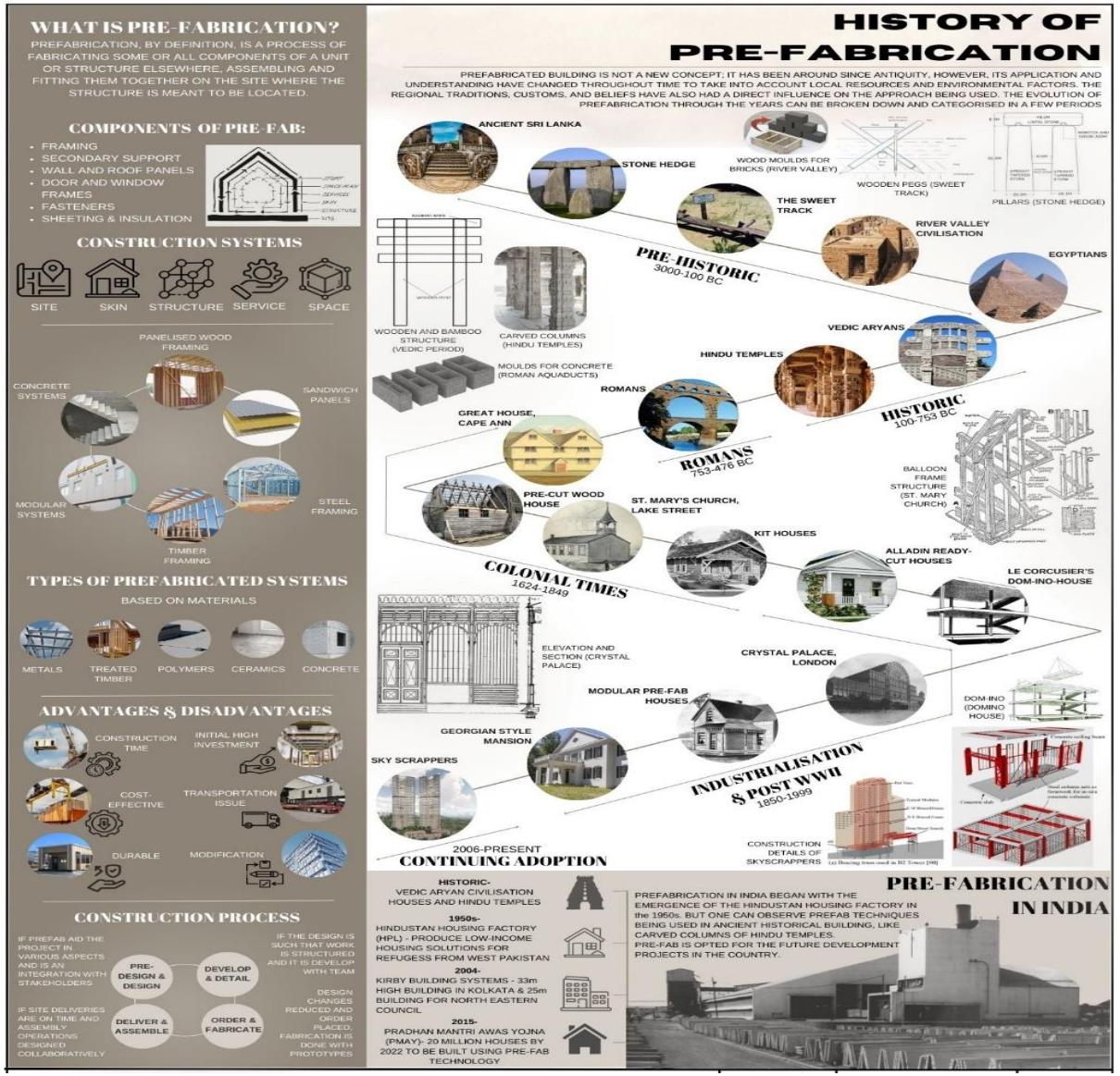

PARKING FACILITIES VEHICLES - TRUCKS
FLATDECK TRAILER
STEPDECK TRAILER
DOUBLE DROP TRAILER
STACKING ON A TRAILER
LIFTING PRECAST COMPONENTS FOR ERECTION / STACKING
CRANES
CRAWLER CRANE
TOWER CRANE
DERRICK
BUILDING CONSTRUCTION & MATERIALS-VI
TRANSPORTATION & ERECTION
KEERTHANA POTHUMARTHI
SIXTH SEMESTER B-ARCH
SECTION B
DATE 05-03-2024

COURSE OBJECTIVES:

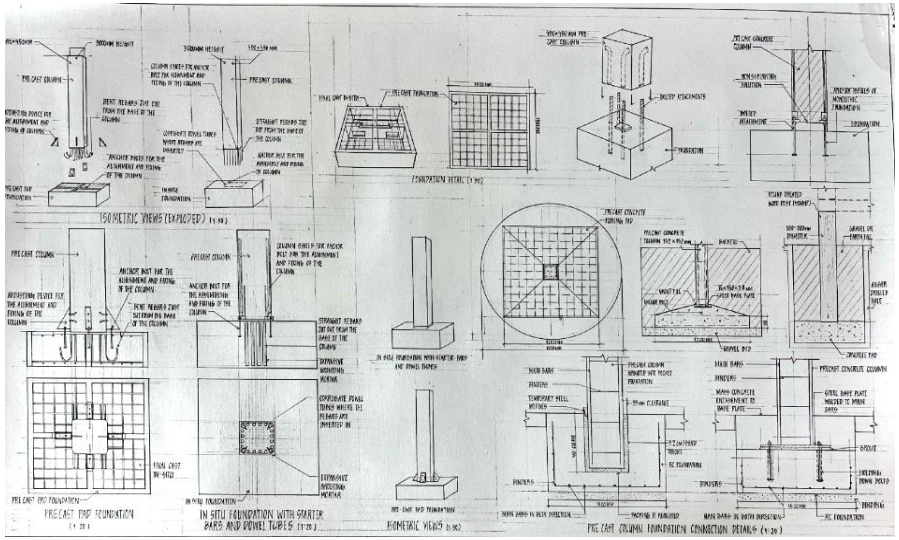
Introduction materials such as Ferro cement, fiber- reinforced concrete, prefab and precast substructure and support system, precast foundation, roof and wall systems, glass and ceramics, other innovative materials properties, and uses paints and varnishes and characteristics construction for various stages in the process of building construction (pre-and during the construction process)

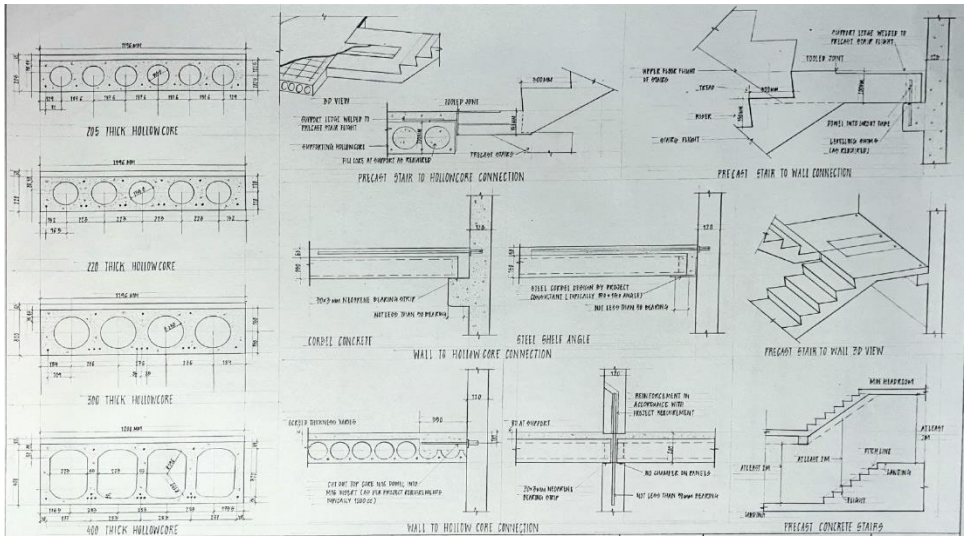
PROJECT BRIEF:

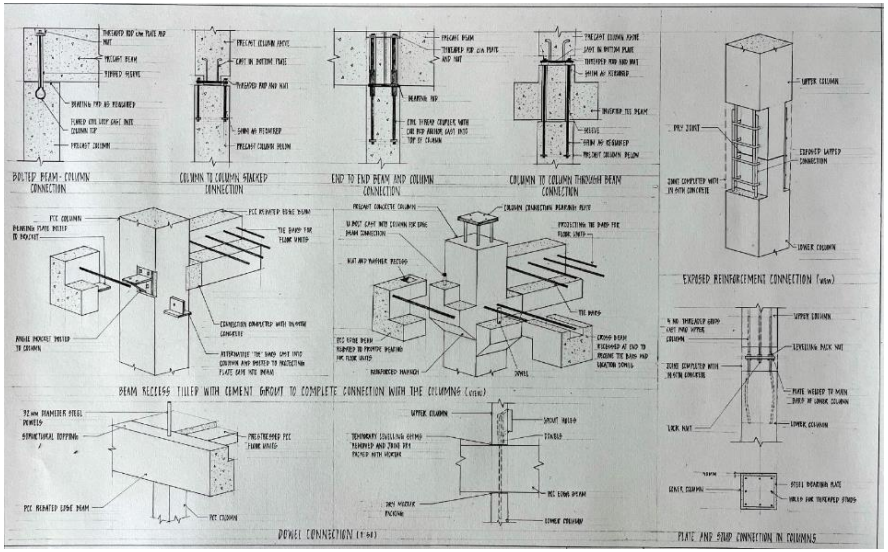
Project is about studying and understanding the different components of precast and prefabricated construction. Studying each components and its typologies, along with the construction process and benefits of pre-cast construction. Also studying the stacking, erection and transportation process of pre-cast construction through a chosen case study. Conducting a market survey on Glass, Ceramics, Paints and Varnishes to understand the locally available materials in the market.

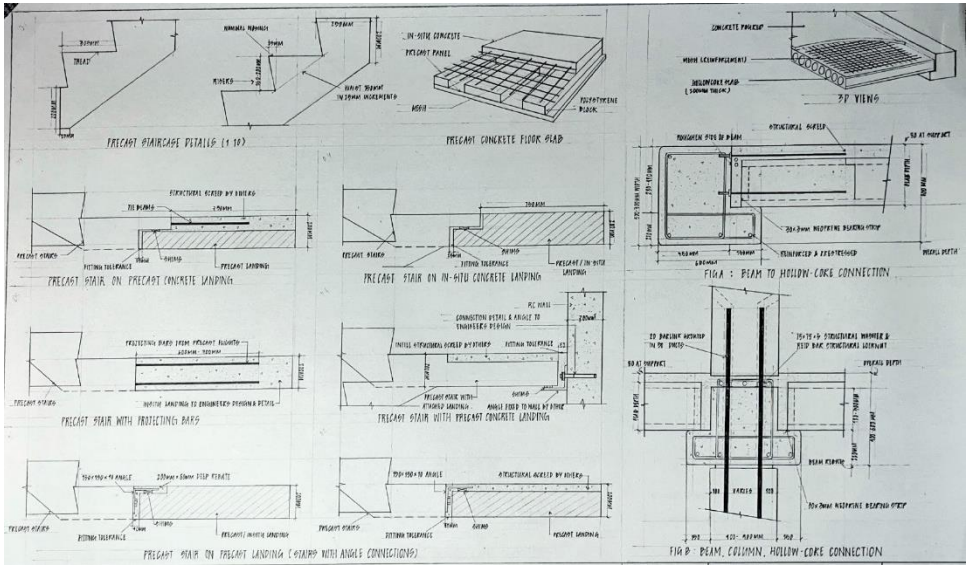


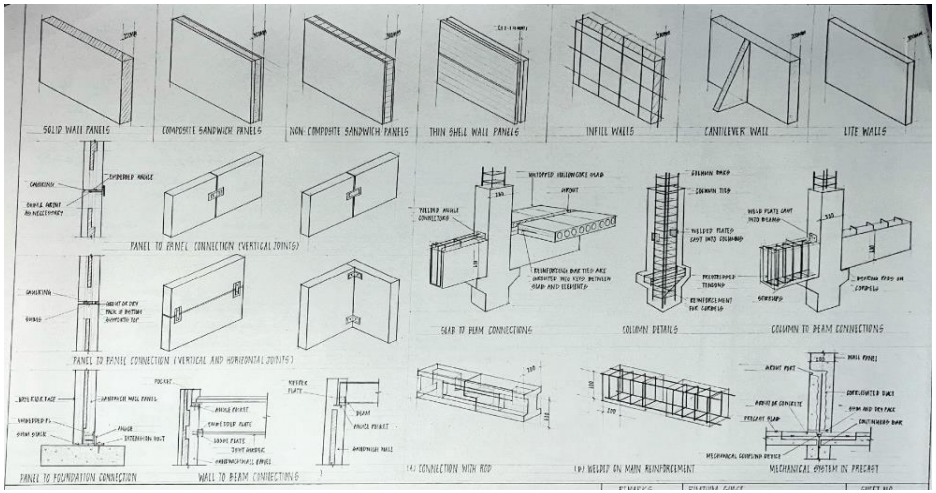
STUDENT: RIMJHIM GHOSE (213701242)
FACULTY: ARRY LOBO, CHARLINE STELLA


ISOMETRIC VIEWS (EXPLODED)
PRECAST PAD FOUNDATION
IN SITU FOUNDATION WITH STARTER BARS AND DOWEL TUBES
ISOMETRIC VIEWS
PRE CAST COLUMN FOUNDATION CONNECTION DETAILS

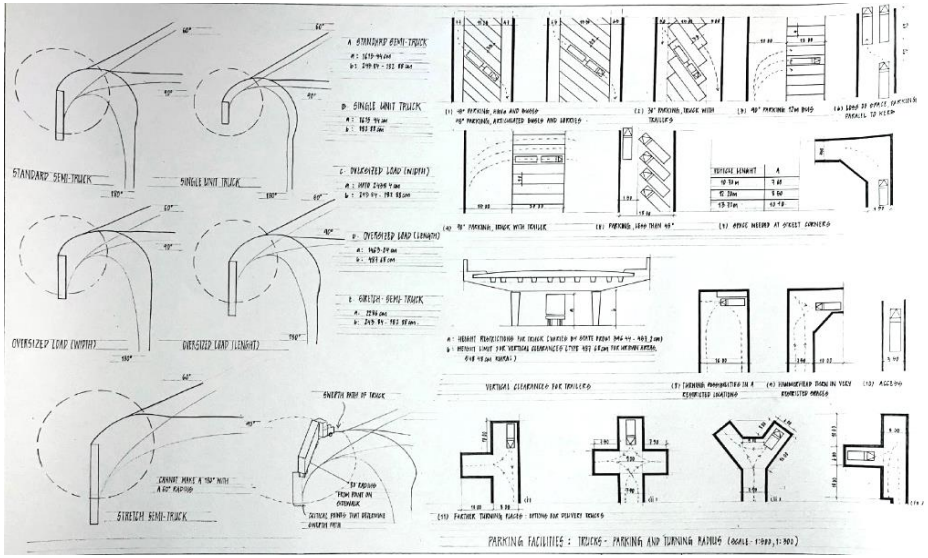

205 THICK HOLLOWCORE
220 THICK HOLLOWCORE
300 THICK HOLLOWCORE
400 THICK HOLLOWCORE
PRECAST STAIR TO HOLLOWCORE CONNECTION
PRECAST STAIR TO WALL CONNECTION
CORBEL CONCRETE
STEEL SHELF ANGLE
WALL TO HOLLOW CORE CONNECTION
PRECAST STAIR TO WALL 3D VIEW
PRECAST CONCRETE STAIRS

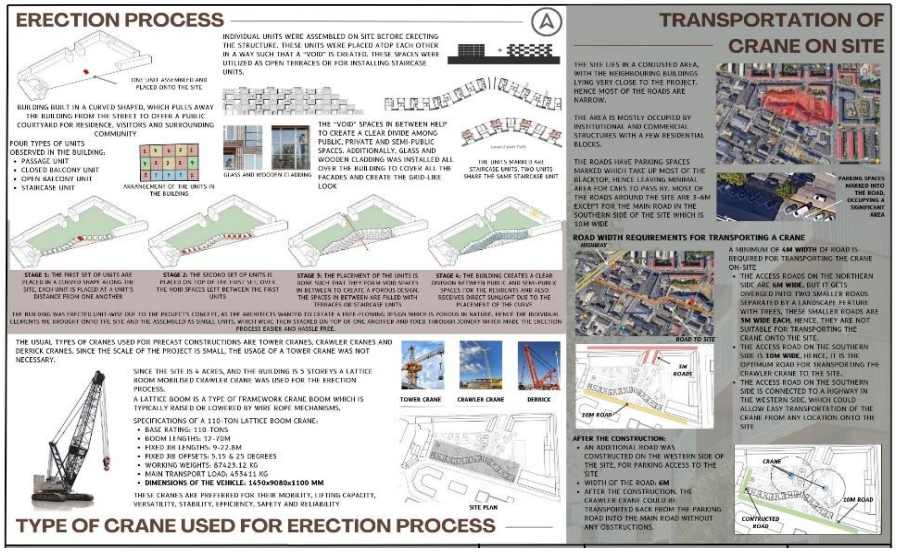

BUTTED BEAM - COLUMN CONNECTION
COLUMN TO COLUMN STACKED CONNECTION
END TO END BEAM AND COLUMN CONNECTION
COLUMN TO COLUMN THROUGH BEAM CONNECTION
EXPOSED REINFORCEMENT CONNECTION
BEAM RECESS FILLED WITH CEMENT GROUT TO COMPLETE CONNECTION WITH THE COLUMNS
DOWEL CONNECTION
PLATE AND STUD CONNECTION IN COLUMNS


PRECAST STAIRCASE DETAILS
PRECAST CONCRETE FLOOR SLAB
3D VIEWS
PRECAST STAIR ON PRECAST CONCRETE LANDING
PRECAST STAIR ON IN-SITU CONCRETE LANDING
FIG A : BEAM TO HOLLOW-CORE CONNECTION
PRECAST STAIR WITH PROTECTIVE BARS
PRECAST STAIR WITH PRECAST CONCRETE LANDING
PRECAST STAIR ON PRECAST LANDING (STAIRS WITH ANGLES CONNECTIONS)
FIG B : BEAM, COLUMN, HOLLOW-CORE CONNECTION


SOLID WALL PANELS
COMPOSITE SANDWICH PANELS
NON-COMPOSITE SANDWICH PANELS
THIN SHELL WALL PANELS
INFILL WALLS
CANTILEVER WALL
LITE WALLS
PANEL TO PANEL CONNECTION (VERTICAL JOINTS)
PANEL TO PANEL CONNECTION (VERTICAL AND HORIZONTAL JOINTS)
SEAT TO BEAM CONNECTIONS
COLUMN DETAILS
COLUMN TO BEAM CONNECTIONS
PANEL TO FOUNDATION CONNECTION
WALL TO BEAM CONNECTIONS
MECHANICAL SYSTEM OF PRECAST


ABOUT THE PROJECT
DORTHEAVEJ RESIDENCE
COPENHAGEN, DENMARK
PROJECT TYPOLOGY- SOCIAL HOUSING
ARCHITECTS- BJARKE INGELS GROUP
TOTAL NUMBER OF FLOORS- G+6
TOTAL BUILT UP- 6800 sqm.
THE DORTHEAVEJ RESIDENCE IS AN AFFORDABLE HOUSING AND PUBLIC SPACE FOR THE MULTI-ETHNICAL LOWER INCOME GROUPS IN THE AREA. THE COMMUNAL RESIDENCE HAS BEEN DESIGNED AND CONSTRUCTED ON A STRICT AFFORDABLE HOUSING BUDGET WHILE PRIORITIZING THE SPATIAL QUALITIES OF A RESIDENCE AND, KEEPING THE PEDESTRIAN PASSAGEWAYS OPEN AND THE ADJACENT GREEN YARD UNTOUCHED.
THE CHARACTERISTIC CHECKERED PATTERN OF DORTHEAVEJ IS BASED ON A SINGULAR PREFAB STRUCTURE, CONCEIVED AS A POROUS WALL, THE BUILDING GENTLY CURVES IN THE CENTER, CREATING SPACE FOR A PUBLIC PLAZA TOWARDS THE STREET ON THE SOUTH SIDE AND AN INTIMATE GREEN COURTYARD TOWARDS THE NORTH. ON THE STREET LEVEL, THE BUILDING OPENS UP TO ALLOW THE RESIDENTS AND GENERAL PUBLIC TO PASS SEAMLESSLY INTO THE COURTYARD.
THE SIZE OF THE APARTMENTS RANGES FROM 60-115M2 AND THE MATERIALS ARE ALL KEPT VERY SIMPLE WITH WOOD AND CONCRETE IN LIGHT COLORS DOMINATING INSIDE AND OUT.
MATERIALS TRANSPORTED-
1. CLADDING (ENTREPRISE 9):
• 21X115MM THERMOWOOD (PINE) – FIRE IMPREGNATED
• 25MM STEEL PROFILES, PERFORATED AND PAINTED
• SCREWS IN A4 STAINLESS STEEL
• 9MM WIND/WATER BOARD
• 95-160MM INSULATION, SOFT
• FLASHING ALUMINUM, PAINTED
• 70MM DRAINAFIC INTEGRATED – STAINLESS STEEL
2. RAILING:
80X40MM TOP AND BOTTOM STEEL PROFILE, GALVANIZED
50X120 RAILING MASKS, STEEL GALVANIZED
3. WINDOWS:
WINDOW AND TERRACE DOORS ANODIZED ALUMINUM, ALUMINUM NATURE – WOOD PROFILES, PAINTED WHITE VELTAC
4. TERRACE:
24X115MM THERMOWOOD (PINE) – FIRE IMPREGNATED
50MM WEDGED WOOD PROFILES. ROOF MEMBRANE 140-170MM ROOF INSULATION, HARD
5. FLOOR:
180-220MM CONCRETE, PREFAB HOLLOW CORE SLABS
21MM OAKPARKET
STEELPROFILE SUBSTRUCTURE
50MM INSULATION, SOFT
STACKING PROCESS
METHOD OF STACKING-
MATERIALS OF LARGE SPANS OR HEIGHTS SUCH AS CLADDING, TERRACE AND FLOORING HAVE BEEN STACKED HORIZONTALLY ON TOP OF EACH OTHER TO HAVE OPTIMUM USAGE OF THE SPACE OF THE TRUCK SPACE.
THE PREFAB CONCRETE WALLS HAVE BEEN STACKED AND TRANSPORTED UPRIGHT INORDER TO HAVE MINIMAL DAMAGES DURING TRANSPORTATION.
WINDOWS AND TERRACE DOORS TOOWERE STACKED VERTICALLY TO MINIMISE RISK OF CRACKING
10M WIDE MAIN ACCESS ROAD AT THE SOUTH SIDE OF THE SITE.
FORKLIFT
LIFT HEIGHT UPTO 6 M
LOAD CAPACITY- 4500 KG
OVERALL WIDTH-1450 MM
FORKLIFTS TOO HAVE VITAL ROLE TO TRANSPORT GOODS FROM TRUCK DROP OFF POINT TO WAREHOUSE.
TRANSPORTATION PROCESS
THE TRANSPORTATION OF PREFABRICATED PRODUCTS FROM FACTORIES TO CONSTRUCTION SITES HAS TWO KEY ISSUES TO CONSIDER, ONE IS HOW TO EFFICIENTLY UTILIZE THE CAPACITY OF TRUCKS IN ORDER TO USE AS FEW TRUCKS AS POSSIBLE, AND THE OTHER IS HOW TO POSTPONE THE TRANSPORTATION OF PREFABRICATED PRODUCTS SO AS TO PAY FOR THEM AS LATE AS POSSIBLE.
A
• TYPE OF TRUCK- JUMBO OPEN TRUCK
• DIMENSIONS OF TRUCK-12 x 2.45 x 4
• MATERIAL CARRIED- WALLS
• MAX. CAPACITY- 32 TONS
B
• TYPE OF TRUCK- TRUCK WITH SEMI-OPEN TRAILERS
• DIMENSIONS OF TRUCK-8.1 x 2.45 x 2.85
• MATERIAL CARRIED- CLADDING, FLOORING, TERRACE
• MAX. CAPACITY- 6 TONS
C
• TYPE OF TRUCK- JUMBO TRAILER
• DIMENSIONS OF TRUCK- 7.5 x 2.24 x 2.85
• MATERIAL CARRIED- WINDOWS, ANCILLARY
• MAX. CAPACITY- 10 TONS
TURNING RADIUS
A -15-16 METRES
B -15-16 METRES
C -12-13 METRES


STANDARD SEMI-TRUCK
SINGLE UNIT TRUCK
OVERSIZED LOAD (WIDTH)
OVERSIZED LOAD (LENGTH)
STRETCH SEMI-TRUCK
PARKING FACILITIES : TRUCKS - PARKING AND TURNING RADIUS (SCALE- 1:100, 1:50)

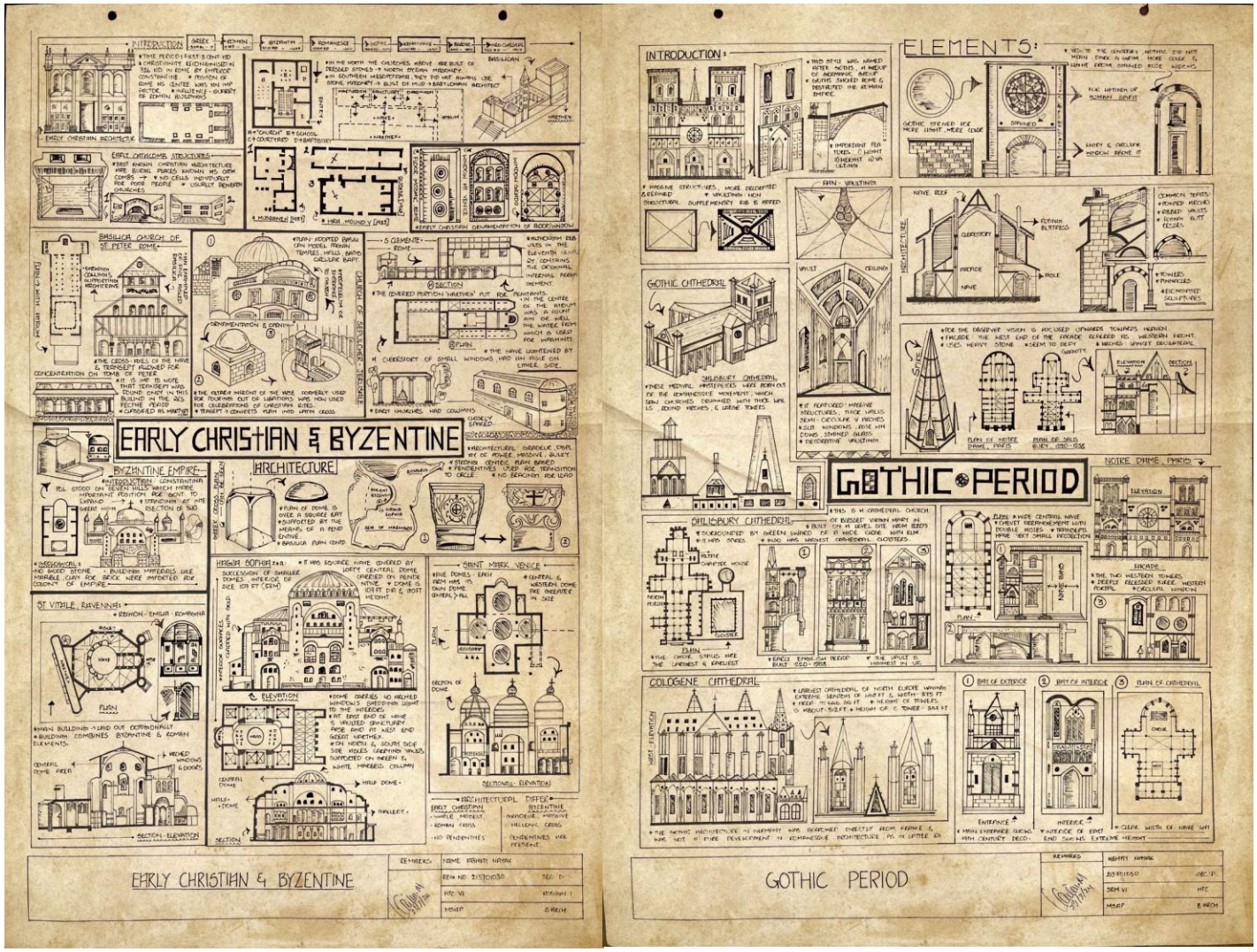

ERECTION PROCESS
INDIVIDUAL UNITS WERE ASSEMBLED ON SITE BEFORE ERECTING THE STRUCTURE. THESE UNITS WERE PLACED ATOP EACH OTHER IN A WAY SUCH THAT A "VOID" IS CREATED. THESE SPACES WERE UTILIZED AS OPEN TERRACES OR FOR INSTALLING STAIRCASE UNITS.
BUILDING BUILT IN A CURVED SHAPED, WHICH PULLS AWAY THE BUILDING FROM THE STREET TO OFFER A PUBLIC COURTYARD FOR RESIDENCE, VISITORS AND SURROUNDING COMMUNITY
FOUR TYPES OF UNITS OBSERVED IN THE BUILDING:
• PASSAGE UNIT
• CLOSED BALCONY UNIT
• OPEN BALCONY UNIT
• STAIRCASE UNIT
ARRANGEMENT OF THE UNITS IN THE BUILDING
GLASS AND WOODEN CLADDING
THE "VOID" SPACES IN BETWEEN HELP TO CREATE A CLEAR DIVIDE AMONG PUBLIC, PRIVATE AND SEMI-PUBLIC SPACES. ADDITIONALLY, GLASS AND WOODEN CLADDING WAS INSTALLED ALL OVER THE BUILDING TO COVER ALL THE FACADES AND CREATE THE GRID-LIKE LOOK
THE UNITS MARKED ARE STAIRCASE UNITS. TWO UNITS SHARE THE SAME STAIRCASE UNIT
STAGE 1: THE FIRST SET OF UNITS ARE PLACED IN A CURVED SHAPE ALONG THE SITE, EACH UNIT IS PLACED AT A UNIT'S DISTANCE FROM ONE ANOTHER
STAGE 2: THE SECOND SET OF UNITS IS PLACED ON TOP OF THE FIRST SET, OVER THE VOID SPACES LEFT BETWEEN THE FIRST UNITS
STAGE 3: THE PLACEMENT OF THE UNITS IS DONE SUCH THAT THEY FORM VOID SPACES IN BETWEEN TO CREATE A POROUS DESIGN. THE SPACES IN BETWEEN ARE FILLED WITH TERRACES OR STAIRCASE UNITS
STAGE 4: THE BUILDING CREATES A CLEAR DIVISION BETWEEN PUBLIC AND SEMI-PUBLIC SPACES FOR THE RESIDENTS AND ALSO RECEIVES DIRECT SUNLIGHT DUE TO THE PLACEMENT OF THE VOIDS
THE BUILDING WAS ERECTED UNIT-WISE DUE TO THE PROJECTS CONCEPT, AS THE ARCHITECTS WANTED TO CREATE A FREE-FLOWING DESIGN WHICH IS POROUS IN NATURE. HENCE THE INDIVIDUAL ELEMENTS WE BROUGHT ONTO THE SITE AND THE ASSEMBLED AS SINGLE UNITS, WHICH WERE THEN STACKED ON TOP OF ONE ANOTHER AND TIED THROUGH JOINERY WHICH MADE THE ERECTION PROCESS EASIER AND HASSLE FREE.
THE USUAL TYPES OF CRANES USED FOR PRECAST CONSTRUCTIONS ARE TOWER CRANES, CRAWLER CRANES AND DERRICK CRANES. SINCE THE SCALE OF THE PROJECT IS SMALL, THE USAGE OF A TOWER CRANE WAS NOT NECESSARY.
SINCE THE SITE IS 4 ACRES, AND THE BUILDING IS 5 STOREYS A LATTICE BOOM MOBILISED CRAWLER CRANE WAS USED FOR THE ERECTION PROCESS.
A LATTICE BOOM IS A TYPE OF FRAMEWORK CRANE BOOM WHICH IS TYPICALLY RAISED OR LOWERED BY WIRE ROPE MECHANISMS.
SPECIFICATIONS OF A 110-TON LATTICE BOOM CRANE:
• BASE RATING: 110 TONS
• BOOM LENGTHS: 12-70M
• FIXED JIB LENGTHS: 9-22.8M
• FIXED JIB OFFSETS: 9,15 & 25 DEGREES
• WORKING WEIGHTS: 67423.12 KG
• MAIN TRANSPORT LOAD: 45411 KG
• DIMENSIONS OF THE VEHICLE: 1450x9080x1100 MM
THESE CRANES ARE PREFERRED FOR THEIR MOBILITY, LIFTING CAPACITY, VERSATILITY, STABILITY, EFFICIENCY, SAFETY AND RELIABILITY
TOWER CRANE
CRAWLER CRANE
DERRICK
SITE PLAN
TYPE OF CRANE USED FOR ERECTION PROCESS
TRANSPORTATION OF CRANE ON SITE
THE SITE LIES IN A CONJUSTED AREA, WITH THE NEIGHBOURING BUILDINGS LYING VERY CLOSE TO THE PROJECT. HENCE MOST OF THE ROADS ARE NARROW.
THE AREA IS MOSTLY OCCUPIED BY INSTITUTIONAL AND COMMERCIAL STRUCTURES WITH A FEW RESIDENTIAL BLOCKS.
THE ROADS HAVE PARKING SPACES MARKED WHICH TAKE UP MOST OF THE BLACKTOP, HENCE LEAVING MINIMAL AREA FOR CARS TO PASS BY. MOST OF THE ROADS AROUND THE SITE ARE 5-6M EXCEPT FOR THE MAIN ROAD IN THE SOUTHERN SIDE OF THE SITE WHICH IS 10M WIDE.
PARKING SPACES MARKED INTO THE ROAD, OCCUPYING A SIGNIFICANT AREA
ROAD WIDTH REQUIREMENTS FOR TRANSPORTING A CRANE
HIGHWAY
ROAD TO SITE
5M ROADS
20M ROAD
A MINIMUM OF 6M WIDTH OF ROAD IS REQUIRED FOR TRANSPORTING THE CRANE ON-SITE
• THE ACCESS ROADS ON THE NORTHERN SIDE ARE 6M WIDE, BUT IT GETS DIVERGED INTO TWO SMALLER ROADS SEPARATED BY A LANDSCAPE FEATURE WITH TREES, THESE SMALLER ROADS ARE 3M WIDE EACH, HENCE, THEY ARE NOT SUITABLE FOR TRANSPORTING THE CRANE ONTO THE SITE.
• THE ACCESS ROAD ON THE SOUTHERN SIDE IS 10M WIDE, HENCE, IT IS THE OPTIMUM ROAD FOR TRANSPORTING THE CRAWLER CRANE TO THE SITE.
• THE ACCESS ROAD ON THE SOUTHERN SIDE IS CONNECTED TO A HIGHWAY IN THE WESTERN SIDE, WHICH COULD ALLOW EASY TRANSPORTATION OF THE CRANE FROM ANY LOCATION ONTO THE SITE
AFTER THE CONSTRUCTION:
• AN ADDITIONAL ROAD WAS CONSTRUCTED ON THE WESTERN SIDE OF THE SITE, FOR PARKING ACCESS TO THE SITE
• WIDTH OF THE ROAD: 6M
• AFTER THE CONSTRUCTION, THE CRAWLER CRANE COULD BE TRANSPORTED BACK FROM THE PARKING ROAD INTO THE MAIN ROAD WITHOUT ANY OBSTRUCTIONS.
CRANE
20M ROAD
CONSTRUCTED ROAD

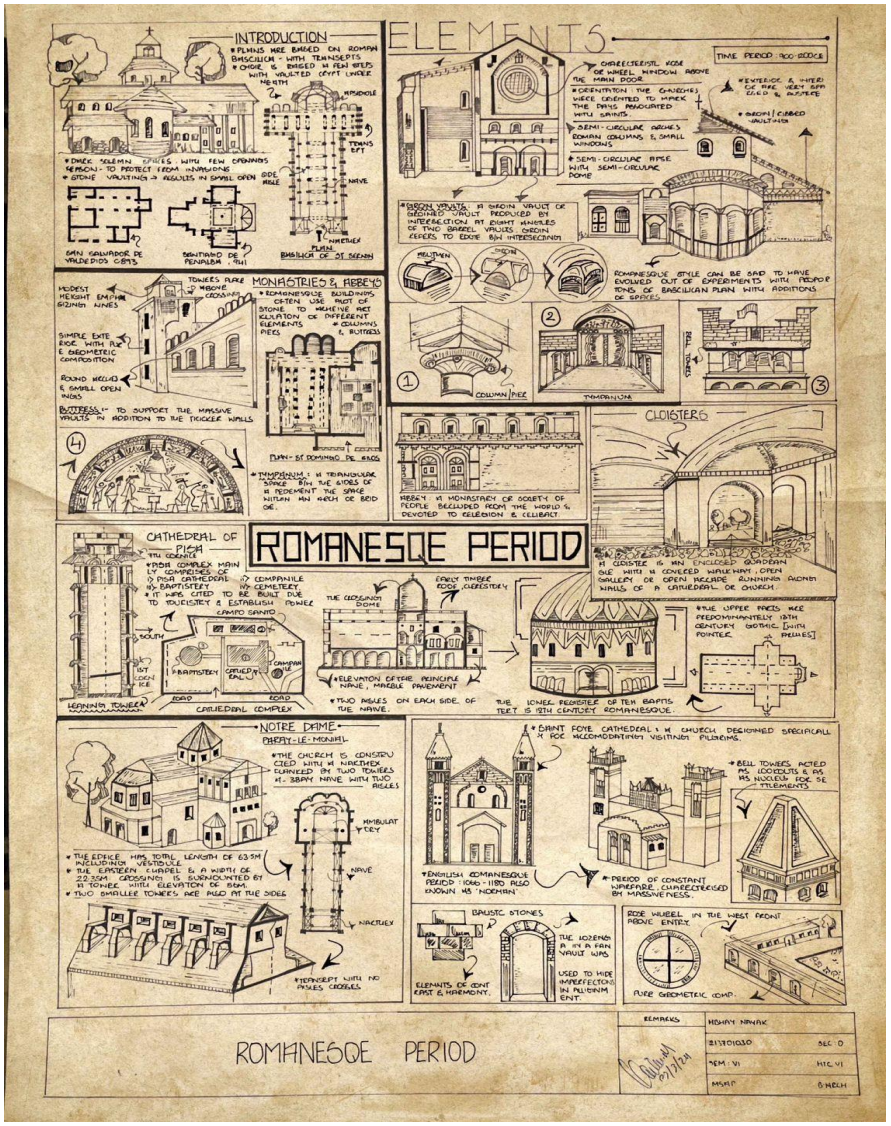
COURSE OBJECTIVES:

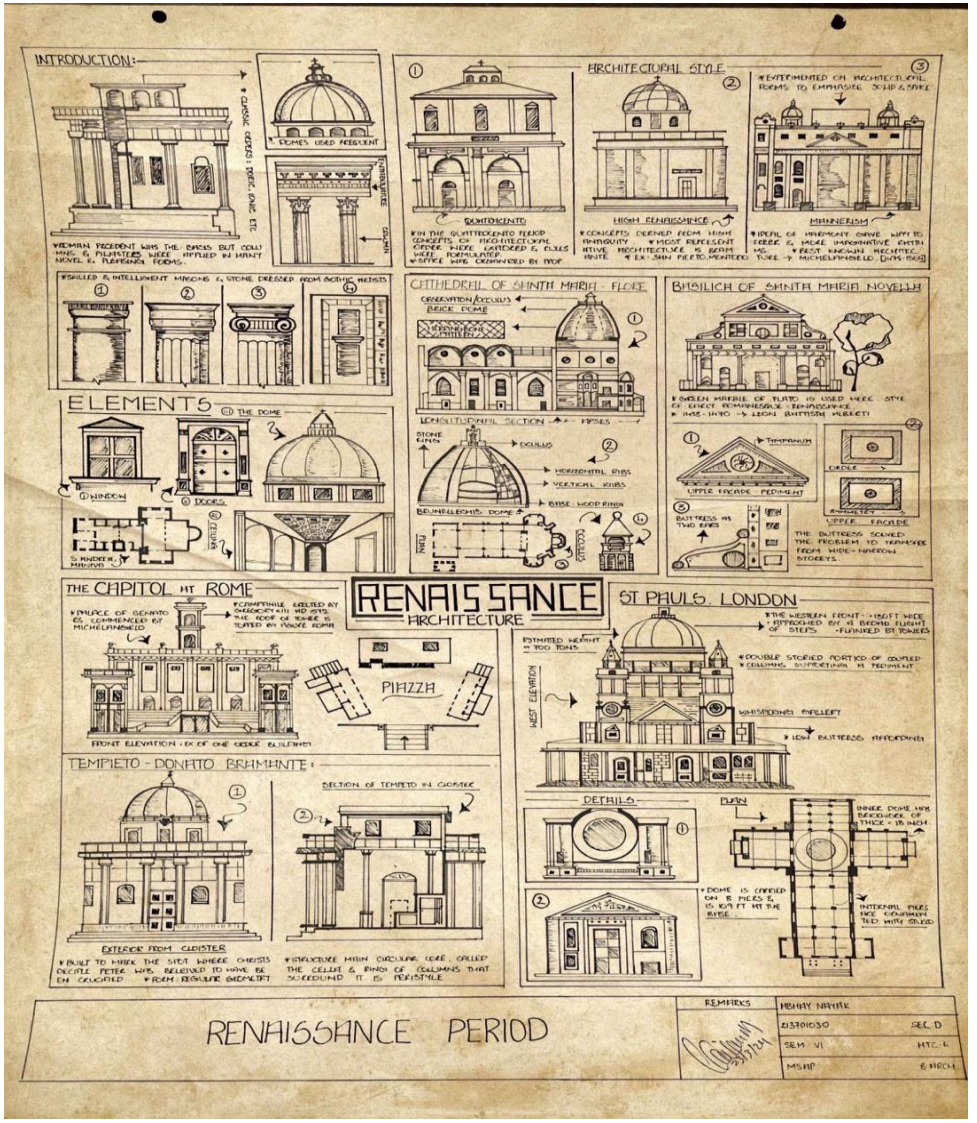
Explain the historical significance and concepts of Christian architecture, analyze the evolution of various architectural typologies and its styles. Identifying the various materials used , arrangement and orders of built forms . Understanding the Socio-Political-Cultural interrelations.

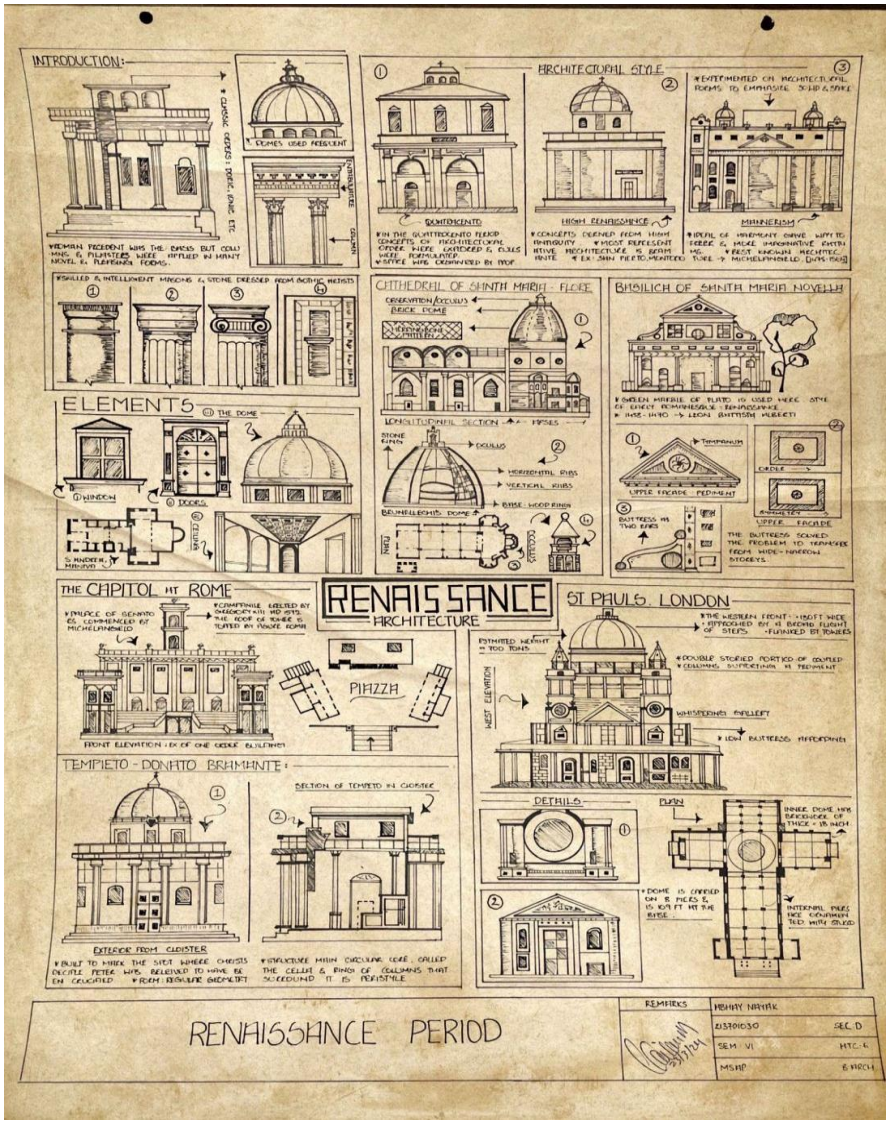
PROJECT BRIEF:

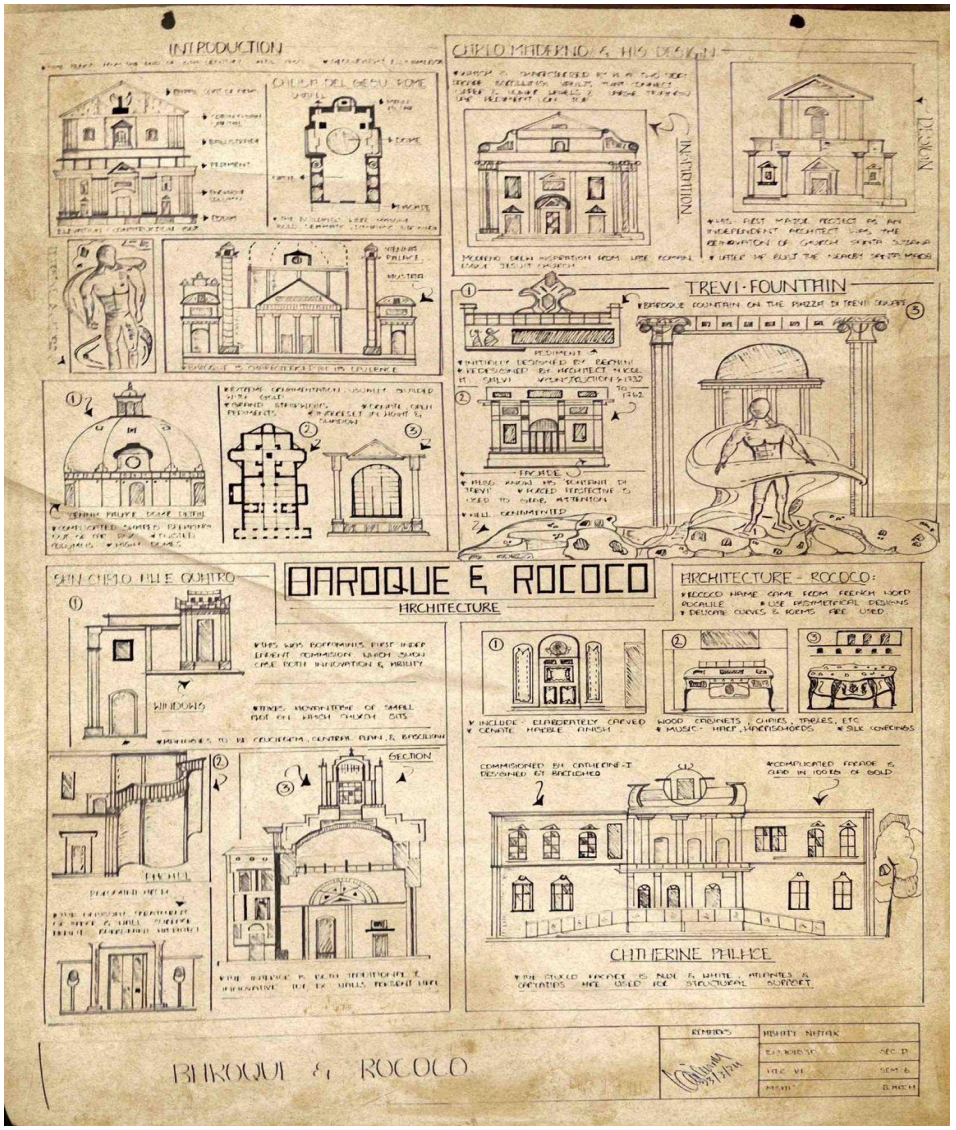
Project is about Christian Architecture. It explains through sketches and texts the architecturally significant structures during different timelines. Here we can understand the co relation between all the structures and the evolution of the style and methods of architecture used. This project tries to bring into light the beautiful architectural details and also the socio-political-cultural relationships , which are usually overlooked by the modern people .This project also tries to go into deeper depths about the different methods used in construction , and the different materials used and the justification for the following.



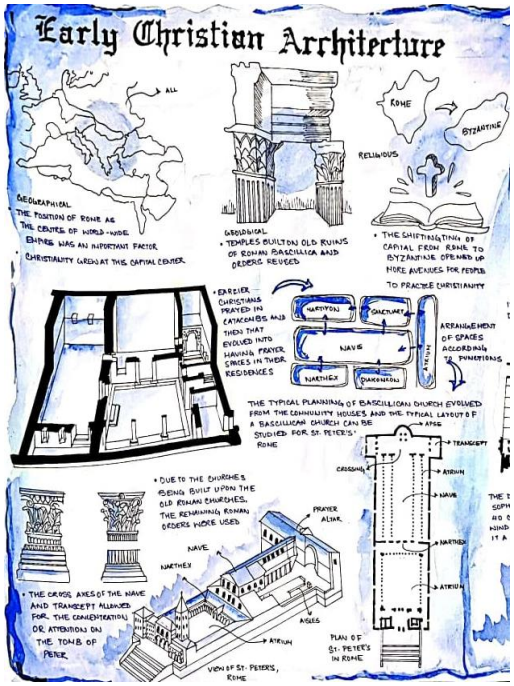

INTRODUCTION
ELEMENTS
MONASTRIES & ABBEYS
CLOISTERS
ROMANESQUE PERIOD
CATHEDRAL OF PISA
NOTRE DAME
ROMANESQUE PERIOD

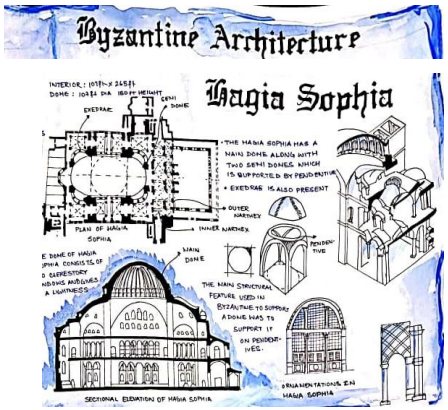

INTRODUCTION:
ARCHITECTURAL STYLE
ELEMENTS
CATHEDRAL OF SANTA MARIA - FLORE
BASILICH OF SANTA MARIA NOVELLA
THE CAPITOL HT ROME
RENAISSANCE ARCHITECTURE
ST PAULS, LONDON
TEMPIETO - DONATO BRAMANTE
RENAISSANCE PERIOD



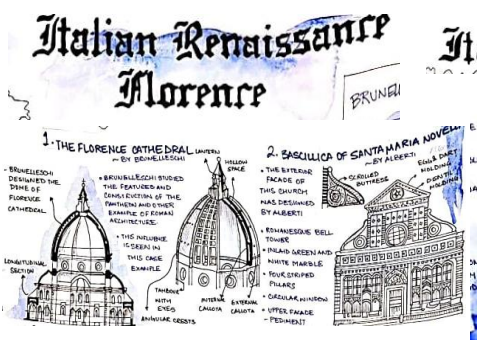


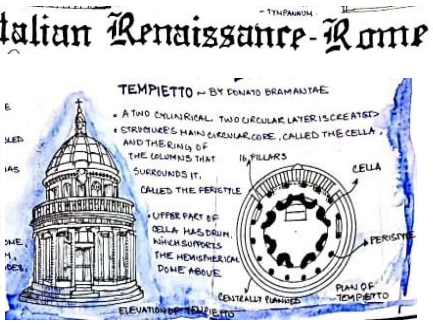
STUDENT: ABHAY NAYAK (213701030.)
FACULTY: KAILASH MALLAIAH

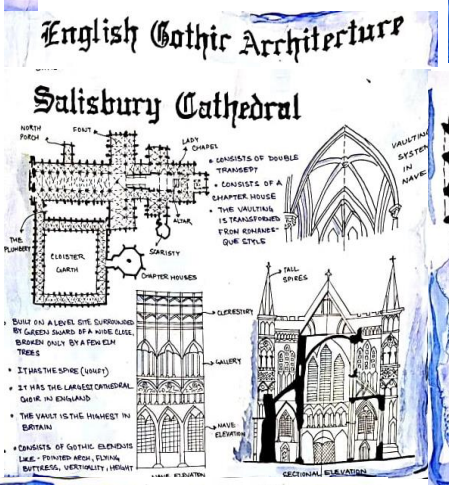

Early Christian Architecture
GEOGRAPHICAL
THE POSITION OF ROME AS THE CENTRE OF WORLD-WIDE EMPIRE WAS AN IMPORTANT FACTOR
CHRISTIANITY GREW AT THIS CAPITAL CENTER.
GEOLOGICAL
• TEMPLES BUILT ON OLD RUINS OF ROMAN BASILICAS AND ORDERS REUSED
RELIGIOUS
• THE SHIFTING/TINY OF CAPITAL FROM ROME TO BYZANTIUM OPENED UP MORE AVENUES FOR PEOPLE TO PRACTICE CHRISTIANITY
• EARLIER CHRISTIANS PRAYED IN CATACOMBS AND THEN THAT EVOLVED INTO HAVING PRAYER SPACES IN THEIR RESIDENCES
ARRANGEMENT OF SPACES ACCORDING TO FUNCTIONS
THE TYPICAL PLANNING OF BASILLICAN CHURCH EVOLVED FROM THE COMMUNITY HOUSES AND THE TYPICAL LAYOUT OF A BASILLICAN CHURCH CAN BE STUDIED FOR ST. PETER'S, ROME
• DUE TO THE CHURCHES BEING BUILT UPON THE OLD ROMAN CHURCHES, THE REMAINING ROMAN ORDERS WERE USED
• THE CROSS AXES OF THE NAVE AND TRANSEPT ALLEGED FOR THE CONFESSION(TOMB OF PETER)
PLAN OF ST. PETER'S IN ROME
VIEW OF ST. PETER'S, ROME

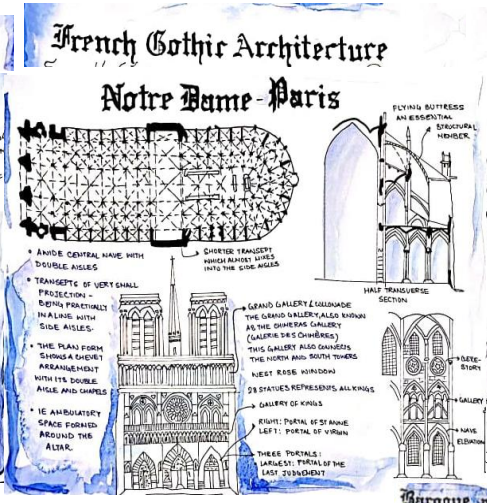

Byzantine Architecture
Hagia Sophia
INTERIOR: 107m x 245ft
DOME: 105ft DIA 180ft HEIGHT
• THE HAGIA SOPHIA HAS A MAIN DOME ALONG WITH TWO SEMI DOMES WHICH IS SUPPORTED BY PENDENTIVE
• EXEDRAE IS ALSO PRESENT
PLAN OF HAGIA SOPHIA
THE MAIN STRUCTURAL FEATURE USED IN BYZANTINE TO SUPPORT A DOME HAS TO SUPPORT IT ON PENDENTIVES.
SECTIONAL ELEVATION OF HAGIA SOPHIA
ORNAMENTATIONS IN HAGIA SOPHIA


Romanesque Architecture
Pisa Cathedral - Italy
• THE PISA CATHEDRAL COMPLEX CONSISTED OF THE PISA CATHEDRAL, THE CAMPANILLE, BAPTISMERY AND CEMETERY
• AN EXAMPLE OF ITALIAN ROMANESQUE, THIS PISA CATHEDRAL CONSISTS OF VARIOUS ROMANESQUE FEATURES SUCH AS ROUND ARCHES, PRESENCE OF CAMPANILLE ETC.
• THE FACADE OF THE CATHEDRAL CONSISTS OF 4 STOREYS THAT IS DIVIDED BY SMALLER ARCHES
WEST ELEVATION OF PISA CATHEDRAL
SECTIONAL ELEVATION OF PISA CATHEDRAL


Italian Renaissance
Florence
1. THE FLORENCE CATHEDRAL
• BRUNELLESCHI DESIGNED THE DOME OF FLORENCE CATHEDRAL
• BRUNELLESCHI STUDIED THE FEATURES AND CONSTRUCTION OF THE PANTHEON AND OTHER EXAMPLE OF ROMAN ARCHITECTURE.
• THE INFLUENCE IS SEEN IN THIS CAGE EXAMPLE
2. BASILLICA OF SANTA MARIA NOVELLA
• THE EXTERIOR FACADE OF THIS CHURCH WAS DESIGNED BY ALBERTI
• ROMANESQUE BELL TOWER
• INLAID GREEN AND WHITE MARBLE
• FOUR STRIPED PILLARS
• CIRCULAR WINDOW
• UPPER FAÇADE - PEDIMENT


Italian Renaissance - Rome
TEMPIETTO - BY DONATO BRAMANTE
• A TWO CYLINDRICAL, TWO CIRCULAR LAYER IS CREATED
• STRUCTURE'S MAIN CIRCULAR CORE, CALLED THE CELLA, AND THE RING OF THE COLUMNS THAT SURROUNDS IT, CALLED THE PERISTYLE
• UPPER PART OF CELLA HAS DRUM WHICH SUPPORTS THE HEMISPHERICAL DOME ABOVE
16 PILLARS
CELLA
PERISTYLE
CENTRALLY PLANNED
PLAN OF TEMPIETTO
ELEVATION OF TEMPIETTO

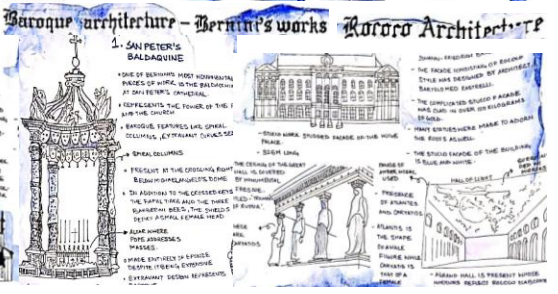

English Gothic Architecture
Salisbury Cathedral
BUILT ON A LEVEL SITE SURROUNDED BY GREEN SWARD BY A WIDE CLOSE, BROKEN ONLY BY A FEW ELM TREES
• IT HAS THE SPIRE (LOFTY)
• IT HAS THE LARGEST CATHEDRAL CHOIR IN ENGLAND
• THE VAULT IS THE HIGHEST IN BRITAIN
• CONSISTS OF GOTHIC ELEMENTS LIKE - POINTED ARCH, FLYING BUTTRESS, VERTICALITY, HEIGHT
CLOISTER GARTH
CHAPTER HOUSES
CLERESTORY
GALLERY
NAVE ELEVATION
TALL SPIRES
SECTIONAL ELEVATION


French Gothic Architecture
Notre Dame - Paris
• A NIDE CENTRAL NAVE WITH DOUBLE AISLES
• TRANSEPTS OF VERY SMALL PROJECTION - BEING PRACTICALLY IN ALIGNE WITH SIDE AISLES.
• THE PLAN FORM SHOWS A THEORY ARRANGEMENT WITH ITS DOUBLE AISLE AND CHAPELS
• 1E AMBULATORY SPACE FORMED AROUND THE ALTAR.
FLYING BUTTRESS AN ESSENTIAL STRUCTURAL MEMBER.
SHORTER TRANSEPT WHICH ALSO LEADS INTO THE SIDE AISLES
HALF TRANSVERSE SECTION
GRAND GALLERY/LUMINADE THE GRAND GALLERY ALSO KNOWN AS THE CHIMERAS GALLERY (GALERIE DES CHIMÈRES) THIS GALLERY ALSO CONNECTS THE NORTH AND SOUTH TOWERS
WEST ROSE WINDOW
28 STATUES REPRESENTS ALL KINGS
GALLERY OF KINGS
RIGHT: PORTAL OF ST ANNE
LEFT: PORTAL OF VIRGIN
THREE PORTALS: LARGEST: PORTAL OF THE LAST JUDGEMENT


German Gothic Architecture
Cologne Cathedral
NAVE
TRANSEPT
• THE TOWER IS SUPPORTED BY FRAMEWORK WHICH MAKES IT LOOK THIN AND DOES NOT LET THE MASSIVENESS SHOW
• THE MAIN FOCUS ARE LIGHT AND HEIGHT WHICH ARE GOTHIC FEATURES
TOWER SPIRE
FLYING BUTTRESSES AND POINTED ARCHES FEATURES OF GOTHIC ERA
GLARE OPENINGS SUPPORTED BY FLYING BUTTRESSES
GALLERY
NAVE ELEVATION
EXTERIOR BAY


Italian Renaissance - Rome
ST. PETER'S, ROME (1606-1626)
• ST PETER'S BEING ICONIC IMPERIAL RENAISSANCE BUILDING WHICH HAS THE WORKS OF MANY GREAT RENAISSANCE ARCHITECTS.
• THE BUILDING IS A LATIN CROSS PLAN.
• DOME IS BOTH A MICHELANGELO AND BRAMANTE WORK.
• THE DOME OF THE BUILDING IS ELEVATED BY PENDENTIVES.
• THE CRUCIAL CROSSING NAVE IS COVERED BY THE DOME - 1ST DI & DOMES ARCHITECTURE.
• THE DIRECT TRANSCEPTS ARE TERMINATED BY SEMI-CIRCULAR APSES THE WESTERN ARM BEING PARTIALLY ENABLED.
• THE HIGH ALTAR, STANDS BELOW THE DOME WITHIN A "BALDACCHINO", 80 FEET HIGH OVER THE ALLEGED TOMB OF ST. PETER.
• CLASSICAL ORDER OF COLUMNS - CORINTHIAN
DOME DESIGNED BY MICHAELANGELO
PLAN OF ST PETER'S


English Renaissance
1. ST PAUL'S LONDON
BY SIR CHRISTOPHER WREN
• DESIGNED BY SIR CHRISTOPHER WREN (A MATHEMATICIAN AND ASTRONOMER)
• HIS STRUCTURAL IDEOLOGIES CAN BE CLEARLY SEEN IN THIS CASE EXAMPLE.
• CONSISTS OF A GREAT CENTRAL SPACE AT THE CROSSING, CROWNED BY A DOME.
• THE BUILDING IS ENCLOSED WITHIN A RECTANGULAR PERIMETER WALL AN AREA OF 60,000 SQ FT.
• THE STRUCTURE OF THE DOME IS A THREE DOME SYSTEM
• A SECRETARY BIRD VISIBLE FROM OUTSIDE
PLAN OF ST. PAUL'S CATHEDRAL

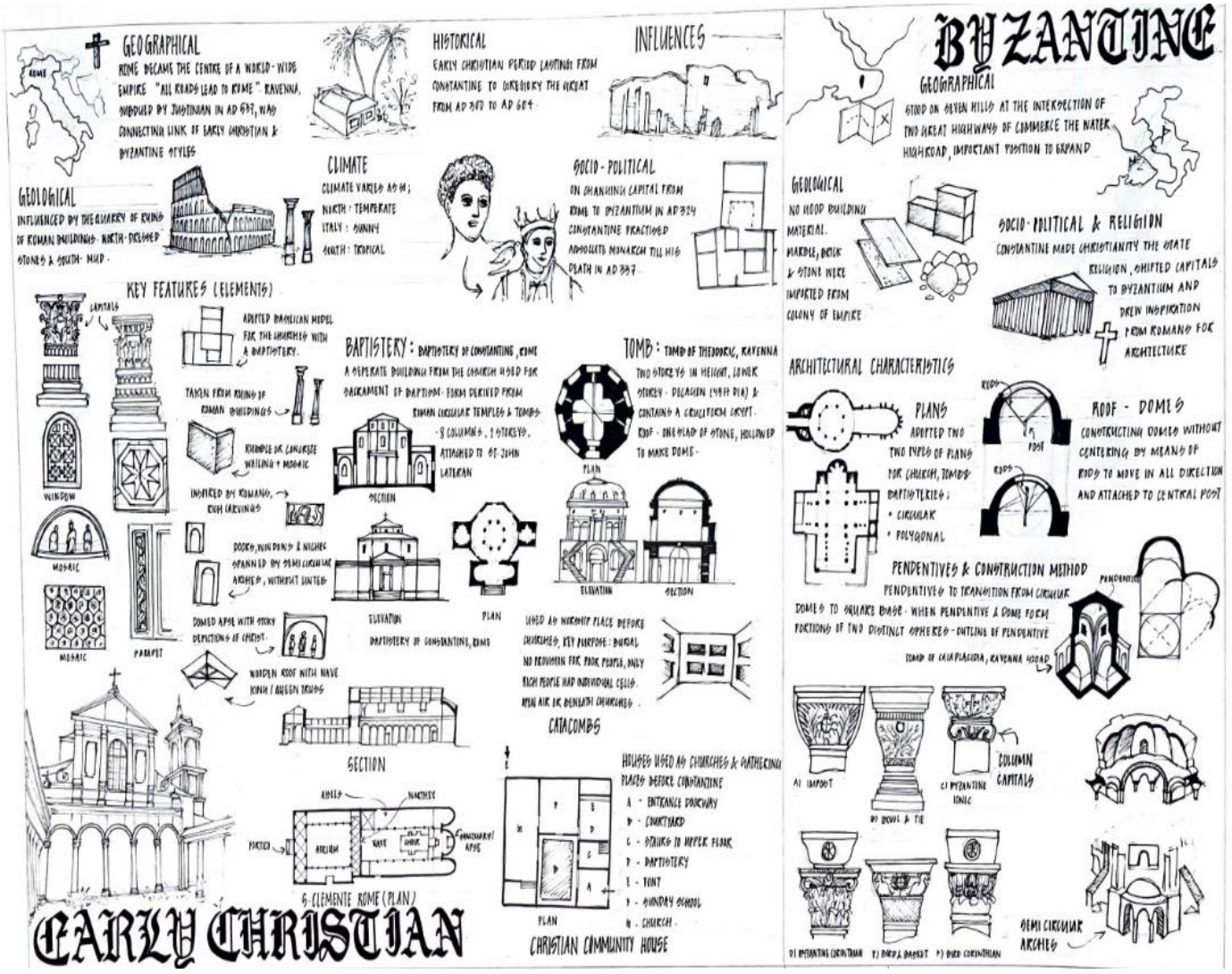

Baroque architecture - Bernini's works
Rococo Architecture
1. SAN PETER'S BALDAQUINE
• ONE OF BERNINI'S MOST KNOWN PIECES OF WORK IS THE BALDACHIN AT SAN PETER'S CATHEDRAL
• REPRESENTS THE POWER OF THE CHURCH
• BAROQUE FEATURES LIKE SPIRAL COLUMNS (CYMBALANT CURVES SEE)
• PRESENT AT THE CROSSING POINT BELOW IN HEMISPHERICAL DOME
• IN ADDITION TO THE CROSSED KEYS THE PAPAL TIARA AND THE THREE RAINBOW BEES - THE SYMBOLS OF PETER'S PAPAL FEMALE HEAD
• ALSO WHERE TWO ARCHITECTURAL MASSES.
• THREE ENTRIES IN 5 SPACES TRIPLE THEME'S SYMBOLISE
• EXTRAVAGANT DESIGN REPRESENTS
• FACADE CONSISTS OF EIGHT COLUMNS AND TWO PILASTERS
• THE FACADE CONSISTS OF BALCONY STYLE WAS DESIGNED BY ARCHITECT
• THE CENTRAL PART IS ENCLOSED BY A PEDIMENT
• THE STUCCO FACADE OF THE BUILDING IS BLUE AND WHITE.
• PRESENCE OF STATUES AND ORNAMENTS
• ATLANTES IS THE SHAPE OF A MALE FIGURE WHICH SUPPORTS A BALCONY
• HALL OF MIRRORS

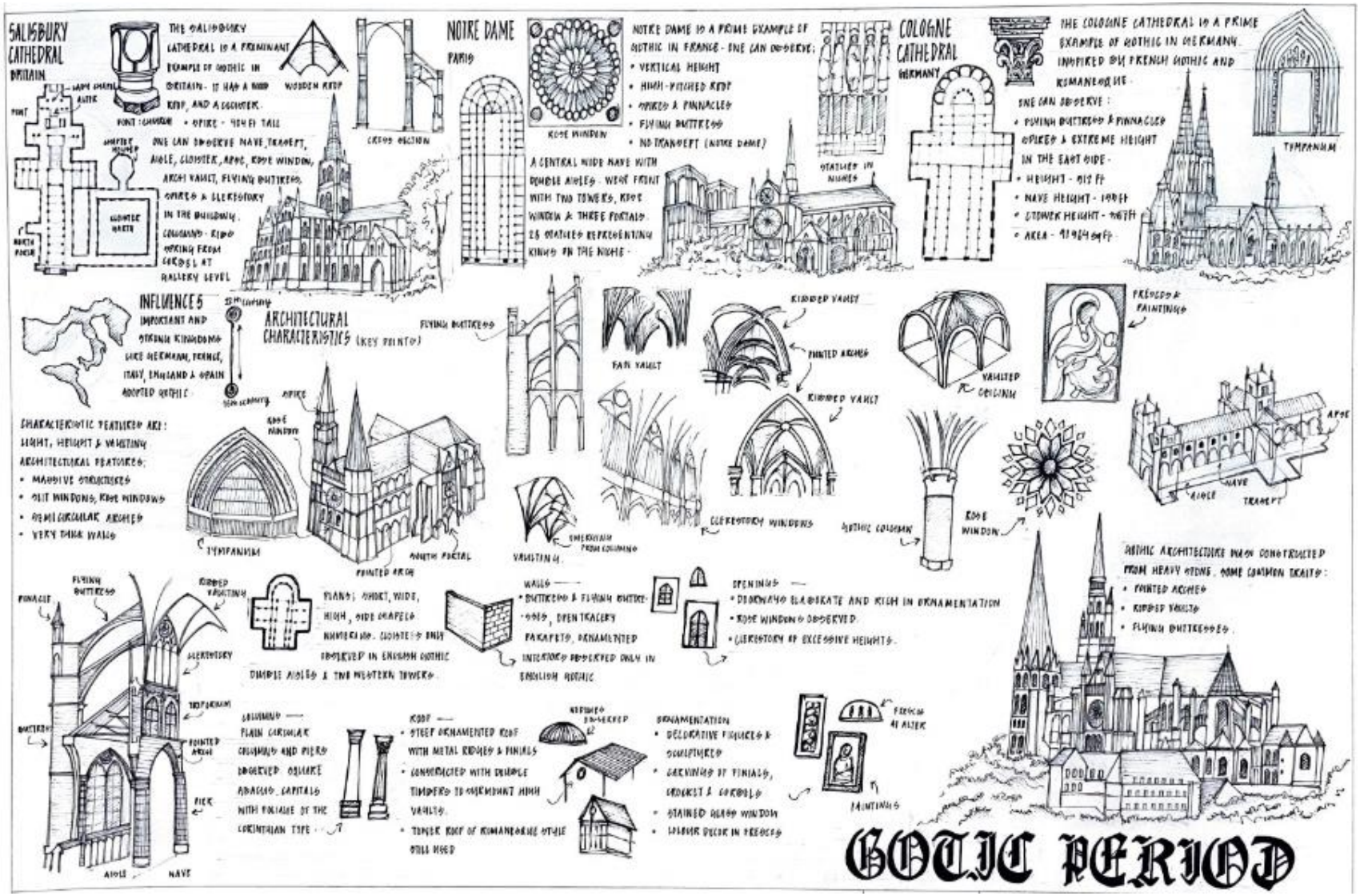
COURSE OBJECTIVES:

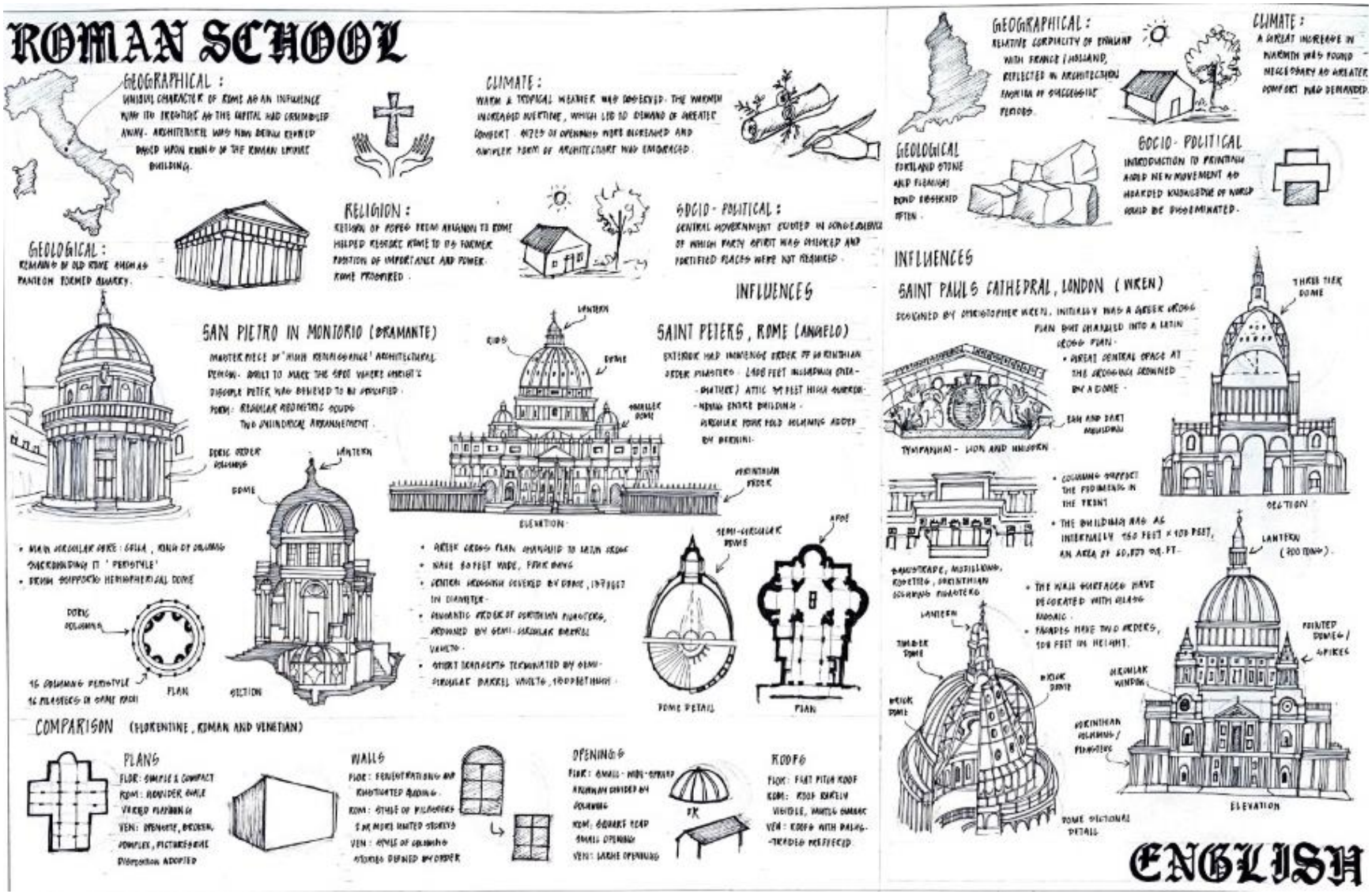
Study the growth of different architectural typologies and styles and explain the historical relevance and concepts of Christian architecture, recognizing the different building materials and their placement and order and recognizing the connections between sociopolitical and cultural factors.

PROJECT BRIEF:

The focus of the project is Christian architecture. It provides detailed explanations and illustrations of the important architectural constructions from various eras. Here, we are able to comprehend the relationship between each construction and the development of the architectural style and techniques employed. This initiative aims to highlight the intricate architectural elements as well as the socio-political-cultural connections that are typically disregarded by contemporary society. Additionally, this initiative aims to go deeper into the various construction techniques, materials, and reasons behind them.




SALISBURY CATHEDRAL
BRITAIN
NOTRE DAME
PARIS
COLOGNE CATHEDRAL
GERMANY
INFLUENCES
ARCHITECTURAL CHARACTERISTICS (KEY POINTS)
GOTIC PERIOD

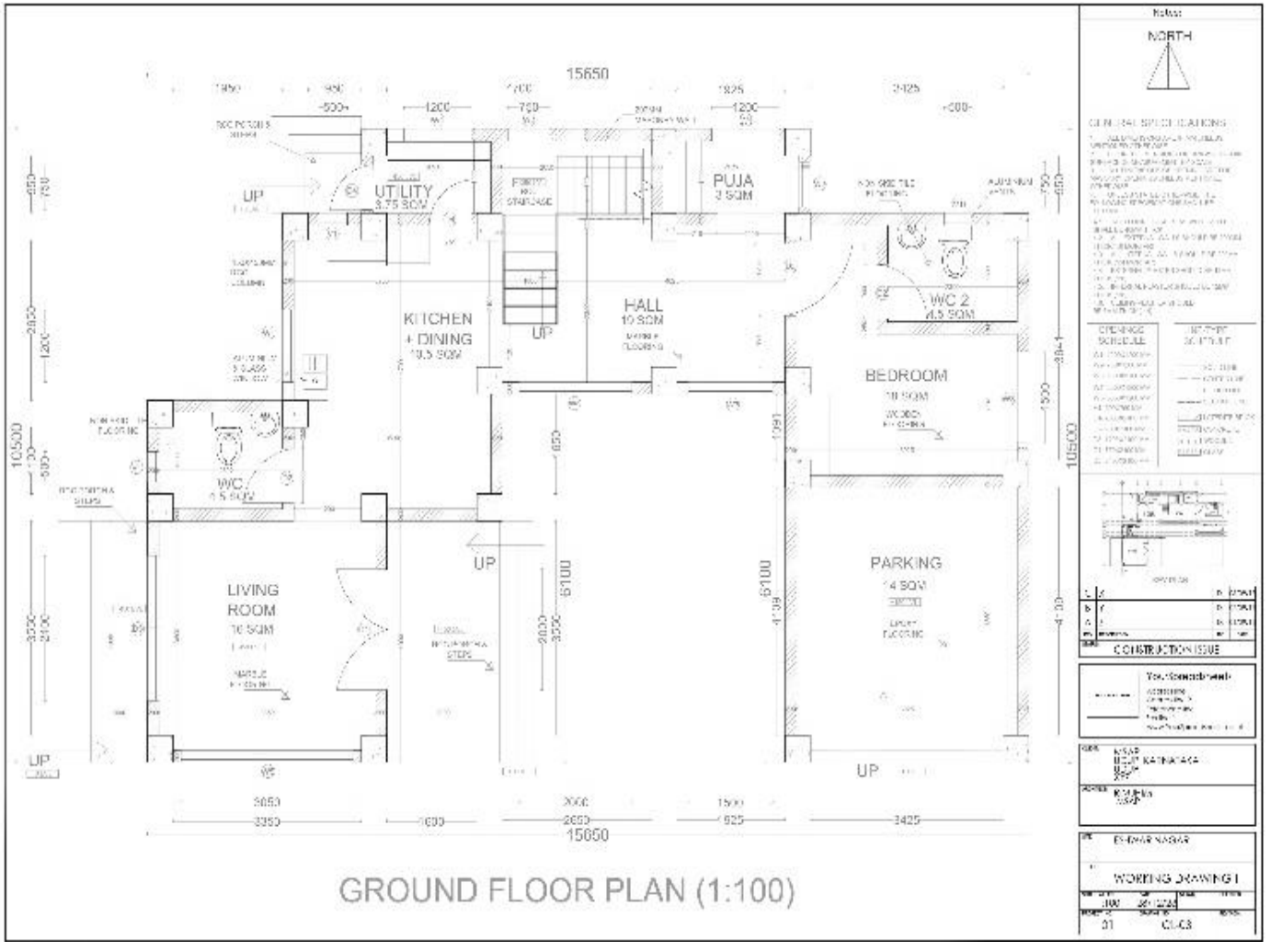

ROMAN SCHOOL
GEOGRAPHICAL :
UNIQUE CHARACTER OF ROME AS AN INFLUENCE
CLIMATE :
RELIGION :
SOCIO - POLITICAL :
GEOLOGICAL :
INFLUENCES
SAN PIETRO IN MONTORIO (BRAMANTE)
SAINT PETERS, ROME (ANGELO)
COMPARISON (FLORENTINE, ROMAN AND VENETIAN)
PLANS
WALLS
OPENINGS
ROOFS
GEOGRAPHICAL :
CLIMATE :
GEOLOGICAL
SOCIO - POLITICAL
INFLUENCES
SAINT PAULS CATHEDRAL, LONDON (WREN)
ENGLISH

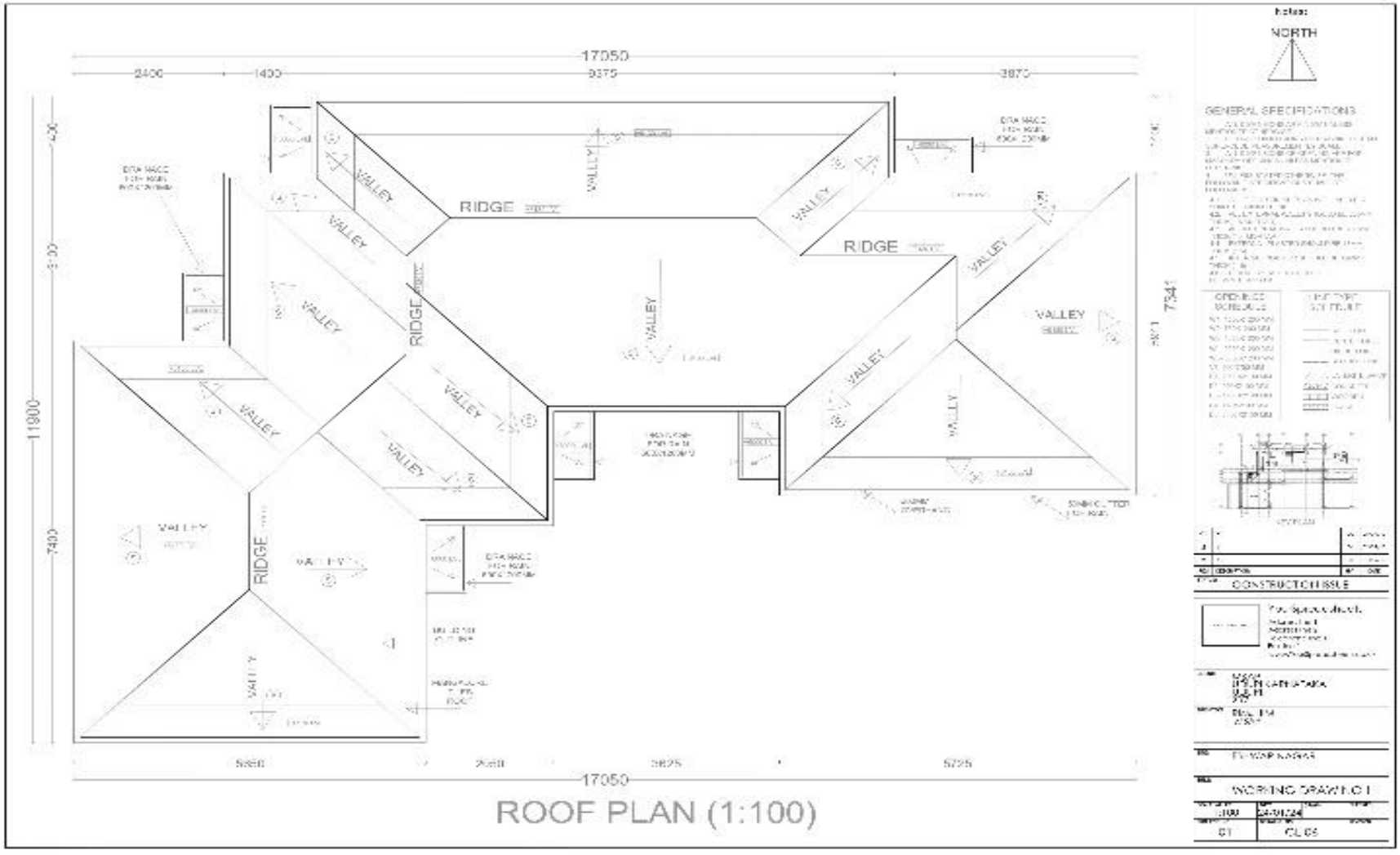
COURSE OBJECTIVES:

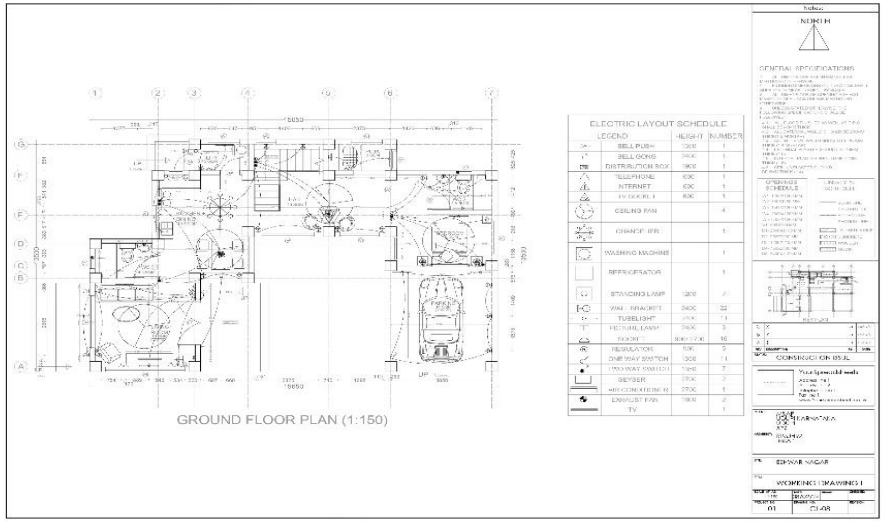
The objective of this course is to develop the skills and techniques of preparation of production drawings by taking an already self designed project of earlier semester, and importing training of the drafting of working drawing details

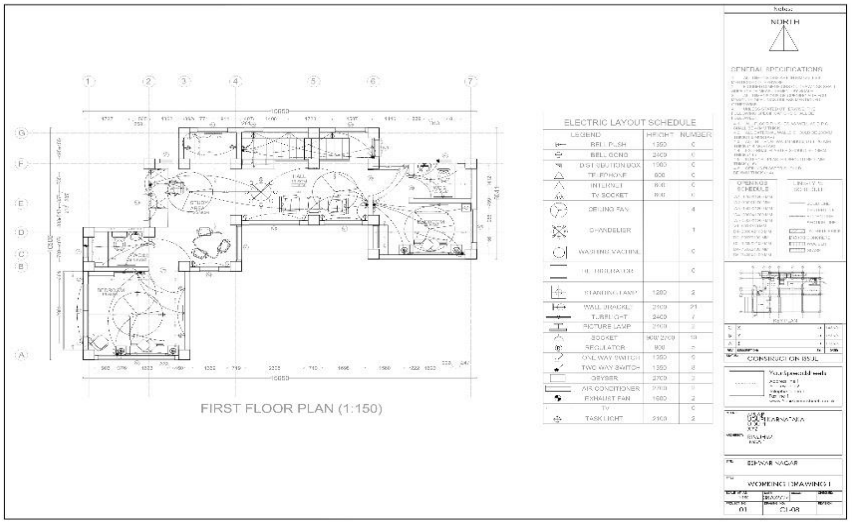
PROJECT BRIEF:

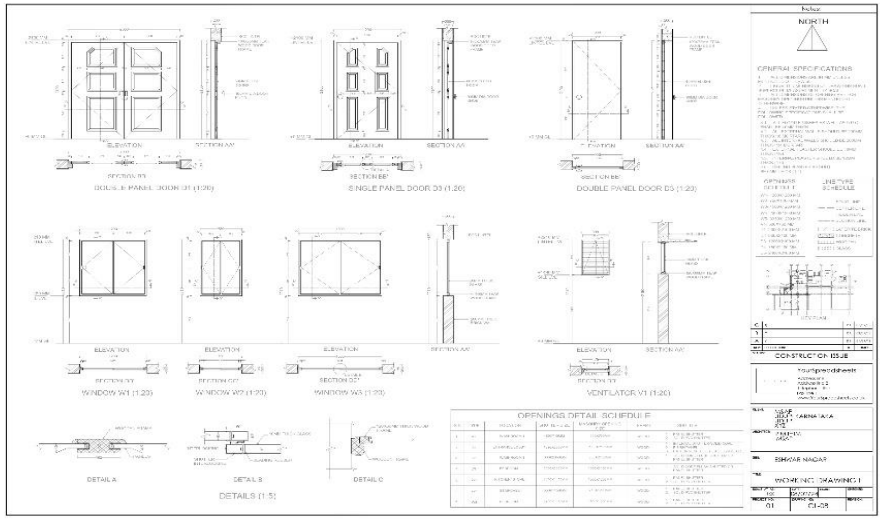
The Project involved creating intricate drawings for the G+1 Residence project for the second semester. The drawings completed this semester included the layout of the columns and footings, the plinth beams, the detailed floor plans with schedules, the staircase section details, the detailed building sections, the four building elevations, the electrical layout, the details of the bathrooms, the doors and windows and the detailed site plan with all the details.

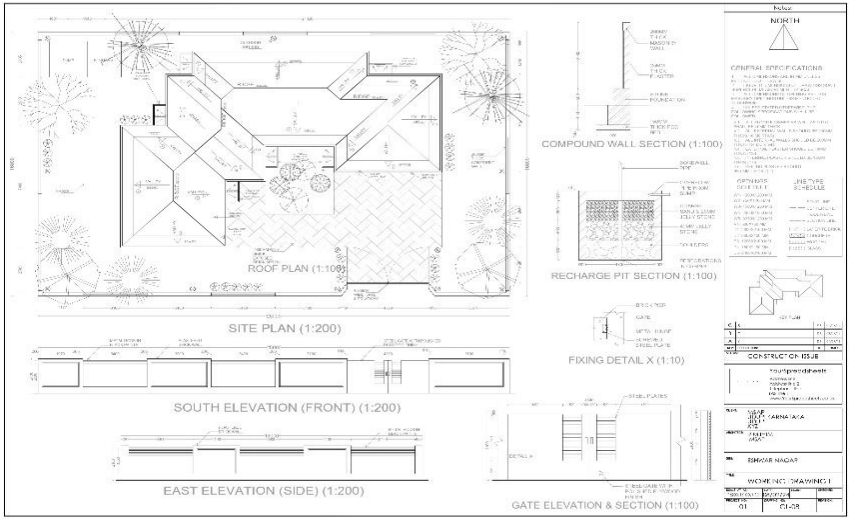



17050
2400
1400
9375
3875
11900
7400
RIDGE
VALLEY
17050
ROOF PLAN (1:100)
NORTH
GENERAL SPECIFICATIONS
CONSTRUCTION ISSUE


GROUND FLOOR PLAN (1:150)
ELECTRIC LAYOUT SCHEDULE
NORTH
GENERAL SPECIFICATIONS
CONSTRUCTION ISSUE
KARNATAKA
BIDAR NAGAR
WORKING DRAWING I


FIRST FLOOR PLAN (1:150)
ELECTRIC LAYOUT SCHEDULE
NORTH
GENERAL SPECIFICATIONS
CONSTRUCTION ISSUE
KARNATAKA
BIDAR NAGAR
WORKING DRAWING I


DOUBLE PANEL DOOR D1 (1:20)
SINGLE PANEL DOOR D3 (1:20)
DOUBLE PANEL DOOR D5 (1:20)
WINDOW W1 (1:20)
WINDOW W2 (1:20)
WINDOW W3 (1:20)
VENTILATOR V1 (1:20)
DETAILS (1:5)
OPENINGS DETAIL SCHEDULE
NORTH
GENERAL SPECIFICATIONS
CONSTRUCTION ISSUE
KARNATAKA
BIDAR NAGAR
WORKING DRAWING I


ROOF PLAN (1:100)
SITE PLAN (1:200)
SOUTH ELEVATION (FRONT) (1:200)
EAST ELEVATION (SIDE) (1:200)
COMPOUND WALL SECTION (1:100)
RECHARGE PIT SECTION (1:100)
FIXING DETAIL X (1:10)
GATE ELEVATION & SECTION (1:100)
NORTH
GENERAL SPECIFICATIONS
CONSTRUCTION ISSUE
KARNATAKA
BIDAR NAGAR
WORKING DRAWING I

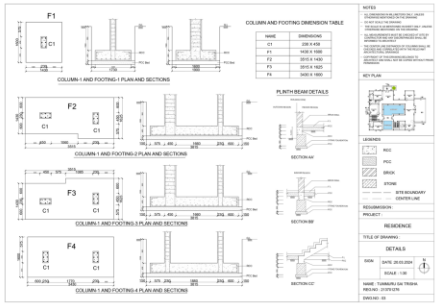
ARC 3104 WORKING DRAWING

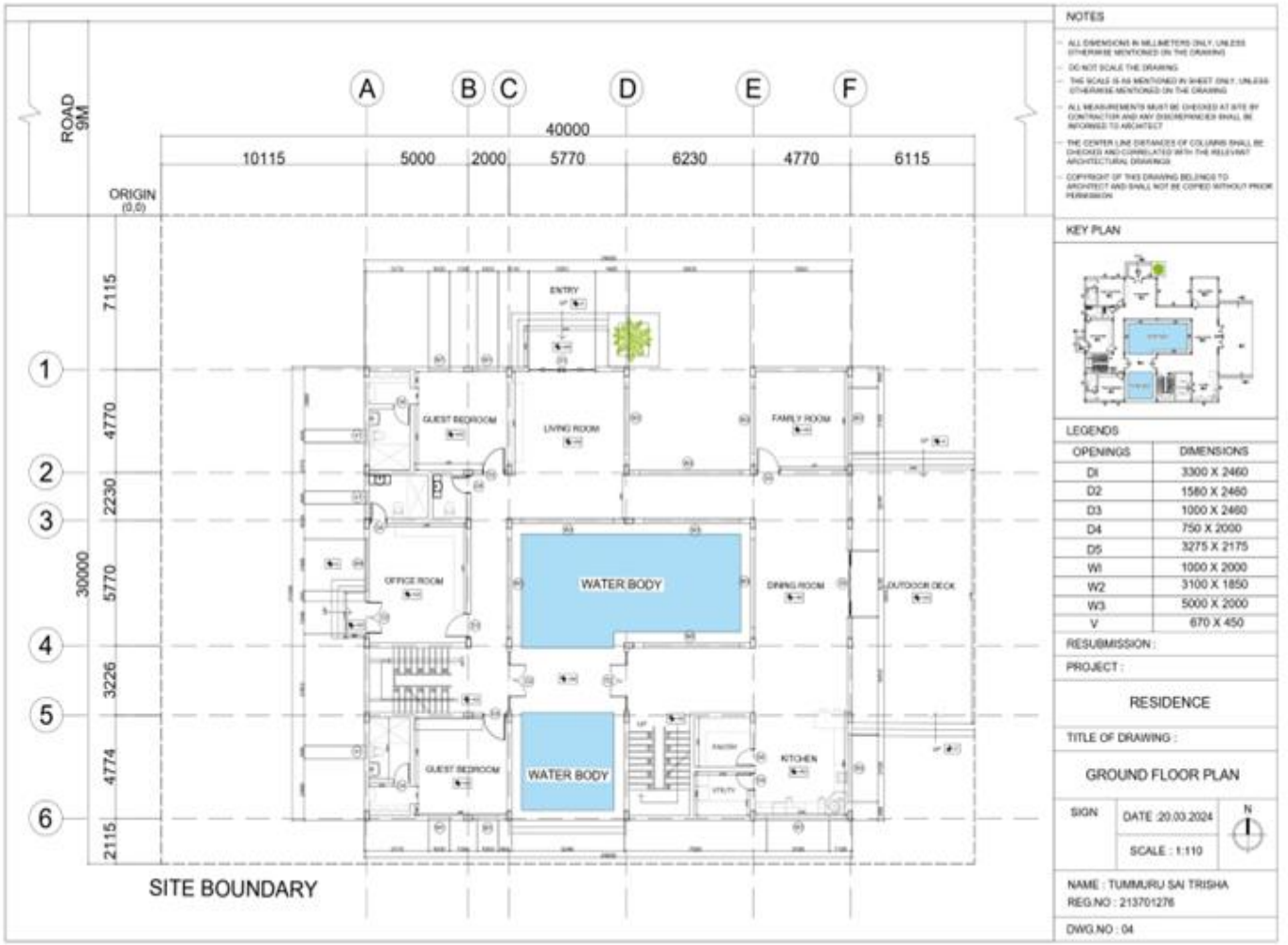
COURSE OBJECTIVES:

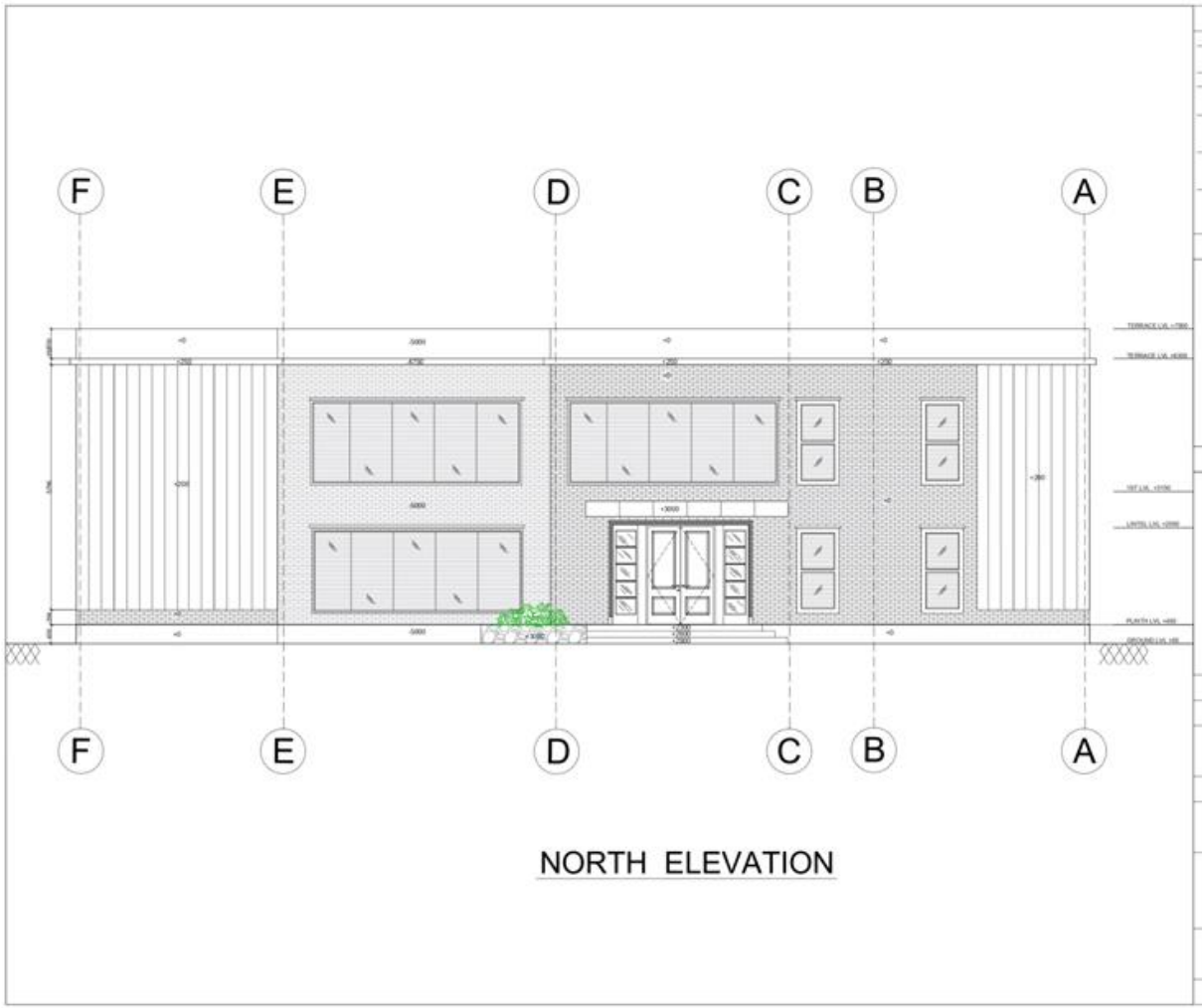
The objective of this course is to develop the skills and techniques of preparation of production drawings by taking an already self-designed project of earlier semester and imparting training of the drafting of working drawing details.

PROJECT BRIEF:

This course aim is to understand and Develop Set-out marking, Centreline, Excavation, PlinthBeam Layout. Develop Floor Plans - Ground Floor, First Floor, Terrace Floor. Develop Sections, Elevations, Detailed Section, Stairs. Develop Electrical, Plumbing Layout . Develop Site Development, Door and Window details.







NOTES

- ALL DIMENSIONS IN MILLIMETERS ONLY, UNLESS OTHERWISE MENTIONED ON THE DRAWING
- DO NOT SCALE THE DRAWING
- THE SCALE IS AS MENTIONED IN SHEET ONLY, UNLESS OTHERWISE MENTIONED ON THE DRAWING
- ALL MEASUREMENTS MUST BE CHECKED AT SITE BY CONTRACTOR AND ANY DISCREPANCIES SHALL BE INFORMED TO ARCHITECT
- THE CENTER LINE DISTANCES OF COLUMNS SHALL BE CHECKED AND CORRELATED WITH THE RELEVANT ARCHITECTURAL DRAWINGS
- COPYRIGHT OF THIS DRAWING BELONGS TO ARCHITECT AND SHALL NOT BE COPIED WITHOUT PRIOR PERMISSION

KEY PLAN

LEGENDS

WINDOWS
BRICK WORK
PLANTER BOX
TIMBER FACADE

RESUBMISSION :

PROJECT :

RESIDENCE

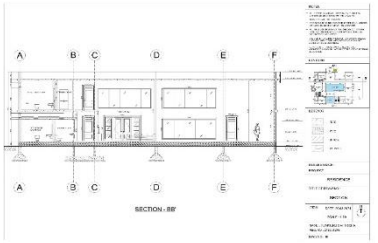
TITLE OF DRAWING :

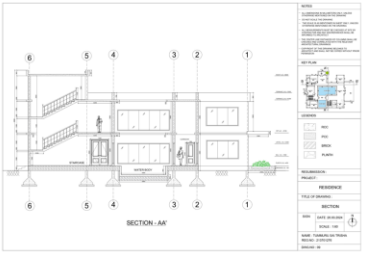
ELEVATIONS

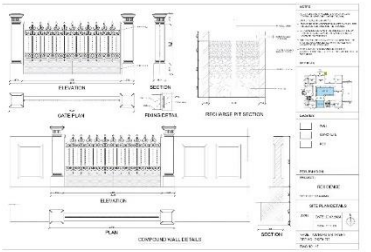
SIGN | DATE :20.03.2024 | SCALE : 1:60 | N

NAME : TUMMURU SAI TRISHA
REG.NO : 213701276

DWG.NO : 07







BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

4

Architecture

ARC 4101 ARCHITECTURAL DESIGN & DETAILING - VII

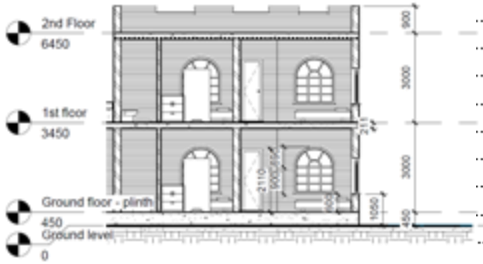
COURSE OBJECTIVES:

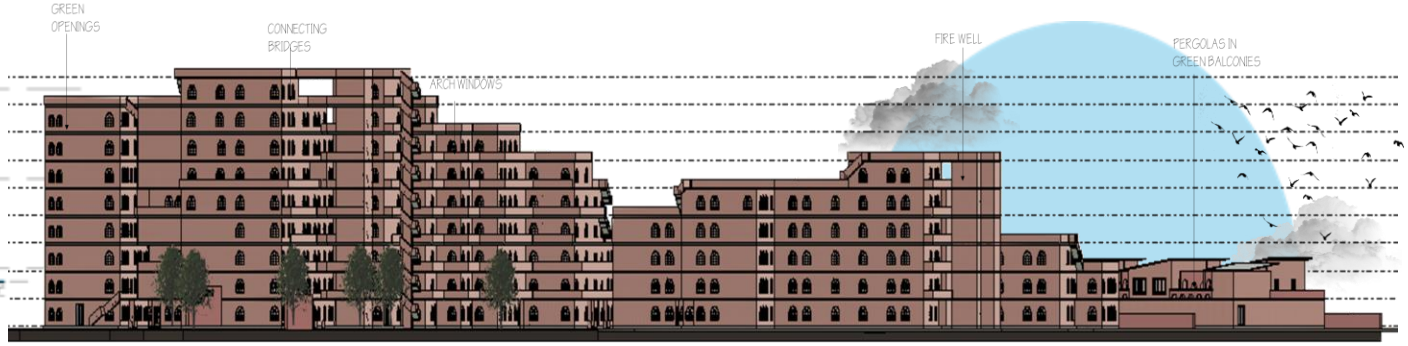
Classify context-oriented design, innovative systems, and integrated approaches in planning railway housing.

Design large-scale master planning through tools and techniques with topography, climate, and Infrastructure development parameters. Elaborate landscape as a tool to achieve sustainability goals and build a healthier environment. Make use of environmental management strategies considering the measurement of ecological services and Environment economics Use

PROJECT BRIEF:

Designing affordable housing for railway personnel that meets their specific needs. As architecture students, we prioritize technology, affordability, and environmental responsiveness. By engaging residents and using innovative techniques, we create spaces that foster well-being and community. Our goal is to provide accessible housing that promotes a sustainable lifestyle and positively impacts railway personnel





STUDENT: CHIRANTH
FACULTY: NIKHIL S KOHALE, MONIKA JADHAV, CHETHANA , NANDHAN BHAT

COURSE OBJECTIVES:

Interact with stakeholders and formulate design aspirations for the given site and neighborhood.

Design the housing project with human-centric approach, and develop the details, including landscape and site services.

PROJECT BRIEF:

MAHE is planning to come with new hostel block for students and staffs to solve the accommodation issue. The studio project as such aims to develop working hostel block for MAHE students, staff and for short term international faculties/ students at MIT-Campus.

STUDENT: POOJA SHENOY H (203701066)
FACULTY: SHANTANU CHITGOPKAR , IPSITAA DAS, BINDIYA TALITHAYA, MINAL SHRIYAN

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

ARC 4101 ARCHITECTURAL DESIGN & DETAILING - VII

COURSE OBJECTIVES:

The Slum Rehabilitation Project in Chennai aims to address the pressing issues of slum settlements by Implementing a comprehensive redevelopment plan. Chennai, a bustling metropolis in India, has been grappling with the challenges posed by slums, including overcrowding, lack of basic amenities, and Inadequate This project aims to transform these underprivileged areas into sustainable, inclusive, and vibrant neighborhoods that provide dignified Living conditions and improved the quality of life for slum residents.

PROJECT BRIEF:

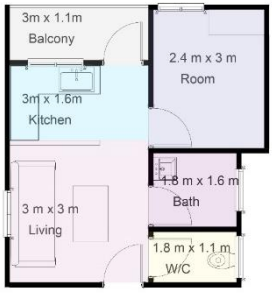
STUDENT: CHANASYYA KOMMALAPATI
FACULTY:SHANGHAMITRA ROY,LAKSHMI MENON, SHRIHARSH ASHOK DIXIT, DANY PINTO

COURSE OBJECTIVES:

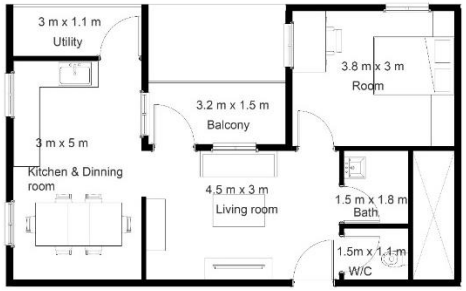
The studio's intention is to create a master plan and design a human centric campus achieved by overlaying various fabrics such as sustainable approaches, smart/green campus, new/innovative, alternative materials and technologies, inclusive design, to name a few. Emphasis on site and services, climate responsive, contextual sensitivity, landscape as an effective design tool enhancing active and passive recreations while balancing indoor and outdoor functions Proposed Master plan and buildings designed should incorporate maximum layers leant through research.

PROJECT BRIEF:

The Slum Rehabilitation Project in Chennai is envisioned as a catalyst for transformative change, aiming to uplift the lives of the slum residents and create a city that celebrates inclusivity, sustainability, and social progress. By addressing the challenges of slums and fostering a sense of community, the project endeavors to build a brighter and more equitable future for all Chennai residents.



EWS UNIT PLAN



LIG UNIT PLAN

MIG UNIT PLAN

STUDENT: ADITHI NIRANJAN POOJARY (223701022)
FACULTY:SHANGHAMITRA ROY,LAKSHMI MENON, SHRIHARSH ASHOK DIXIT, DANY PINTO

ARC 4101 ARCHITECTURAL DESIGN & DETAILING - VII

COURSE OBJECTIVES:

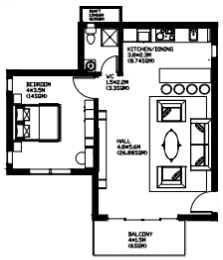
Analyze relevant literature, regulations. standards, and case studies to understand essential project aspects. Interact with stakeholders and formulate design aspirations for the given site and neighborhood. Design the housing project with a human-centric approach, and develop the details, including landscape and site service

PROJECT BRIEF:

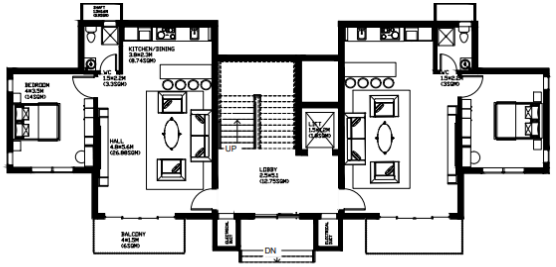
In This studio, we will attempt a staff rental housing design on the MIT campus with demand assessment surveys and master planning followed by detailed architectural design and detailing The studio project shall consider standard attributes of architecturally evolving spaces addressing socioeconomic and environmental aspects of the user group inhabiting the proposed housing project

SITE AREA- 302105QM
GROUND COVERAGE-6537 =21%
OPEN SPACE -7150 =23%
7M WIDE ROAD
3M PATHWAY
PARKING TOTAL SLOTS-120
2-WHEELER-30
4-WHEELER-90

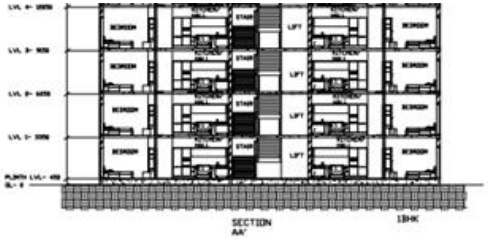
1.ENTRANCE
2.PARKING
3.OPEN SPACE/PARK
4.CLUB HOUSE
5.GARBAGE/ORGANIC PIT
6.STUDIO - 3BLOCKS
7.1BHK - 3BLOCKS
82BHK - 15BLOCKS
9.3BHK - 9BLOCKS



UNIT PLAN



CLUSTER PLAN



STUDENT: MUSKAN ARA (203701140)
FACULTY: AJIT CHANDRAKANT MADKAIKER, ARUN NATRAJAN, SNIGDHA ROY, MOHAMMAD IQBAL
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

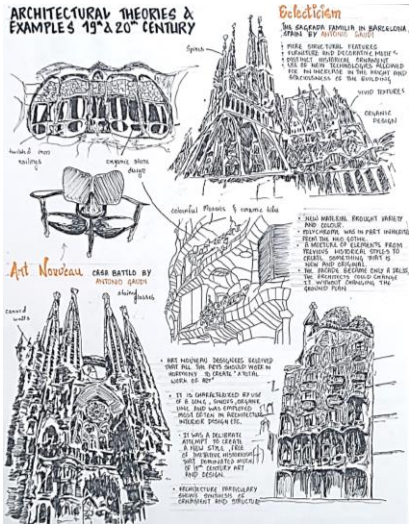
ARC 4109 HISTORY, THEORY & CRITICISM- V

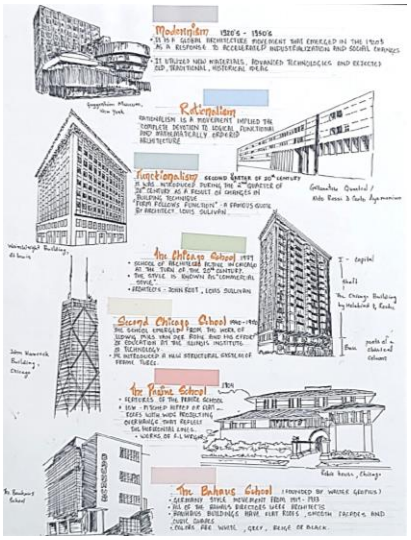
COURSE OBJECTIVES:

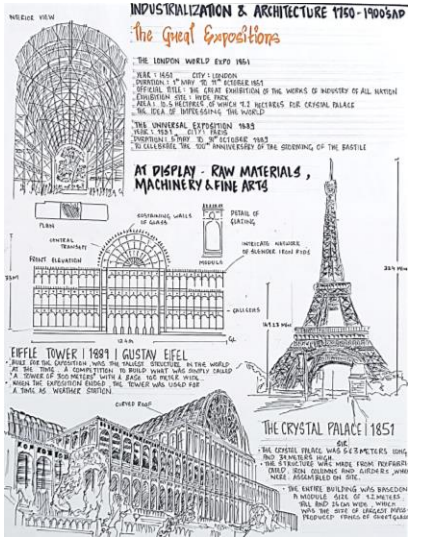
The course explores the late 19th-century architectural conditions, focusing on the Industrial Revolution and contemporary styles, examining the influence of modernism and post-modernism on Indian architecture

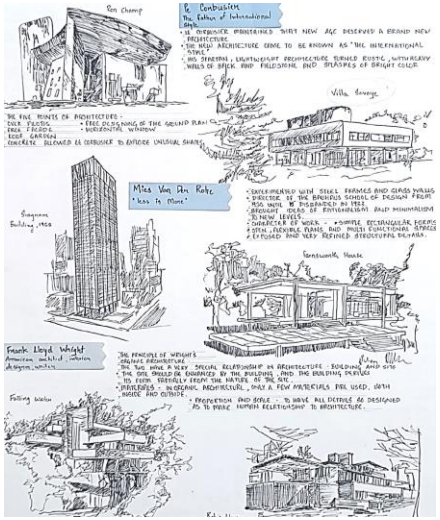
PROJECT BRIEF:

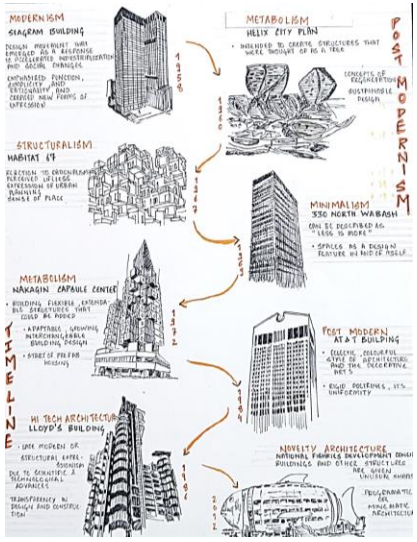
This course aims to explore and analyze the evolution of architecture from the modernist movement to the post-modernist era. It will include influential architects and iconic structures associated with both styles. The project will provide a comprehensive understanding of how architectural philosophies and designs shifted from the 20th century to the late 20th and early 21st century

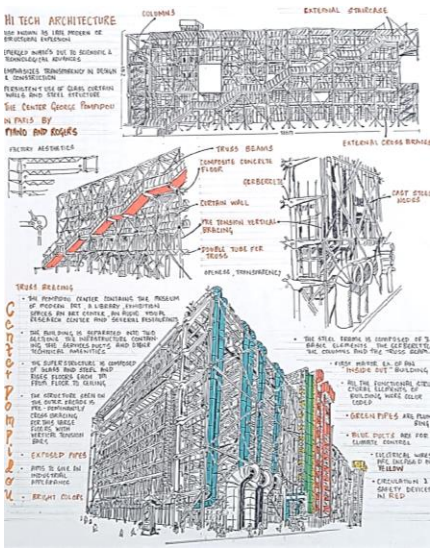


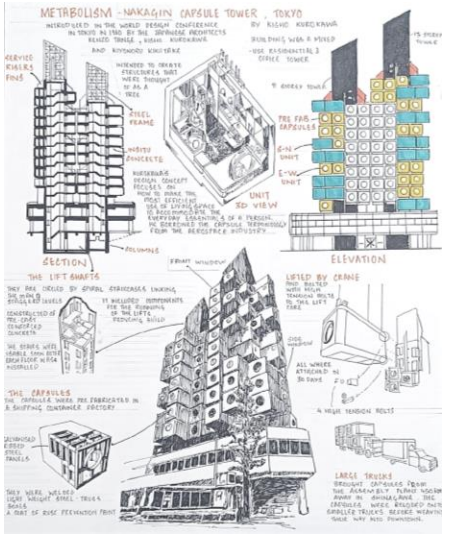












ARC 4111 PROJECT MANAGEMENT

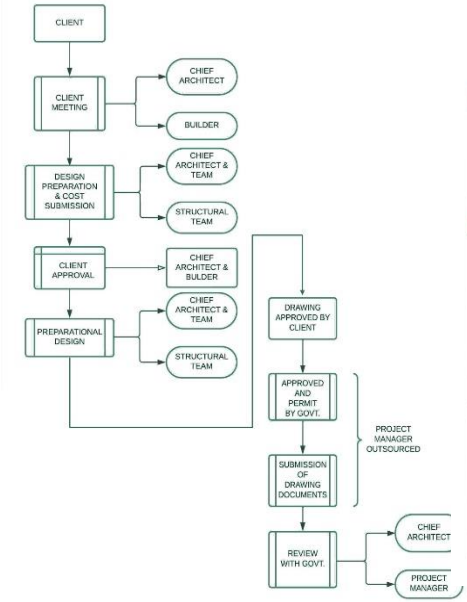
COURSE OBJECTIVES:

The course covers the professional ability required to manage construction projects by exposing to the current prevalent management techniques to achieve the task efficiently in terms of both time and cost. It also helps in learning different tools for project management for planning, controlling and reviewing a project and its application in real life projects

PROJECT BRIEF:

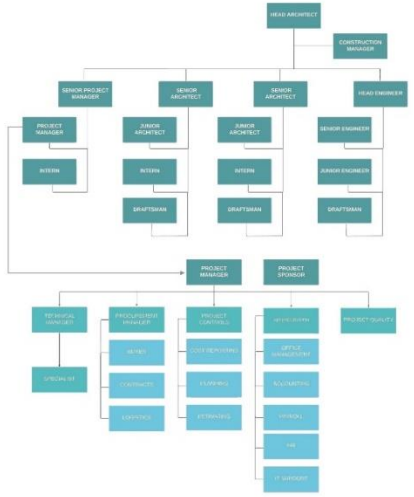
Illustrate knowledge and understanding of project management principles.

2. Project Team Coordination Process



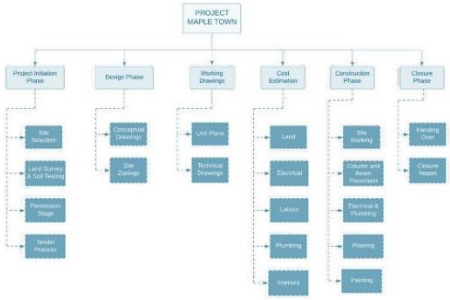
Stage -2: Project Initiation

1. Hierarchy Flow



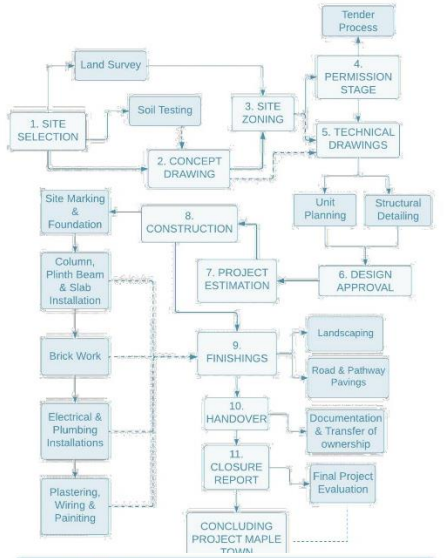
9. Work Breakdown Structure (WBS)

A Work Breakdown Structure (WBS) for a building construction project is a hierarchical breakdown of all the tasks and activities required to complete the project. It helps project managers and teams organize and manage the project more effectively. Below is a simplified example of a WBS for a building construction project. Keep in mind that the actual WBS for a specific project can vary in complexity and detail, depending on the size and scope of the project.



WBS FLOWCHART

10. Sequencing of project activities.



7. Estimated Cost of Each Work

PROJECT : MAPLE TOWN AT RAJENDER NAGAR, HYDERABAD

ABSTRACT ESTIMATION FOR THE TOTAL PROJECT.

S . No	Category	Amount in Rupees...
1	Site Development Works	1,83,92,725
2	External Works	1,30,72,771
3	Grundfos Pressure Boosting System	11,75,500
4	Landscaping	7,53,00,000
5	Housing & Club House	64,22,00,000
6	Entrance Gate	6,25,000
7	Electrical	2,30,16,564
	Total	77,37,82,560
	5% For Miscellaneous	3,86,89,128
	Grand Total	81,24,71,688
		81.25 Crores

***Note : Detailed Bill Of Quantity Is Provided In The Below Appendix

14. Quantity estimation.

S.No	DISCRIPTION OF ITEM	unit s	Nos	L	B	D/H	Quantity
23	Providing & fixing flooring with interlock tiles 65mm thick of approved colour, shade and shape laid over sand bed of 40mm thick including cost and conveyance of all materials complete for						
	finished item of work.	Sft	1	17'-6"	30'-6"		533.75
		Sft				say	540
I	Painting & Polishing						
24	Providing white cement paint to ceiling approved make in two coats (total 2 coats) including cost and conveyance of all materials, water to site, including cost of materials and labour charges,						
	etc. complete for finish Item of work in all floors.	Sft	Quantity same as per spe. No 12				1420
		Sft				say	1420
25	Painting to new walls with Acralic emulsion paint in all rooms and in servent quarters & service area two coats of Acrylic OBD over one coat of primer approved make, shade and colour including cost and conveyance of all materials.						
	& labour charges complete for finished work for internal walls.	Sft	Quantity same as per spe. No 11				3960
		Sft				say	3960
26	Providing sand tex matt /exterior emulsion paint of Ashian / ICI make or equivalent in two coats over one coat white cement primer (total 3						
	coats) to external walls approved make, colour and shade in all floors	Sft	Quantity same as per spe. No 10				1700
		Sft				say	1700
27	Painting to wood work and flush shutters with lappam finish including primary coat and painting two coats of synthetic enamel paint of 1st grade and approved brand and shade including cost						
	MD	1	4'-0"			7'-0"	28
	D	1	3'-3"			7'-0"	22.75
	D1	1	2'-9"			7'-0"	19.25
	D2	1	2'-6"			7'-0"	17.5
	PD	1	3'-0"			7'-0"	21
	D/W	1	3'-0"			7'-0"	21
		1	3'-0"			5'-6"	10.5
	D/W1	1	3'-0"			7'-0"	21
		1	2'-6"			4'-6"	11.25
	F/W	0	6'-0"			7'-0"	0
	F/W1	1	4'-0"			6'-6"	26
	W	3	6'-0"			4'-6"	81

14. Quantity estimation.

S.No	DISCRIPTION OF ITEM	units	Nos	L	B	D/H	Quantity
	& drawing the time of execution of work including cost & conveyance complete for finished item of work	Mt					
B	Brick work						
3	Brick masonry in C.M. (1:8) prop. Using 2nd class bricks having a crushing strength of not less than 40 Kg/Sq.m. including cost and conveyance of materials complete for finished item of work						
	a) 9" thk wall	Cft	5	50'-0"	9"	10'-0"	675
		Cft	2	55'-0"	9"	10'-0"	825
	terrace	Cft	1	83'-8"	9"	10'-0"	626.25
	(18'-8"x2+8'-6"x2+7'-6"x4)						2126.25
	deduction						
	D	Cft	2	3'-3"		7'-0"	45.5
	F/W	Cft	1	6'-0"		7'-0"	28
	F/W1	Cft	2	4'-0"		6'-6"	52
	FG/W2	Cft	1	2'-6"		4'-6"	11.25
	W	Cft	4	6'-0"		4'-6"	108
	W2	Cft	5	2'-6"		4'-6"	33.75
	V	Cft	3	3'-0"		2'-0"	18
	OP	Cft	1	2'-6"		2'-6"	6.25
	OP	Cft	1	4'-6"		10'-0"	45
							296.5
				TOTAL BRICK WORK			
		Cft					1829.75
		Cft				say	1830
	b)4 ½" thk wall						
	(10'-6"+12'-7½"+16'-3"+6'-4½"+7'-7½"+14'-0")	Cft	1	67'-4½"	4½	10'-0"	252.7
	(72'-0"+24'-0"+20'0")	Cft	1	116	4½	3'-0"	130.5
							383.2
	deduction						
	D	Cft	1	3'-3"		7'-0"	22.75
	D1	Cft	2	2'-9"		7'-0"	38.5
	OP	Cft	2	2'-9"		7'-0"	38.5
							99.75
				TOTAL BRICK WORK			
		Cft				say	283.4
							285
C	Plastering						
4	Plastering 12mm thick in two coats with base coat of 8mm thick in CM 1:6 prop & top coat of 4mm thick in CM 1:4 prop With clubare sponge finishing, including cost and conveyance of all materials and water to work site seigniorage and all operational, incidental, labour charges such as scaffolding, mixing mortar, lift charges curing etc., complete to External faces of walls.	Sft	2	55'-0"		10'-0"	1100.0

ARC 4103 SETTLEMENT STUDIES

COURSE OBJECTIVES:

To study categorize the different type of settlements from different eras (Ancient, Medieval and Contemporary) and trace the evolving pattern with time. To Study the methodology of difference in the approaches from a unit development to the Mass Development.

PROJECT BRIEF:

Analyze the evolution of an identified Settlement and the pattern of growth and documenting the indicators leading to the growth of the settlement. Discuss the regulations, developmental control and planning approaches for the identified settlement

STUDENT: PARANJAY BHAWSINGHKA ,PRISHA MAHESH ,AARON LISBOA ,PREM CHANDRAN ,ROSANNA JOBY
FACULTY: DEEPIKA SHETTY

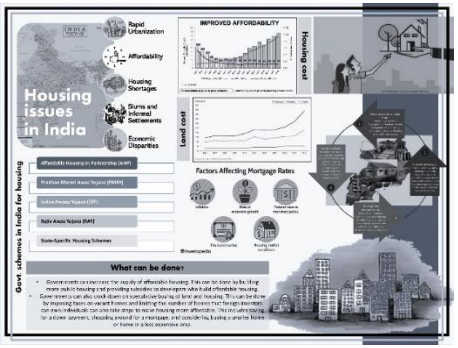
ARC 4103 SETTLEMENT STUDIES

COURSE OBJECTIVES:

To understand the evolution of human settlements, settlement patterns and basic services, and impacts of urbanization/ industrialization on planning approaches, also about of land &housing economics, survey and analyses tools, legislation and development control regulations, government & non-governmental organizations, and schemes and programs..

PROJECT BRIEF:

This course intends to introduce and understand the various types of survey and analyses methods, importance of land and housing economics as a development tool and the various methods of land supply, the governance and institutional set-up of implementation of strategies and policies



SETTLEMENT STUDIES A2 REPORT

Smart Cities Mission

National Smart Cities Mission is an urban renewal and retrofitting program by the Government of India with the mission to develop smart cities across the country, making them citizen friendly and sustainable. The Union Ministry of Urban Development is responsible for implementing the mission in collaboration with the state governments of the respective cities.

The core infrastructure elements in a Smart City would include:

What is a Smart City?

A smart city is one that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment and application of 'Smart' Solutions. The focus is on sustainable and inclusive development and the idea is to look at compact areas, create a replicable model which will act like a light house to other aspiring cities.

wikipedia.com 1

smartcities.gov.in 2

SETTLEMENT STUDIES A2 REPORT

The Vision

The Smart Cities Mission in India envisions the development of cities that provide a high quality of life to their residents and attract investments and tourism through an integrated and sustainable approach to urban development. The mission statement emphasizes the use of technology, data, and intelligent planning to transform urban centers into efficient, livable, and inclusive spaces.

The Mission

1. Promoting mixed land use in area-based developments — planning for 'unplanned areas' containing a range of compatible activities and land uses close to one another in order to make land use more efficient.
2. Housing and inclusiveness — expand housing opportunities for all;
3. Preserving and developing open spaces — parks, playgrounds, and recreational spaces in order to enhance the quality of life of citizens, reduce the urban heat effects in Areas and generally promote eco balance;
4. Promoting a variety of transport options — Transit Oriented Development (TOD), public transport and last mile para-transport connectivity
5. Making governance citizen-friendly and cost effective — increasingly rely on online services to bring about accountability and transparency, especially using mobiles to reduce cost of services and providing services without having to go to municipal offices

BACHELOR OF ARCHITECTURE

Undergraduate Program

Bachelor of Architecture
Undergraduate Program

Year

5

Architecture

ARC 5101 ARCHITECTURAL DESIGN & DETAILING- VIII

COURSE OBJECTIVES:

To understand the scale and context of urban setting. To understand the reading and development of maps for various factors of human settlement. To apply different data collection mechanism in assessing urban attributes in each context. To analyze different urban attributes like physical form, Morphology, Heritage etc.... To propose the urban intervention for sustainable and people centric design in a n urban context

PROJECT BRIEF:

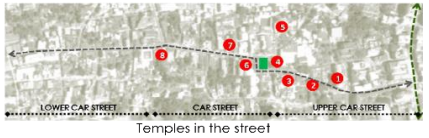
Strengthening the connection of Venkataramana temple with the cultural space near the temple by extending the religious precinct and to restore the cultural importance of the street. Making the adjoining car street pedestrianized during the day by allocating timings for the loading and unloading in the streets and making the street bicycle friendly. Extending the frontal axis of the temple on one side to preserve the cultural heritage and creating the serenity square

Shri Gokarnatheshwar Temple during Dasara, Kodial Teru in Carstreet, Monti Fest

CAR STREET

Flower market

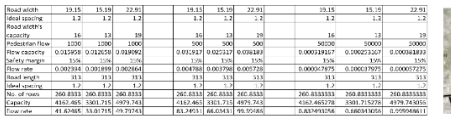
Contrasting architectural style



Temples in the street

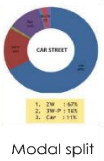
Proximity analysis

Site surrounding

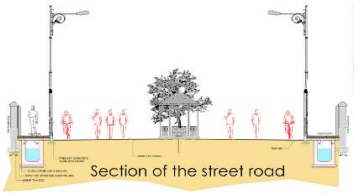


Guideline: Minimum of 1.2 meters (4 feet) of space per person.

Street façade regulation



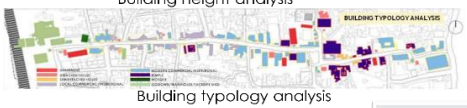
Modal split



Land use analysis

Section of the street during loading and unloading hours

Building height analysis



Building typology analysis

Parameters	Temple square to kulur ferry road jn.
Total length of the road	331.37 m
Min. width	15.19 m wide
Max. width	22.91 m
ROW (As per	18 m
Slope	0.50%
Type of carriage	Bituminous
Existing landuse	Commercial& Institutional. Mixed
Storm water drains	Continuous on both sides of the road
Electrical utilities	Present (overhead)
Pedestrian footfall	Heavy

Solution for Urban heat island effect

Vending shops for temple offerings

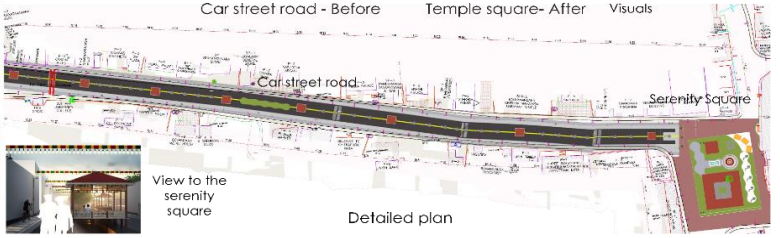
Temple square- Before

Residential area roads could be redirected and connected to the main roads

Car street road - Before

Temple square- After

Visuals



View to the serenity square

Detailed plan

STUDENT: SRAVANI SUGAVASI (193701240)
FACULTY: : UJJWALA CHOURASIA, SUREKHA KC, DHANPRAKASH, SUNIL KUMAR

ARC 5104.3 ADVANCED ELECTIVE II (URBANISM)

COURSE OBJECTIVES:

To study the process of quantification and assessment in planning processes. To understand various new urban strategies as the call of need and time. To understand environmental sensitivity in terms of socio-economic betterment. To identify various resources and elements of planning for self-sufficiency.

City population, millions	5.6
GRP per capita, in US$ thousands	66.9
Population density, people per km2	8100
Cars per 1,000 people	101

Landuse Map

WALKABILITY

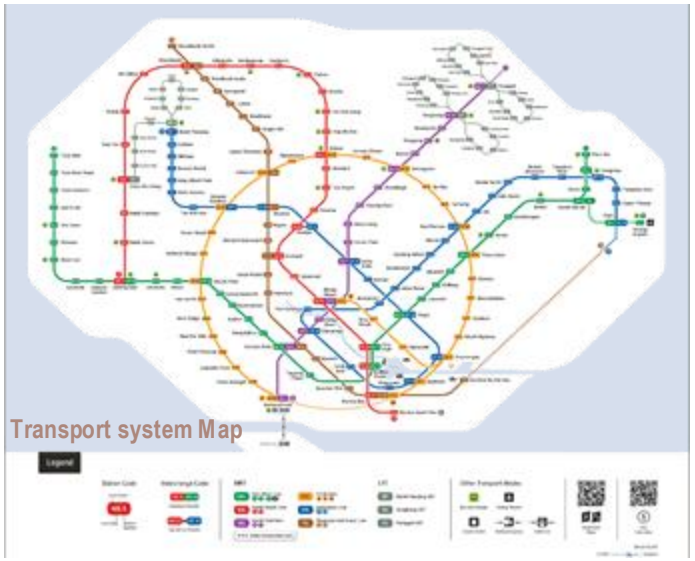
- Current scenario- 6 out of 10 households have train station within 10-minute walk
- Future scenario- 8 in 10

CYCLING PATH NETWORKS (CPNS)

- Present- 525km of cycling paths
- 1300km by 2030
- Number of cycling routes- 10
- Provides last mile connectivity

PROJECT BRIEF:

Identify transit-oriented development areas and prioritize pedestrian friendly infrastructure, cycling networks, and public transportation hubs. Promote mixed use zoning to reduce the need for long distance commuting and encourage active transportation modes



Transport system Map

Road network Map

MRT SYSTEM (1988)

- 4 main lines: North-South, East-West, North-East and Circle
- Number of lines- 6
- Number of stations- 140
- Daily ridership- 3.4 million (2019)
- Annual ridership- 1.2 billion
- Number of vehicles- 579 trains
- System length- 230 km

TAXI

- Number of taxi- 14,084 (2020)
- Daily ridership- 397,000

LIGHT RAIL TRANSIT (1987)

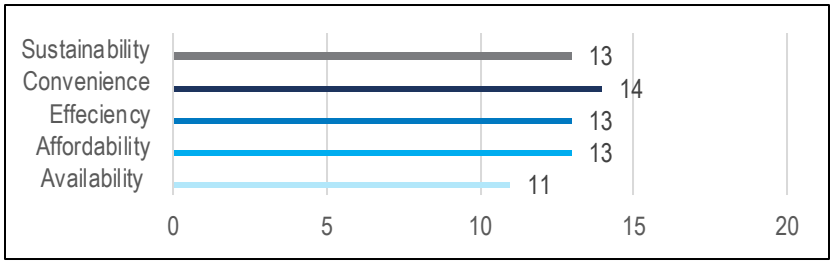
- Number of lines- 4
- Number of stations- 41
- Daily ridership- over 2 million
- Number of vehicles- 89 trainsets
- System length- 83km

BUS

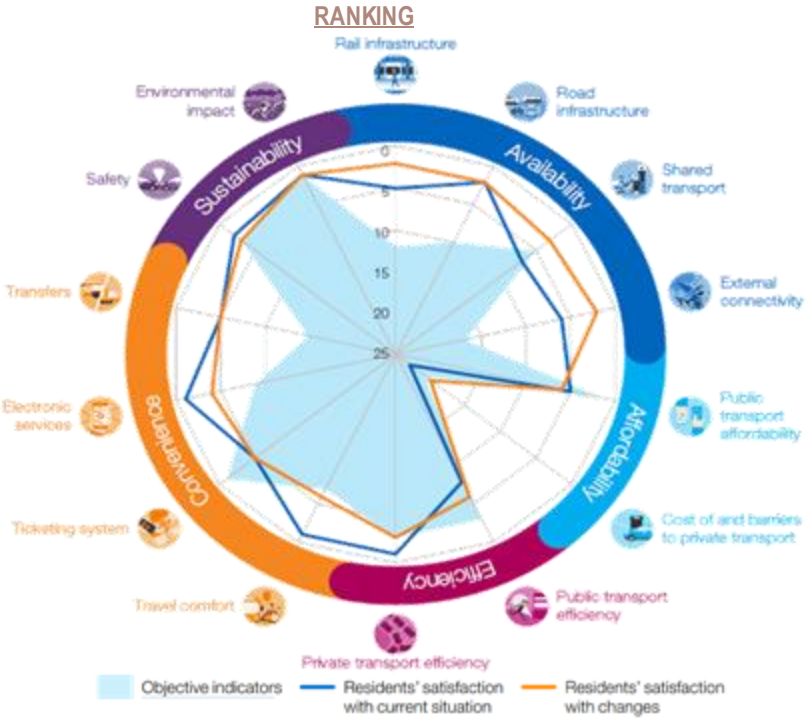
- Routes- 352
- Stops- 5,103 (2024)
- Hubs- 26 Bus Interchanges
- Fleet- approximately 5,800
- Daily ridership- 3.75 million

STUDENT: SRAVANI SUGAVASI (193701240)
FACULTY: : UJJWALA CHOURASIA, SUREKHA KC, DHANPRAKASH, SUNIL KUMAR

MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING



Overarching urban mobility ranking



PARAMETER ASSESSMENT

Investment in Public Transportation: Upgrading and Expanding

- The government has committed over **SGD 60 billion** to public transportation infrastructure over the next decade.
- **Aims for 75% of all peak-hour journeys to be made using public transportation by 2030**

Promotion of Active Mobility:

- **400 kilometers of cycling paths and park connectors** as part of the Park Connector Network (PCN).
- **Allocation of SGD 1.5 billion** for active mobility infrastructure improvements.
- Initiatives like the **Walk2Ride program** aim to enhance pedestrian connectivity to public transportation nodes.

Congestion Pricing , ERP & Vehicular emissions:

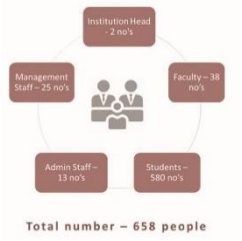
- **80 ERP gantries across the island**, with charges ranging from **SGD 0.50 to SGD 3.00 during peak hours**
- ERP has helped reduce peak-hour traffic speeds in the CBD **from 18 km/h in 2012 to 16 km/h in 2020**.
- The mandatory annual vehicle inspection checks on **vehicle emissions to ensure compliance with standards.**

Efficient Urban Planning:

- The government aims for **80% of residents to live within a 10-minute walk of a train station** by 2030
- The Jurong Lake District and Woodlands Regional Centre are examples of transit-oriented developments (TODs) with mixed-use developments and extensive public transportation connectivity.

A design school in Siliguri to boost the regional skills in the area

STAKEHOLDERS



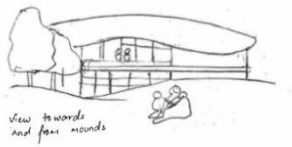
Total number – 658 people

COURSES

TRADITIONAL ARTS AND CRAFTS PROGRAM	Yrs.	no
Woodwork	4	15
Textile Design and Production	4	15
Bamboo Application Techonolgy	4	15
BFA in Metalwork	3	10
B.Des in Jewelry Design	4	10
BFA in Pottery and Ceramics	3	10

MODERN DESIGN AND TECHNOLOGY		
Product Design	4	15
Graphic Design	4	15
Furniture Design	4	15
Structural Engineering	4	15

BUSINESS AND SOCIAL SKILLS		
Entrepreneurship and Marketing	4	15
Social Design and Community Development	4	10



THE ABOVE CONCEPTUAL SKETCHES DEPICT INTERACTIVITY AS THE CORE OF DESIGN. THE SPACES FLOW ONTO OPEN SPACES.

FIRST FLOOR PLAN

DETAILS

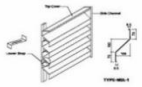
- Cafeteria occupancy 152 @ FF
- Auditorium connected by a bridge
- Studios look over double Height workshop spaces
- FF is the main circulation space

Amalgamation of rigid and fluid structures

ADMIN

- Faculty cabin and heads cabin with conference room kept close to reception and waiting
- Shop at front for visibility
- Services stacked on top of one another – admin core

VENTILATION STRATEGIES



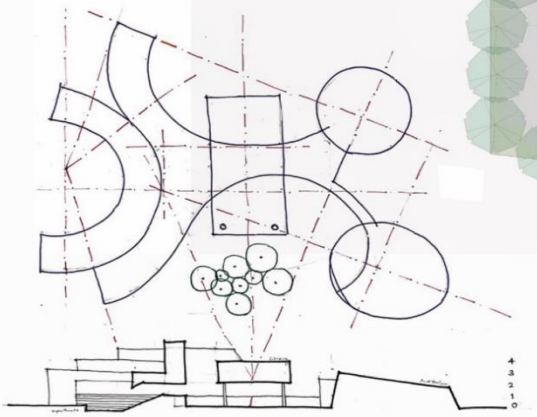
Windows and lovers in all areas (except auditorium) are used to facilitate inlet at a lower level and outlet at a higher level.

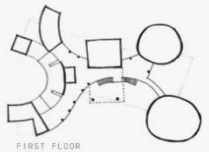
AXIS AND FORM

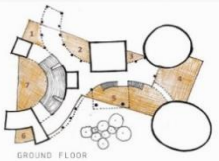
- Buildings are oriented along the axis
- Multiple axis to merge the structure forms
- Double height entrance space for welcoming
- Hierarchy in Elevation

ORIENTATION

Longer façade on north south direction with shaded south and west directions.







STUDIOS

- Studio A – 29 nos. (60sqm)
- Studio B- 14 nos. (40sqm)
- Studio C- 3 nos. (60sqm)
- Wall-facing furniture with open central space for discussion (4 sqm/person)

SPACES

A. Auditorium (Double height)	E. Studio B – 40 sqm (6 nos.)
B. Cafeteria – 1170 sqm	F. Studio A – 60 sqm (5 nos.)
C. Admin – 920 sqm	G. Studio C – 80 sqm (1 nos.)
D. Amphitheatre	H. Weaving Studios – 64 sqm

DETAILS

- Public spaces are limited on the first-floor level and studios and private areas are kept on the above floors

1. Site Level

- Retaining existing vegetation
- Grass pavers aiding ground water recharge
- Extensive added green cover

2. Building Level

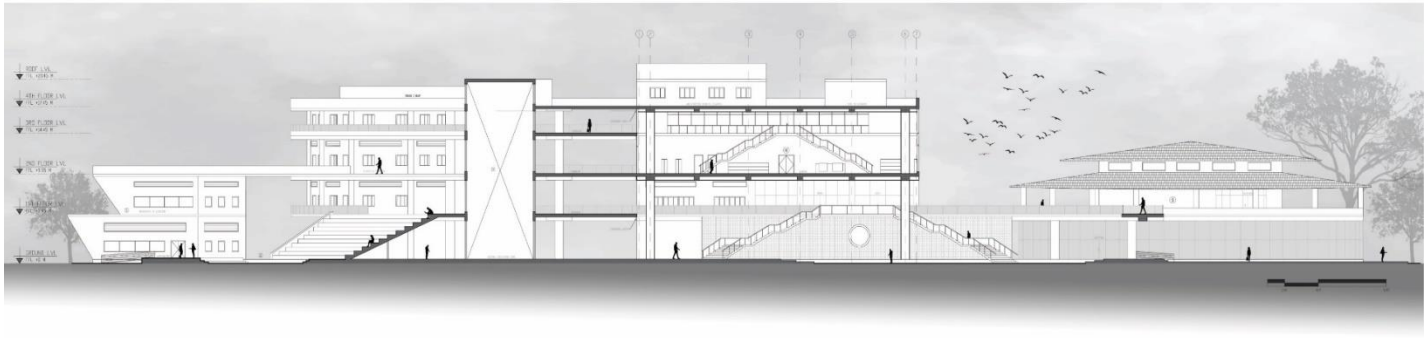
- Maximum ventilation through placement of openings
- North – South maximum Façade orientation
- Shaded east – west facades
- Double glazed glass panels with lower U value
- GGBC concrete– lower carbon footprint
- Locally sourced wood and bricks
- White paint for cooling effect
- Green roofs

3. Mechanical

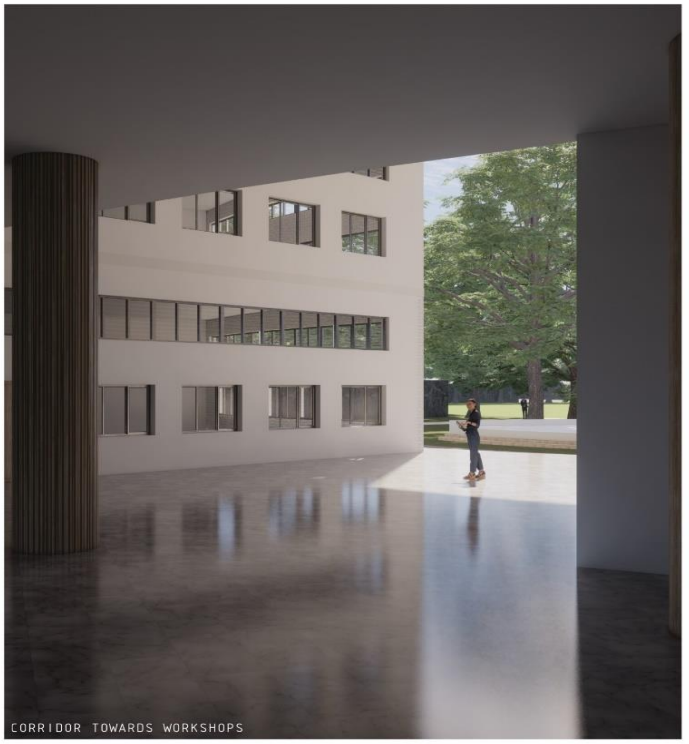
- Low water fixtures
- All BEE rated appliance
- Sewage Treatment
- Mechanical louvers for ventilation
- On site rainwater harvesting

4. Renewables

- Solar panel for on site electrical generation
- Treating and reusing of waste on site



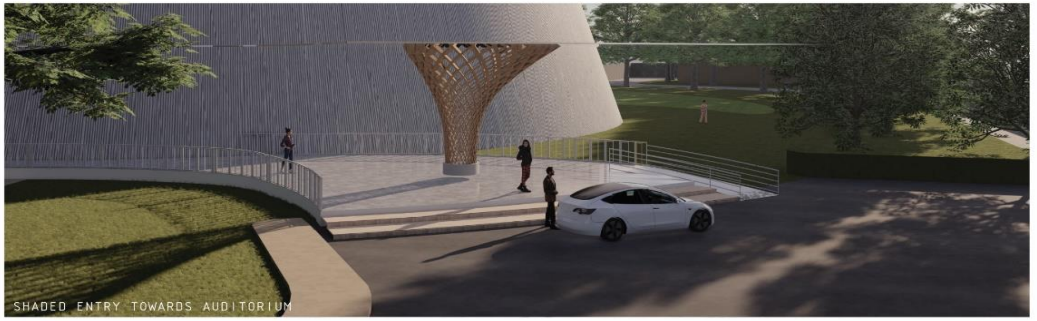

AUDITORIUM FROM FIRST FLOOR


CORRIDOR TOWARDS WORKSHOPS


ENTRY DIRECTING PATHWAY


TOWARDS NORTH INTERACTIVE SPACE


INTERACTIVE SPACE FROM WORKSHOP


SHADED ENTRY TOWARDS AUDITORIUM

MASTERS OF ARCHITECTURE

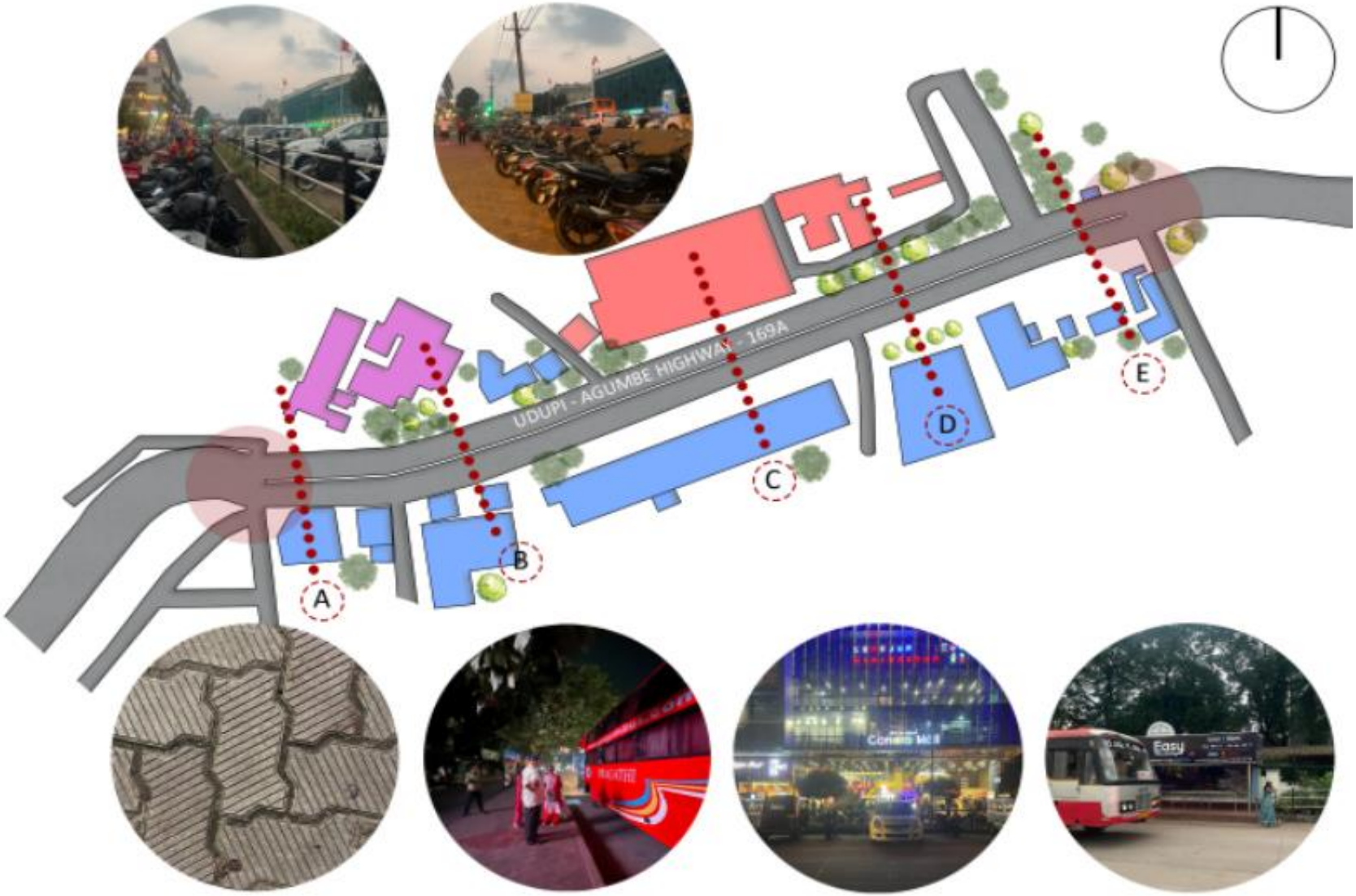
Postgraduate Program

Masters of Architecture
Postgraduate Program

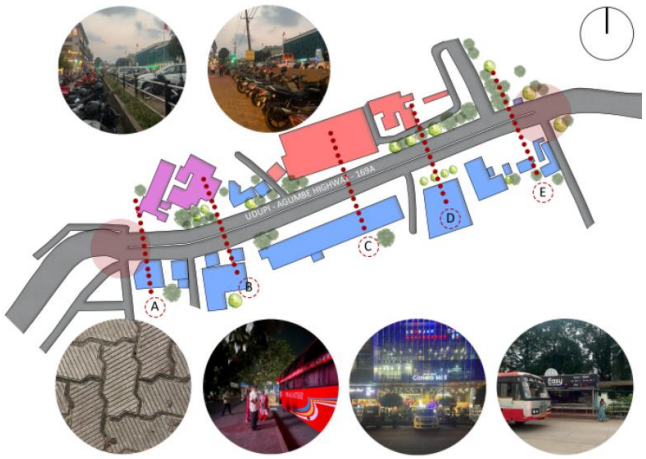
Year

1

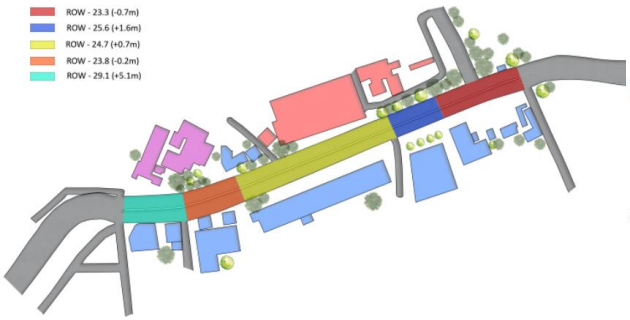
Architecture



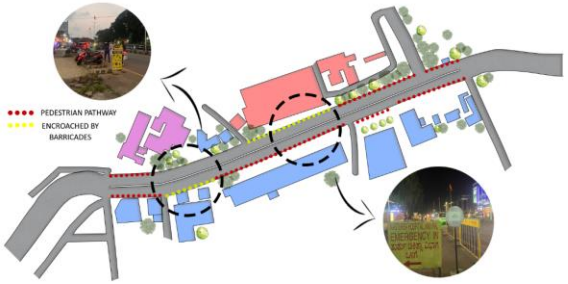
STUDENT: SNEHA S BHANDAR (233710008) SHARON MARIA THOMAS (233710015)
FACULTY: KUMAR GAURAV



RIGHT OF WAY MAPPING:

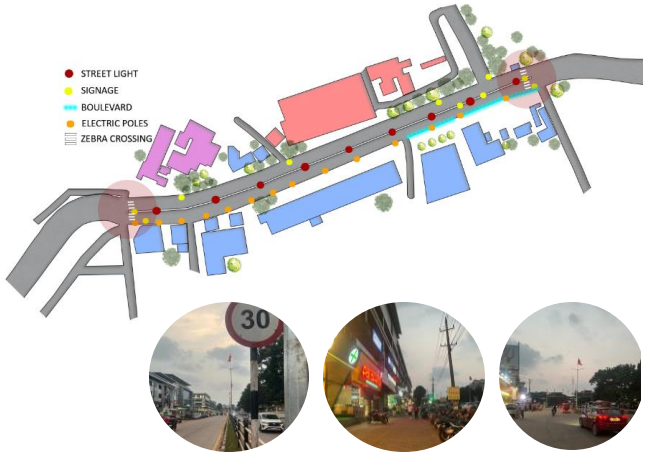


National Highway proposed ROW is 24. The width of the ROW is varying from MIT Junction to Tiger circle.

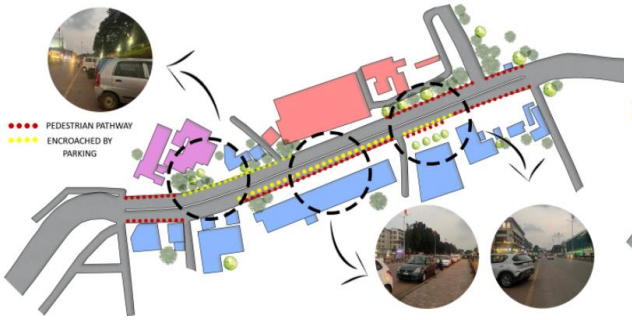


Frontage areas of commercial have placed signboards, stalls, and merchandise on the footpath and extended towards road to attract customers. This obstructs the pedestrian path and can be particularly problematic to the public.

UTILITY MAPPING:

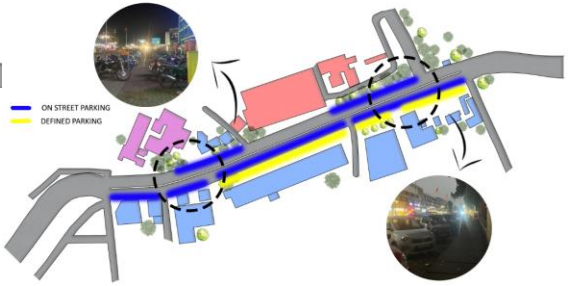


ENCROACHMENT MAPPING:

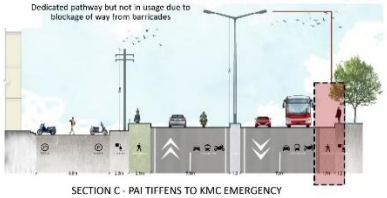


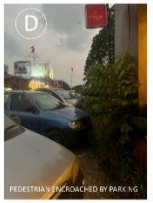
Because of densely populated there is often a high demand for parking spaces. As a result, parking takes precedence over pedestrian pathways, and sidewalks may be narrowed or blocked to accommodate cars.

PARKING MAP:



Parked cars narrow roads, causing congestion and safety risks by reducing lane width and visibility. Overtaking becomes risky, and pedestrians face danger at crosswalks, potentially leading to accidents.





	SHEELA HOTEL	CANORA MALL	PIE TIFFINS	S.S MOBILE	SUPER MART
FOOTPATH	✓	✓	✓	✗	✗
WIDTH	2 m	3.5 m	2.5 m	2 m	1.5 m
CONDITION	Defined pedestrian and in a good condition .	Defined pedestrian and in a good condition .	Defined pedestrian and in a good condition .	Defined pedestrian but it is encroached with boards and parking.	No proper pedestrian path and it is encroached parking.

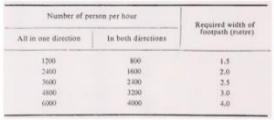
	MIT BUS STOP	KMC HOSPITAL	KMC EMERGENCY	SAIBA RESTAURANT	KMC COLLEGE
FOOTPATH	✓	✓	✓	✗	✗
WIDTH	2 m	3.5 m	2.5 m	2 m	1.5 m
CONDITION	Defined pedestrian and in a good condition .	Defined pedestrian and in a good condition .	Defined pedestrian and in a good condition .	Defined pedestrian but it is encroached with boards and parking.	No proper pedestrian path and it is encroached parking.

ANALYSIS:

1. As per IRC guidelines It is desirable that roads in urban areas are provided with kerbs. But the stretch isn't designed by kerbs.
2. Prohibiting on street parking of vehicles and simultaneously developing off street parking facilities.
3.Complex or poorly designed intersections can confuse both pedestrians and drivers, increasing the likelihood of accidents.
4. Street lights are only installed in the median, leaving the sides much darker.
5.Absence of Pedestrian Zones: Some roads do not have designated pedestrian zones or pedestrian-only streets, making it challenging for pedestrians to move about without interference from vehicles.
6. A lack of trees and plantations along roads means there is less natural shade. Greenery contributes to the aesthetic appeal of roads as well.


unaccounted kerbs leads to several saftey and drainage issues


the centre street light are insuficient to lit up either




lack of trees and plantations along road sides and median

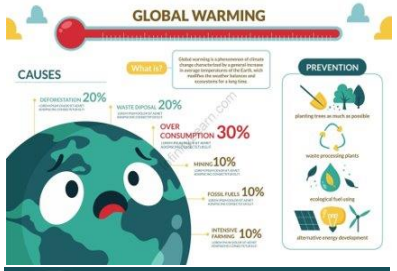
WHAT IS GLOBAL WARMING

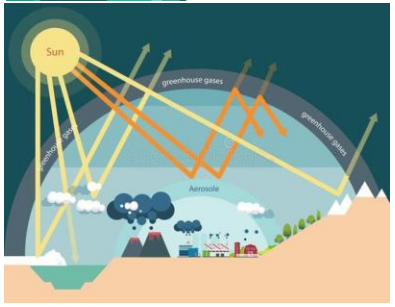
Global warming is the phenomenon of a gradual increase in the temperature near the earth's surface. This phenomenon has been observed over the past one or two centuries. This change has disturbed the climatic pattern of the earth.

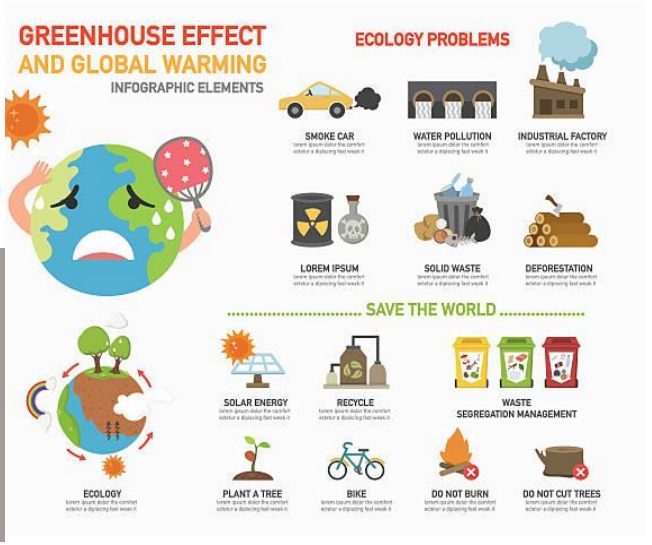
There are several causes of global warming, which have a negative effect on humans, plants and animals. These causes may be natural or might be the outcome of human activities.

WHAT IS GREEN HOUSE EFFECT

The greenhouse effect is a natural phenomenon. Certain gases in the atmosphere retain part of the thermal radiation emitted by the Earth's surface after being heated by the sun, this maintains the planet's temperature at a level suitable for the development of life.







EFFECTS OF GLOBAL WARMING

The main effects of global warming are listed below.

1. Ocean Acidification and Coral Bleaching: Oceans act as a carbon sink. The high concentration of carbon dioxide is getting absorbed by the ocean surface leading to ocean acidification

2. Frequent Natural Disasters: Due to rising global temperature and climate change, the world is facing frequent natural disasters.

3. Sea Level Rise: Global warming is causing glacier retreat, and the average sea level is rising.

4. Disruption of Food Chain: The extreme weather events due to global warming are affecting fertile lands leading to disruption of the food chain.

5. Droughts and Famine: Changes in atmospheric temperature due to Global warming are causing floods that reduce net crop yields ultimately leading to droughts and famine.

6. Species Extinction: Global Warming is also leading to extinction of species that cannot adapt to the warming temperatures of earth.

CAUSES OF GLOBAL WARMING

Global warming is an outcome of anthropogenic activities. The main causes of global warming are listed below.

1. Deforestation: The trees absorb carbon dioxide from the air. Deforestation has led to the increasing level of air pollutants in the atmosphere.

2. Fossil fuel Combustion: Fossil fuel combustion in power plants, vehicles releases greenhouse gases.

3. Mining: Mining activities related to natural gas led to global warming. Check out: Mining Pollution – Causes, Effects, and Solutions.

4. Industries: Industries are a source of air pollutant that releases harmful chemicals such as CFCs in the air.

5. Cattle Farms: The greenhouse gases are also emitted from cattle farms.

VULNERABILITYAND RISK ASSESSMENT

Vulnerability and risk assessment in urban areas are critical components of disaster preparedness and mitigation efforts. These assessments help identify the potential impact of various hazards on urban populations and infrastructure, allowing governments, organizations, and communities to develop strategies to reduce vulnerability and enhance resilience. Here are key components of such assessments:

RECENT EXAMPLES OF NATURAL & ANTHROPOGENIC DISASTERS

COVID-19 Pandemic: The COVID-19 pandemic, caused by the novel coronavirus SARS-CoV-2, emerged in late 2019 and continued to affect the world into 2021. It had significant health, economic, and social impacts.

Wildfires in California, USA: California experienced devastating wildfires in recent years, such as the 2020 California wildfire season. These fires were exacerbated by climate change and land-use practices.

Hurricanes: Hurricanes like Hurricane Laura in 2020 and Hurricane Ida in 2021 impacted the United States, causing widespread damage and flooding.

Industrial Accidents: The explosion at the Port of Beirut in August 2020, resulting from the improper storage of ammonium nitrate, demonstrated the risks associated with industrial accidents in urban areas.

Flooding in Southeast Asia: Seasonal monsoons and cyclones led to severe flooding in countries like Bangladesh, India, and Nepal, affecting millions of people.

Earthquakes: Earthquakes, such as the ones in Turkey and Greece in 2020, can have a significant impact on urban areas, leading to building collapses and casualties.

Identifying Hazards: Begin by identifying the natural and anthropogenic hazards that are relevant to the specific urban area. These hazards can include earthquakes, floods, hurricanes, wildfires, industrial accidents, and more.

Exposure Assessment: Determine what assets and populations are exposed to these hazards. This involves mapping out critical infrastructure, residential areas, transportation networks, and other elements susceptible to damage.

Vulnerability Assessment: Assess the vulnerability of infrastructure and communities to the identified hazards. This includes evaluating the structural integrity of buildings, the quality of infrastructure, and the social and economic vulnerability of the population.

Risk Assessment: Combine hazard exposure and vulnerability assessments to calculate the overall risk. This helps prioritize areas and assets that require mitigation efforts.

Scenario Development: Develop different disaster scenarios to understand the potential consequences of various hazard events. This aids in emergency planning and response preparation.

Community Engagement: Involve the local community in the assessment process to gather valuable local knowledge and increase community resilience.

1) Verify, define, detail the problems

The National Urban Sanitation Policy (NUSP), 2008 focus on management of human excreta and associated public health and environmental impacts, including 100% sanitary and safe disposal of human excreta and liquid wastes from all sanitation facilities like sewers and toilets.

KEY ISSUES : Poor Awareness, Social and Occupational aspects of Sanitation, Fragmented Institutional Roles and Responsibilities, Lack of an Integrated City-wide Approach: Limited Technology Choices:, Reaching the Un-served and Poor, Lack of Demand Responsiveness

VISION : The vision for Urban Sanitation in India is: All Indian cities and towns become totally sanitized, healthy and liveable and ensure and sustain good public health and environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.

2) Establish an evaluation criteria

Aim: to fulfill management of human excreta and associated public health and environmental impacts, including 100% sanitary and safe disposal of human excreta and liquid wastes from all sanitation facilities like sewers and toilets.

Implementation: The policy established clear institutional structures at different levels of government. The Ministry of Urban Development played a central role at the national level, while state and municipal bodies were designated as key implementing agencies.

Awareness: The NUSP emphasized the importance of community participation in decision-making processes related to sanitation. Local communities and residents were actively encouraged to participate, fostering a sense of ownership and ensuring the success and sustainability of sanitation programs.

Coverage: All Indian cities and towns become totally sanitized, healthy and liveable and ensure good public health & environmental outcomes for all their citizens with a special focus on hygienic and affordable sanitation facilities for the urban poor and women.

3) Identify alternative policies

Swachh Bharath Mission , Total Sanitation Campaign , Jawaharlal Nehru National Urban Renewal Mission (Jnnurm) , Scheme For Integrated Low Cost Sanitation (Ilcs) , Amrut 2.0

4) Evaluate alternative policies :

NAME OF POLICY	AIM	IMPLEMENTATION & GOVERNANCE	AWARENESS	COVERAGE	FRAMEWORK	FINANCE
SWACHH BHARATH MISSION (SBM),2014	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
SCHEME FOR INTEGRATED LOW COST SANITATION (ILCS)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

NAME OF POLICY	AIM	IMPLEMENTATION & GOVERNANCE	AWARENESS	COVERAGE	FRAMEWORK	FINANCE
JAWAHARLAL NEHRU NATIONAL URBAN RENEWAL MISSION (JNNURM) ,2005	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
AMRUT 2.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

5) Display and select among alternative policies :

POLICY	IMPLEMENTATION	COVERAGE	INFRASTRUCTURE	AWARENESS	FINANCE	UTILISATION	SUCCESS
SBM	5	5	5	5	5	5	5
JNNURM	5	4	4	5	5	5	5
AMRUT	4	5	4	5	4	5	5
ILCS	3	4	4	5	4	4	5

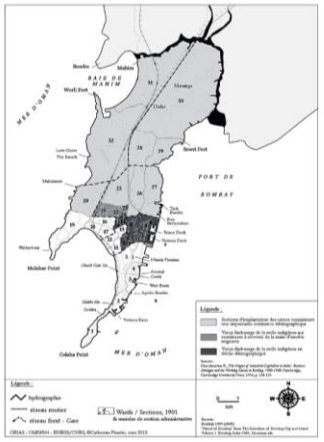
NUMBER	COMMENT
1	Very Bad
2	Bad
3	Neutral
4	Good
5	Very Good

SBM succeeded in providing toilets to most rural households since 2014, while JNNURM, despite significant funds, achieved few urban infrastructure projects.

6) Monitor policies outcome:

The National Urban Sanitation Policy (NUSP) has made remarkable strides in improving sanitation across India. Over 100 million toilets have been constructed in civic areas, leading to an 84% reduction in open defecation. Solid waste management has improved in over 500 cities, while water conservation efforts have been promoted in more than 100 cities. The policy has also raised awareness about sanitation among over 100 million people and ensured the sustainability of sanitation systems in numerous cities. These achievements align with the Sustainable Development Goals, particularly Goal 6, which aims to ensure access to clean water and sanitation for all by 2030. The NUSP plays a pivotal role in creating a healthy and hygienic environment for all.

Enactment Date: The Bombay Urban Improvement Act of 1898 was enacted in the *year 1898* during British rule in India. The visit of Sir Patrick Geddes to India and his propagation of the work -home place theory laid the foundation for the setting up of Improvement Trusts and subsequently thinking process for enactment of Town and Country Planning Acts in various States and the establishment of State T&CP Departments. Following this, Urban Development Authorities were set up under Development Authority Acts for addressing the problems of fast growing towns and cities and for mulating Master Plans which apart from having strong spatial connotations also have both social and economic.



Formation of City Improvement Trust (1898):

In response to the public health crisis which occurred due to the 19th century plague in Bombay, a City Improvement Trust was established in 1898. The primary objective was **to address the insanitary living conditions of the urban poor and clear areas deemed as unsanitary.**

Role Of The Trust :

- Making new streets
- Decongesting crowded localities
- Reclaiming land from the sea for city expansion
- Constructing sanitary dwellings for the poor.

Reinforced concrete chawls at Spring Mills built by the BCIT in the 1920s

Focus Of The Trust :

Compliance with Health Standards: The Trust aimed to bring Bombay into compliance with international health standards.
Improving Housing Standards: Addressing overcrowding and poor living conditions to save lives.
Urban Planning and Development: Focus on physical planning, including creating new streets, decongesting localities, and reclaiming land for expansion.

Activities established under the Trust :

Widened roads in the central, crowded, parts of the town.
A new east-west road, the Princess Street, was constructed to channel the sea air into the centre of the crowded residential areas.
The Dadar-Matunga-Wadala-Sion suburban development was started in 1899 with the express purpose of relieving congestion to the south.
Well-laid out plots, with mixed land-use patterns marked these sections.
Completed in 1900, access to these parts were through the newly completed Mohammedali Road.

POSITIVE IMPACTS :
Population decline and recovery ,
Transformation of urban landscape

NEGATIVE IMPACTS :
Housing conditions worsened.
Landlords raised rent,
Overcrowding

BOMBAY URBAN IMPROVEMENT ACT , 1898

The history of contemporary planning practice in India dates back to the enactment of the Bombay Improvement Trust Act 1920. The Bombay Improvement Trust Act of 1920 expanded upon the framework established by the earlier Bombay Urban Improvement Act of 1898. It empowered Urban Improvement Trusts (UITs) to undertake comprehensive urban development projects.

It laid the foundation for modern urban planning practices in India and influenced the evolution of planning policies and institutions at the national and state levels.
The principles and approaches established under this legislation continue to shape urban development efforts in contemporary India.

ASPECT	ACT OF 1898	ACT OF 1920
Year of Enactment	1898	1920
Focus and Scope	Primarily urban improvement and redevelopment	Comprehensive town planning
Objectives	Improve living conditions, sanitation, public health, infrastructure	Introduce systematic town planning principles
Key Provisions	Empowered municipal authorities for improvement schemes	Introduced town planning schemes, regulated land use
Approach to Development	improvement projects, reactive measures	Proactive, systematic town planning, long-term vision
Impact	Contributed to physical improvement, addressed immediate issues	Laid foundation for modern urban planning, influenced policies
Legacy	Played role in early urban governance, superseded by comprehensive legislation	Lasting impact on urban development, influenced planning frameworks

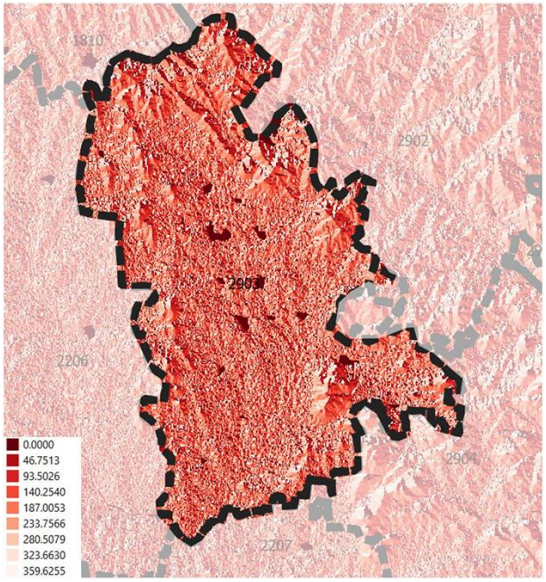
ASPECT	BEFORE ACTS	AFTER ACTS
Challenges	Sanitation issues - Public health concerns - Infrastructure deficiencies - Unregulated development	Improved sanitation - Better public health conditions - Infrastructure development - Unplanned growth regulated
Urban Development	Unplanned and haphazard growth - Lack of coordinated development efforts - Inadequate infrastructure	Initiation of improvement projects - Shift towards systematic town planning Regulation of land use and development
Municipal Powers	Limited authority and strategies to address urban issues	Empowerment of municipal authorities - Introduction of comprehensive planning powers
Approach	Reactive measures - Ad-hoc development projects	Proactive planning - Systematic urban development initiatives
Outcomes	Minimal improvement, mainly ad-hoc projects	Visible improvement in infrastructure - Comprehensive urban planning initiatives

CHANNAPATNA:

Channapatana is a city and taluk headquarters in Ramanagara District, Karnataka, India. Channapatna is approximately 60 km from Bangalore and 80 km from Mysore.

ASPECT MAP:

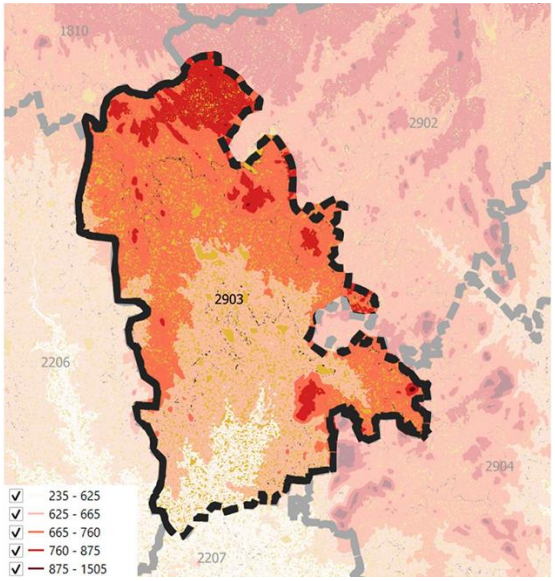
Aspect values indicate the directions the physical slopes face. It can classify aspect directions based on the slope angle with a descriptive direction.



In the resulting aspect map, each pixel's color or value represents the direction the slope faces.

CONTOUR MAP:

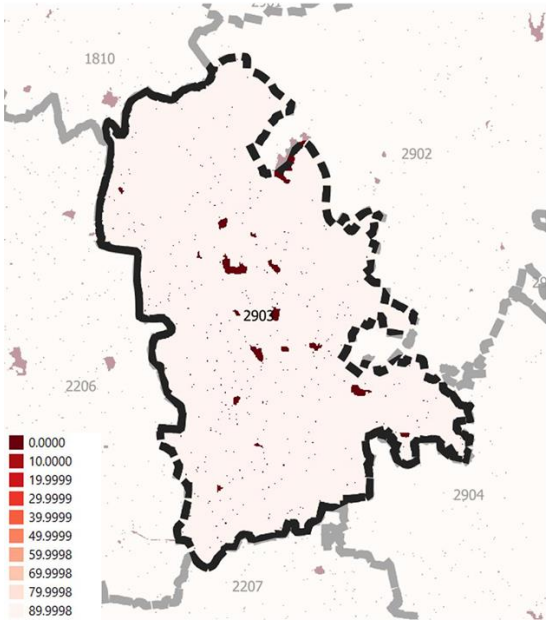
A contour map is a map that represents the elevation of a terrain surface using contour lines. Contour lines connect points of equal elevation, allowing you to visualize the shape and steepness of the terrain.



The contour lines on the map are spaced at intervals ranging from lowest 235 to highest 1505, indicating the elevation changes across the terrain.

SLOPE MAP:

A slope map is a type of raster map that visualizes the steepness of the terrain in a given area. It represents the angle of inclination of the land surface, with steeper slopes typically shown in brighter or more intense colors, while flatter areas are represented in darker or less intense colors.



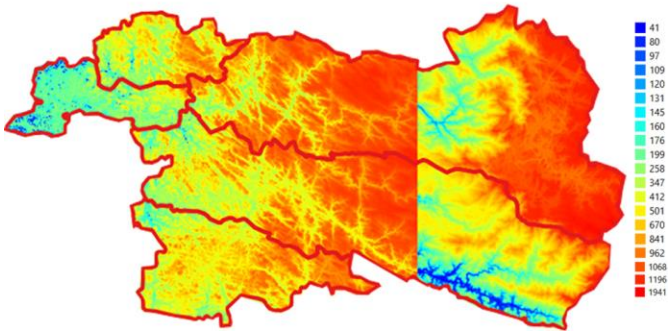
Slope maps are useful for understanding the topography of an area and identifying areas prone to erosion or landslide risks.

ARC 7008 SPATIAL INFOTMATION MAPPING AND ANALYTICS

PATHANAMTHITTA:

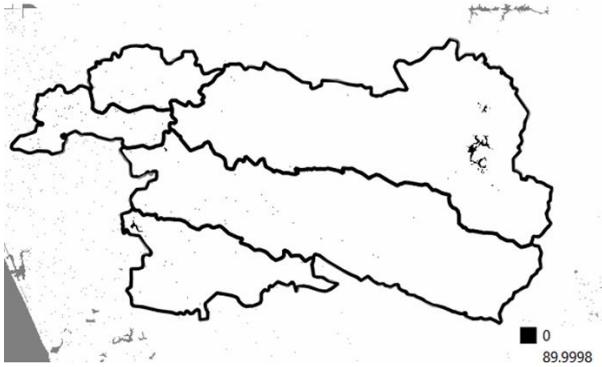
Pathanamthitta is a municipality situated in the Southern Kerala, India, spread over an area of 23.50 km2. It is the administrative capital of Pathanamthitta district. It has an average elevation of 18 meters (62 ft) above sea level.

DIGITAL ELEVATION MODEL:

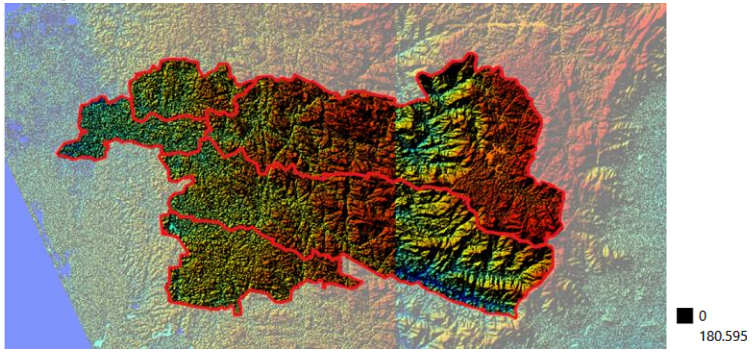


Minimum elevation value- 41, Maximum elevation value- 1941

SLPOE AND ASPECT MAP:

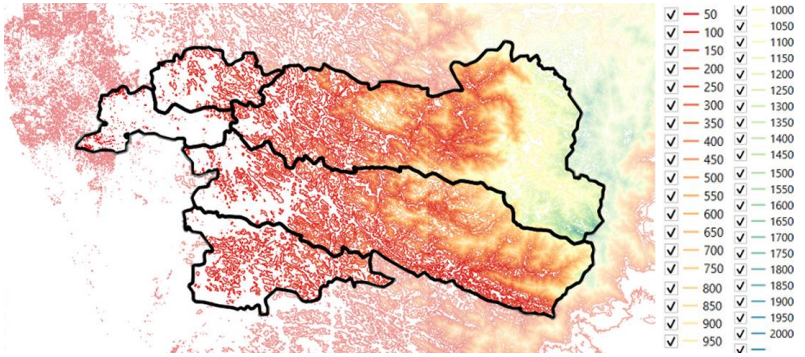


HILLSHADE MAP:



Hillshade maps are commonly used in cartography and visualization to provide a three-dimensional appearance to two-dimensional maps, making it easier to interpret the terrain's features such as valleys, ridges, and slopes. The hillshade algorithm calculates the illumination angle and intensity based on the elevation values of a digital elevation model (DEM) raster layer.

CONTOUR MAP:



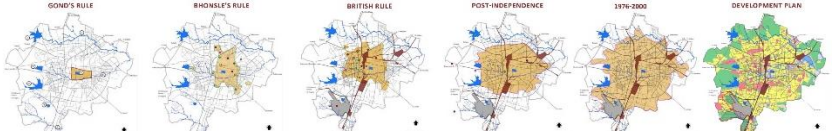
CONTOUR INTERVAL: 50m.

In QGIS, a contour map is a type of map that represents the three-dimensional shape of the land surface using contour lines. Contour lines connect points of equal elevation, indicating the elevation of the land at various locations. Contour maps are useful for visualizing the topography of an area, including hills, valleys, and other terrain features.

ARC 6202 URBAN DESIGN STUDIO- II

NAGPUR'S HISTORY AND HERITAGE

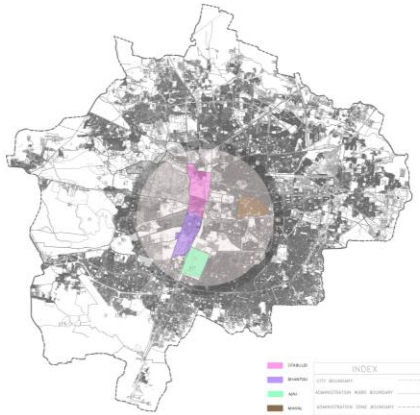
NAGPUR'S EXPANSION OVER TIME



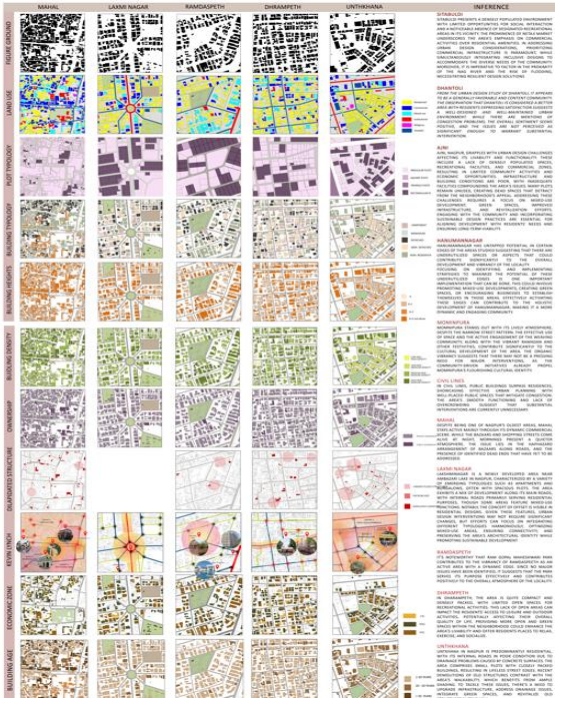
Preserving heritage structures is crucial for maintaining cultural identity and historical narratives in Nagpur.

MORPHOLOGICAL ANALYSIS

After evaluating eleven areas and considering user perspectives, we focused on Sitabuldi, Dhantoli, Ajni, and Mahal to preserve their unique character within Nagpur's urban fabric. Our approach integrates Dhantoli's commercial transition, Ajni's low-income households, and Mahal's historic buildings into revitalization proposals, creating vibrant, people-centric spaces.



COMPARATIVE ANALYSIS

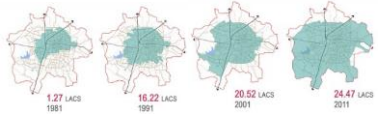


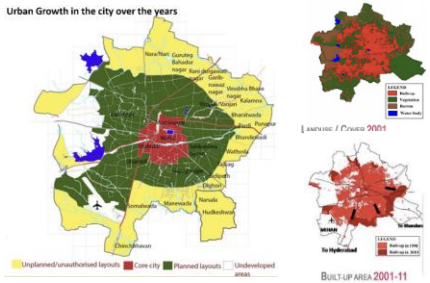
ARC 6202 URBAN DESIGN STUDIO- II

ANALYSIS OF MAJOR AREAS OF NAGPUR

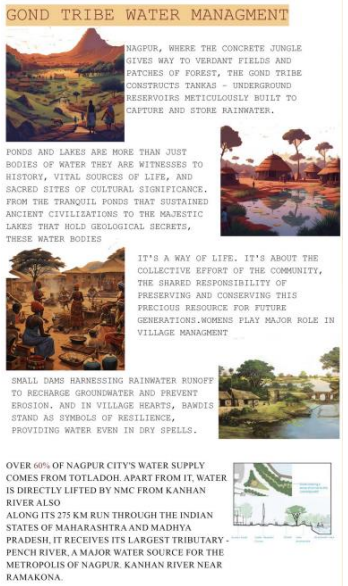
CRITERIA	CONNECTIVITY	EASE OF LIFE	RESILIENCE	SCOPE OF WORKS
SITABULDI	Sitabuldi boasts excellent connectivity with various transportation options like Extensive road network, Nagpur Metro and city buses. The Sitabuldi station, an interchange on both Orange and Aqua lines, offers convenient access to other parts of the city.	Sitabuldi offers a convenient and vibrant lifestyle with good accessibility and amenities. However, it's important to consider factors like traffic congestion, parking, and potentially higher living costs.	Sitabuldi shows pockets of resilience due to its strong community, diverse economy, and developed infrastructure. However, addressing traffic congestion, creating more green spaces, and investing in infrastructure upgrades could further enhance its resilience in the face of future challenges. sitabuldi is highly susceptible to floods	1. **Adaptive reuse:** Converting older buildings into modern office spaces, shopping complexes, or residential units with heritage preservation elements. 2. **Revitalizing existing public spaces.** 3. **Incorporating heritage elements in new developments**
DANTOLI	It is known for being a prominent business center and was previously considered an upmarket residential area. Dhantoli, Nagpur is well-connected to Sitabuldi, Nagpur by road Pandit Malviya Rd and Abhyankar Marg. Dhantoli is known for housing a large number of hospitals, making it a significant healthcare hub in Nagpur.	Dhantoli offers a convenient location, access to amenities, and healthcare facilities, but factors like congestion, cost of living, and limited green spaces can affect the ease of life.	Dhantoli exhibits some resilience due to its diverse economy, developed infrastructure, and established community. However, addressing population density, creating more green spaces, and potentially implementing traffic management strategies.	1. **Mixed use development: Transforming underutilized areas.** 2. **Revitalizing commercial pockets.** 3. **Green corridors and open spaces.**
AJNI	Ajni is a locality situated approximately 2.8 kilometers away from the Nagpur city center. With plans to transform it into a full-fledged coaching complex and a potential alternative terminus for Nagpur.	Ajni offers a quieter and less congested environment compared to the city center, with potential for future development. However, limited amenities, distance from major facilities, and ongoing development could affect the ease of life for some residents.	While the lower population density and potential infrastructure improvements present strengths, the limited local amenities, potential disruptions, and dependence on the city center pose challenges. Focusing on developing self-sufficiency in essential services and community preparedness.	1. **Enhancing connectivity: Upgrading pedestrian infrastructure.** 2. **Addressing waterlogging issues** 3. **Developing affordable housing options- rejuvenating Slums.** 4. **Developing skill-based training centers** 5. **Proposed railway might increase identity to ajni.**
MAHAL	Situated in the heart of Nagpur, Mahal offers convenient access to various parts of the city through a well-connected network of roads.	Residents enjoy easy access to essential services and amenities. Mahal offers a convenient, vibrant lifestyle with good connectivity, diverse amenities, and a central location traffic congestion, parking, and cost of living.	Vulnerability to infrastructure disruptions: While developed, the existing infrastructure might be susceptible to disruptions from natural disasters like earthquakes or floods, particularly older structures.	1. **Preserving historical structures Adaptive reuse of historical buildings.** 2. **Enhancing street life**
LAXMINAGAR	Laxmi Nagar, has good connectivity to various necessities and places of interest, including schools, colleges, hospitals, police stations, banks, and markets. It also good connectivity to IT Parks, SEZs, and industrial areas.	The heavy traffic congestion, potentially higher living cost, and limited public transportation.	Being a part of fringe area or the new areas there is no issue of flooding unlike other core towns near nag river.	1. **Traffic decongestion** 2. **Redevelopment of underutilized spaces- revitalization of commercial spaces.** 3. **Improved public transport.**
DHARAMPETH	Dharampeth, Nagpur, is a prominent and well-established locality	Dharampeth boasts a lively and dynamic atmosphere, with a mix of residential and commercial areas. Offers a range of housing options, from apartments and bungalows to independent houses.Houses diverse businesses, including retail shops, restaurants, offices, and banks.	Residents have easy access to essential services and amenities like schools (Nagpur University), hospitals (VIMS – Vasantdada Institute of Medical Sciences), markets (Cotton Market), and recreational spaces (Nagpur Gymkhana Club, Maharajbagh Zoo).	1. **Revitalizing the central business district (CBD)** 2. **Improving public transport: Upgrading public bus infrastructure, exploring options like bus rapid transit (BRT) systems on major roads**
RAMDASPETH	Well-connected by a network of roads and public transportation options like buses and the Nagpur Metro (Central Avenue station on the Orange Line).	Bustling commercial hub: It serves as a major shopping destination with a diverse range of shops, from established brands to local vendors. It also houses numerous restaurants, cafes, and other businesses.	Ramdaspeth being new areas there is no issue of flooding unlike other core towns near nag river.	1. **Protecting historical buildings.** 2. **Ensuring inclusive development.** 3. **Economically vital hub.**

Nagpur's infrastructure is strong and continues to develop. The city's strategic location and good infrastructure make it an attractive place for businesses and industries to invest.



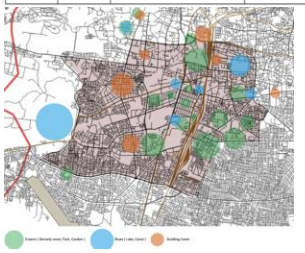


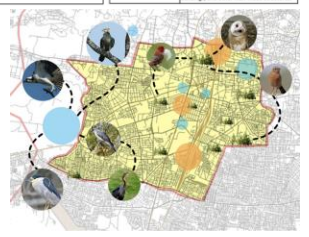
ANALYSIS OF BLUE GREEN INFRASTRUCTURE OF NAGPUR



COMMON NAME	BOTANICAL NAME	DESCRIPTION	O2/CO2
Ashoka	Saraca asoca	The Ashoka tree is revered for its fragrant flowers and is often planted for ornamental purposes. It is associated with cultural significance in Hinduism.	Oxygen Production: Ashoka trees release oxygen, enhancing the air quality in their vicinity. CO2 Absorption: Through photosynthesis, Ashoka trees absorb carbon dioxide, aiding in the reduction of greenhouse gases.
Rath ka Rani	Mallotus philippensis	Rath ka Rani, or Indian kamala, is a deciduous shrub or small tree with red or yellow fruits. It is native to South Asia and has medicinal properties.	Oxygen Production: Rath ka Rani contributes to oxygen levels through photosynthesis, supporting a healthier environment. CO2 Absorption: These trees play a role in carbon sequestration, absorbing carbon dioxide from the atmosphere.
Peepal	Ficus religiosa	Also known as the Sacred Fig, Peepal is a large, deciduous tree with heart-shaped leaves. It holds cultural significance in Hinduism.	Oxygen Production: Peepal trees release oxygen during photosynthesis, improving the air quality in their surroundings. CO2 Absorption: These trees are effective at absorbing carbon dioxide, contributing to carbon sequestration.
Weeping Fig	Ficus benjamina	The Weeping Fig, or Benjamin Fig, is a popular ornamental tree with drooping branches and glossy leaves. It is often used indoors for decoration.	Oxygen Production: Weeping Figs contribute to indoor oxygen levels, enhancing air quality. CO2 Absorption: Through photosynthesis, Weeping Figs absorb carbon dioxide, providing an environmental benefit.
Lotus	Nelumbo nucifera	The Lotus is an aquatic plant with large, distinctive, floating leaves and beautiful, fragrant flowers. It holds cultural and religious significance.	Oxygen Production: Lotus plants release oxygen through the process of photosynthesis. CO2 Absorption: Though primarily aquatic, lotus plants contribute to carbon sequestration by absorbing carbon dioxide during photosynthesis.
Water Lily	Nymphaea spp	Water Lilies are aquatic plants with floating leaves and vibrant flowers. They thrive in still or slow-moving water.	Oxygen Production: Water Lilies release oxygen into the water during photosynthesis. CO2 Absorption: These plants contribute to carbon sequestration by absorbing carbon dioxide from the water

SPECIES	HABITAT
Large Cuckooshrike	1. Found in various wooded habitats, including primary and secondary forests. 2. Often seen in the canopy of broadleaf evergreen forests and mixed woodlands.
Red Avadavat	1. Inhabits grasslands, open fields, and agricultural areas with tall grasses. 2. Often found near water bodies such as marshes, ponds, and rice fields.
Black-crowned Night Heron	1. Commonly found in various wetland habitats, including marshes, ponds, and mangroves. 2. Nocturnal and often roosts during the day in trees near water.
Osprey	1. Primarily found near large bodies of open water such as lakes, rivers, and coastal areas. 2. Builds nests on structures like power poles or artificial platforms.
Purple Heron	1. Inhabits wetlands, including marshes, swamps, and flooded areas. 2. Often seen in tall grasses and reeds along the edges of water bodies.
Crested Honey Buzzard	1. Prefers wooded habitats, including forests and woodlands. 2. Often soars in open skies during migration and breeds in tall trees.
Barn Owl	1. Adapts well to a variety of habitats, including grasslands, farmlands, and open woodlands. 2. Frequently found in barns, abandoned buildings, and other man-made structures.





ANALYZING NAGPUR'S QUALITY OF LIFE VIA ITS SOCIO-CULTURAL AND ECONOMIC CONTEXT

MOMINPURA

Situated in the central Nagpur area, offering easy access to other parts of the city through a network of roads. Surrounded by various localities like Ansar Nagar, Itwari, Bajeria, Hansapuri, Ronisapura, and Timki.

Mominpura experiences a dense population, which can strain resources and potentially affect living conditions. The area might have limited green spaces compared to other localities, impacting air quality and recreational opportunities.

1. **Improving housing conditions:** Focusing on the redevelopment of dilapidated housing structures and providing affordable housing options to cater to the needs of various income groups.

UNTKHANA

Untkhana is a fast-developing locality situated on the eastern outskirts of the city. NH52 and Hindu Hrudayasamrat Balasaheb Thackeray Maharashtra Samruddhi Mahamarg highways

The presence of gated communities and new apartments might cater to preferences for modern living arrangements.

Untkhana is less prone to flooding compared to low-lying areas closer to rivers or water bodies

1. Promoting a vibrant street life by introducing outdoor cafes, street vendors with designated spaces, and hosting cultural events in public squares, fostering a sense of community and encouraging outdoor activities.

CIVIL LINES

Civil Lines is a prime and well-established locality in the heart of Nagpur. Situated 1.6 km from the Zero Mile Stone and 2 km from the Railway Station, it offers easy access to various parts of the city.

Civil Lines being the administrative and institutional zone it lacks hospitals and other facilities. There are also residential areas and has majorly reused colonial buildings.

Civil Lines boasts a developed infrastructure, including roads and drainage systems. The effectiveness of the drainage system in handling heavy rainfall is good, its presence offers some potential for managing water flow.

1. Conservation of old colonial structures.
2. Improved pedestrian friendly ways of transport.

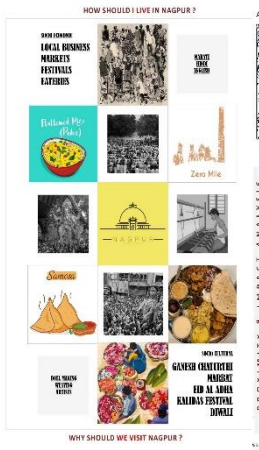
HANUMAN NAGAR

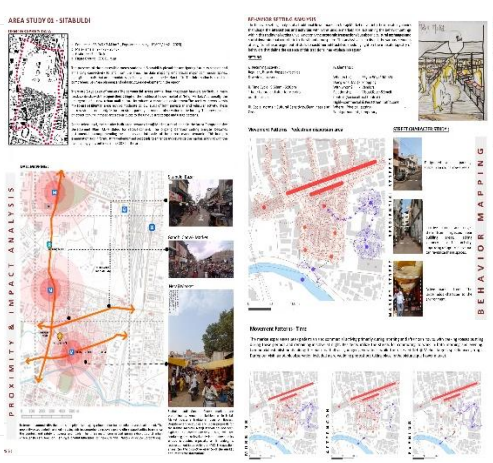
Situated in the east Nagpur area, approximately 5.4 km from the Zero Mile Stone and 4.4 km from the Railway Station.
Surrounded by various localities like Raghuji Nagar, Reshim Bagh, Rameshwari, Ajni, and Mahal.

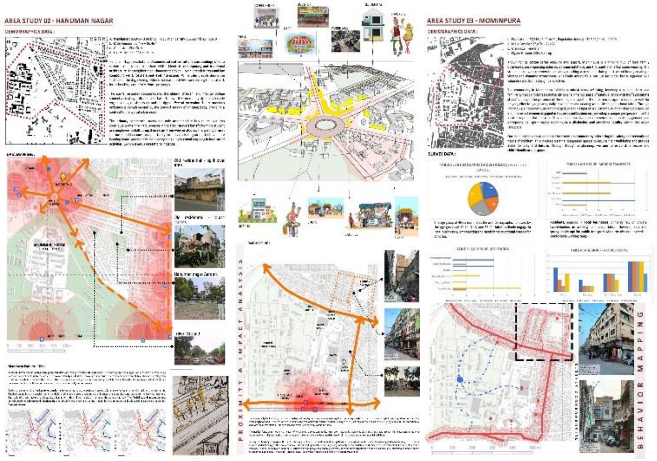
Primarily a residential area with a mix of apartments and independent houses. Known for its peaceful and community-oriented atmosphere the distance from the city center could be a factor to consider, potentially impacting commute times for work or entertainment.

Being a part of fringe area or the new areas there is no issue of flooding unlike other core towns near nag river.

1. **Transit oriented development**
2. **Mixed use corridors**







ARC 7006 CONSERVATION PRICIPLES & PRACTICES

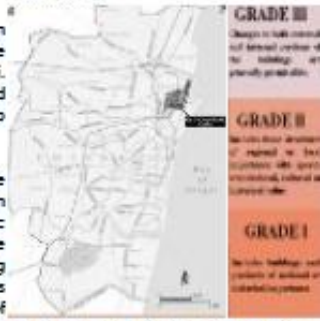
HISTORIC URBAN LANDSCAPE AND THEIR MANAGEMENT

INSTITUTIONAL FRAMEWORK

HERITAGE CONSERVATION COMMITTEE : The heritage conservation committee was formed under CMDA to draft regulations to conserve heritage buildings and precincts in the Chennai Metropolitan Area.

More than 2,467 heritage structures within CMA.

CMDA: Chennai Metropolitan Development Authority (CMDA) is the nodal planning agency of Chennai. CMDA and HCC assess the value and examine the feasibility of buildings to be conserved.



PUBLIC WORKS DEPARTMENT : The Building Centre and Conservation Division (BCCD) created in the public works department will enumerate the number of heritage buildings belonging to various government departments and explore the possibility of

412 Monuments of National Importance have been recognized by the ASI in Tamil Nadu, out of which 250 are from Chennai circle. Most of the buildings area around 200 years and older.

NATURAL HERITAGE

CURRENT SCENARIO

Way behind in conserving heritage, what will Chennai showcase to the future?

CITY : CHENNAI

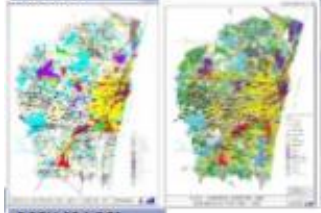
URBAN CONSERVATION ISSUES

ENCROACHMENTS ON HERIAGE SITES

The protection of monument or site not adequate whe many historic citie and sites are being laid waste by rea estate development, industrialization an

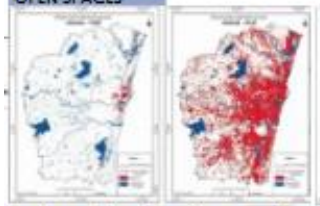
EVOLUTION OF THE CITY

BASE MAP



GREEN COVER

OPEN SPACES



19TH CENTURY CHENNAI

An important matter of concern is the need to link the quality of life in historic cities with its built heritage.

PROPOSALS/ RECOMMENDATIONS

ISSUES : Although the state has proper legislation for conservation, there is NO FRAMEWORK FOR IT'S EXECUTION.

HERITAGE CONSERVATION

1. The colonial core of the city includes the area around the fort St. George. No demolition within the colonial core.

2. The area around the protected monuments is to be kept open up to 300mts from the protected monument and no development of whatsoever nature shall be allowed within this area.

URBAN CHARACTER

1. To preserve the beauty of the heritage buildings/precincts, the exterior design and height of the building should have prior approval of the heritage conservation committee.

2. Storage and Dissemination of heritage information through Audio and Video files with all interactive technologies- Computerization of heritage buildings.

ECOCLOGY

1. Any development around waterbodies (rivers/lakes) should be temporary structures and not disrupt the inflow and catchment area of the waterbody.

2. sewage and drainage lines - Choking of sewage lines causes health hazards, identification and rectification of such issues. Dumping untreated sewage water directly to lakes should be prevented.

3. Comprehensive Identification of other natural heritage such as parks, gardens, hills, waterbodies.

4. Vegetation which damages the historic building should be cleared

INFRASTRUCTURE, TRANSPORT AND TRAFFIC

1. No widening of existing roads under the sanctioned development plan for Chennai should be carried out in a manner which may affect the heritage buildings or listed natural features. If there are any new roads or road widening lines proposed in the sanctioned development plan, the authorities shall consider the heritage provisions and environmental aspects while considering the development permissions in these precincts. Pending this action, the road widening/development of new road shall not be carried out.

2. Focus should be given for pedestrian friendly city, especially in the colonial core area, encourage formulation of policies for no vehicle zone wherever necessary, prioritizing public transport within the colonial core.

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MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

MASTERS OF ARCHITECTURE

Postgraduate Program

Masters of Architecture
Postgraduate Program

Year

2

Architecture

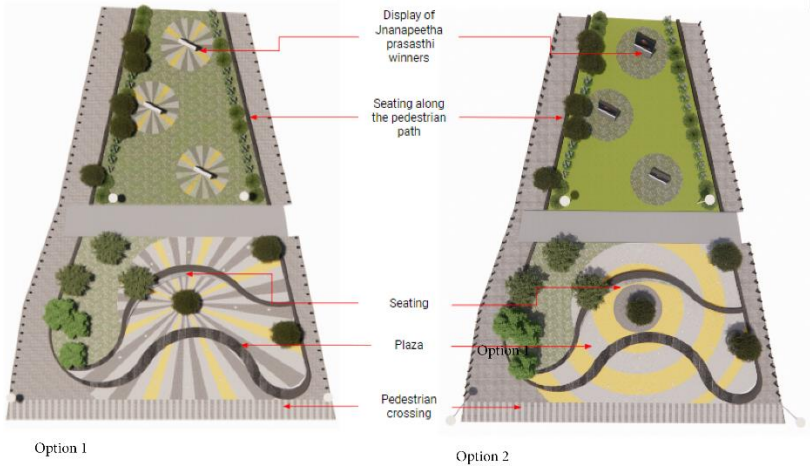
COURSE OBJECTIVES:

To work in an architectural and urban design firm handling the large scale architectural projects to acquaint the real time practices in Urban Design related projects.

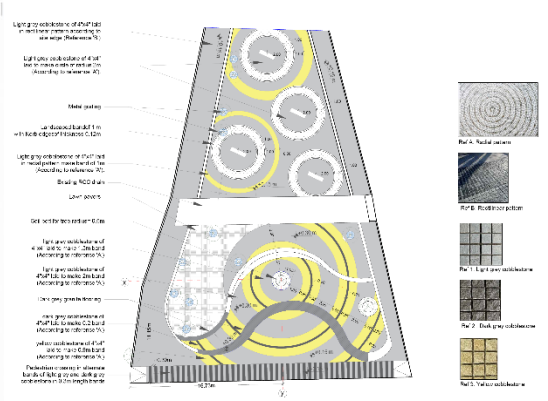
To provide a platform for critical thinking that extends beyond regulatory considerations, and instead embraces wider social, economic, environmental and political concerns, with a focus on urban design theories and principles..

PROJECT BRIEF: Junctions

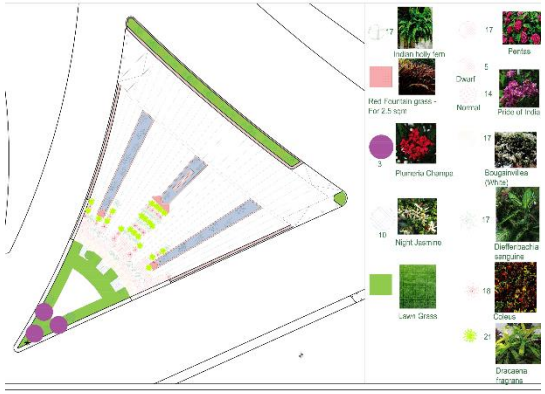
Junctions in Bangalore were analyzed with existing context. They were then designed with landscapes, sculptures, flooring materials which enhances the public realm and improves pedestrian experience.



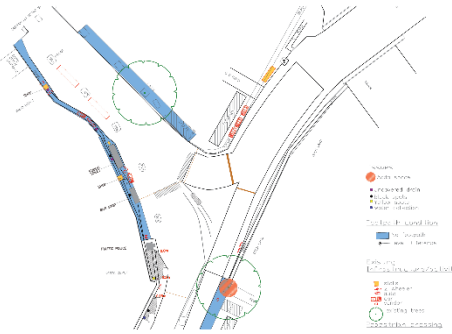
Design options for NR Road Junction,Bangalore



Flooring Layout Drawing for NR Road Junction,Bangalore



Landscape plans for Race Course Junction,Bangalore



Observation Mapping for Mysuru Road Junction,Bangalore

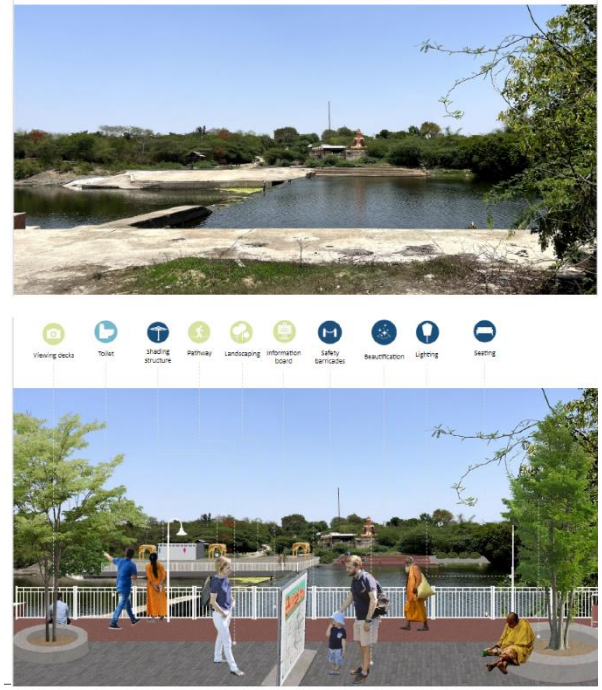
PROJECT BRIEF: Street Renders

The public street realm was visualized before/after the proposed design intervention. This was a crucial part of the presentation to the clients and seemed to convey the design in a powerful way.

Street Renders for Mathew Road, Mumbai

Before

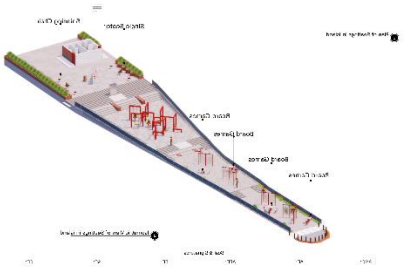
After

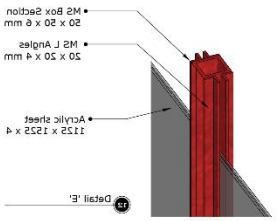


Before/After Street Renders for Ujjain

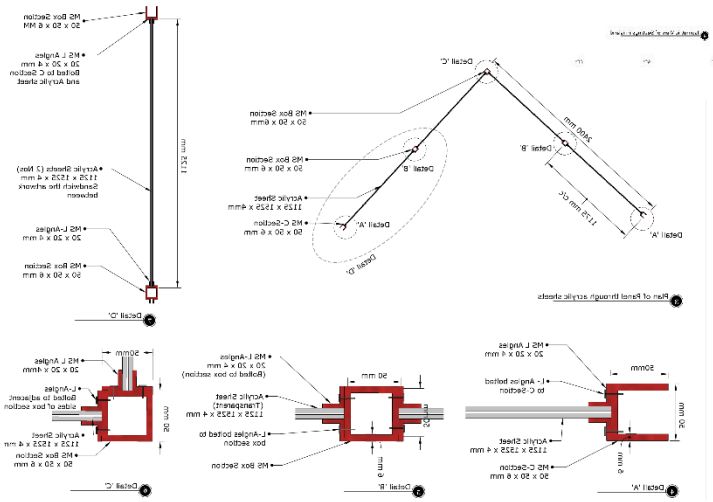
PROJECT BRIEF: Urban Design Details

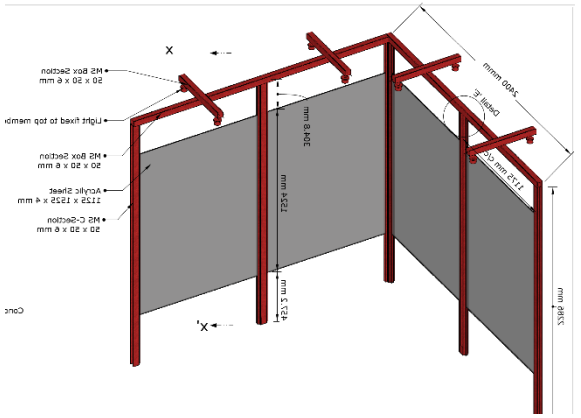
Detailed drawing of urban design elements such as bollards, panels, were created. An understanding of urban design impacts at the smallest scale was created

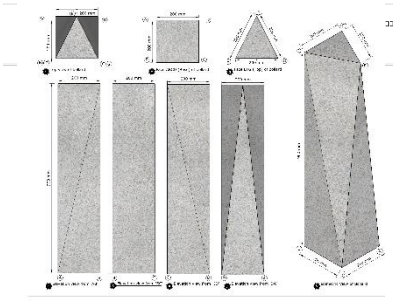




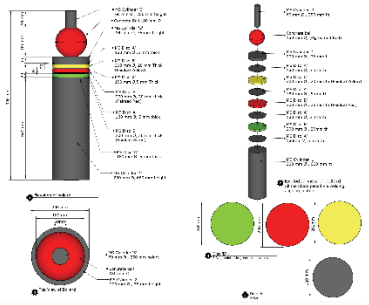
Panel Details for artwork display at Steel Flyover Junction



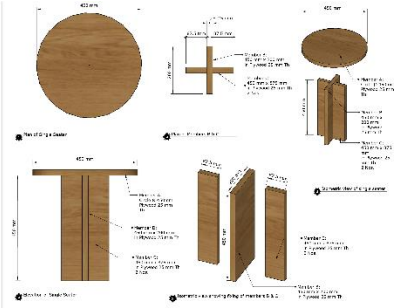




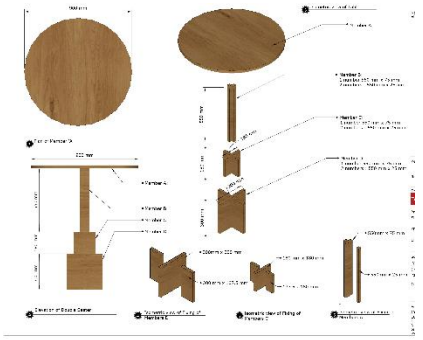
Bollard Detail: Race Course Junction, Bangalore



Bollard Detail:Mysuru Rd Junction, Bangalore



Tactitcal model for Seating (Street Furniture)



Tactitcal model Table (Street Furniture)

ARC 7017 URBAN ENVIRONMENT & LANDSCAPE DESIGN

Urban Landscape design analysis

COURSE OBJECTIVES:

To comprehend the urban environment while considering landscape as an integral component, to become acquainted with the fundamentals of urban landscape, to grasp the integration of landscaping considerations in the site planning process, to delve into the diverse intricacies essential for designing an urban landscape, and to gain knowledge about various concepts and factors pertaining to sustainability within urban landscape design..

PROJECT BRIEF:

As a part of the assignment, a Net case study was chosen, National war memorial, New Delhi ,Designed by WEBE Architecture and landscape architect by Savitha punde, Design cell . to analyze the landscape design with respect to its context, built form, landscape elements, the vegetation etc.

The design of this Memorial emerges from a context of legacy – the legacy of 25,000 Jawans (soldiers) who lost their lives in various wars and operations such as 'the Indo-Pak wars of 1947, 1965, and 1971; the Indo-China war of 1962; the Kargil war of 1999, besides the peace keeping operations in Sri Lanka, counter insurgency operations, and internal conflicts within the country'. It emerges from the remarkably, surprising mature process of a Government-organized competition. It emerges from this historically and politically charged site in the C-Hexagon, India Gate Complex.

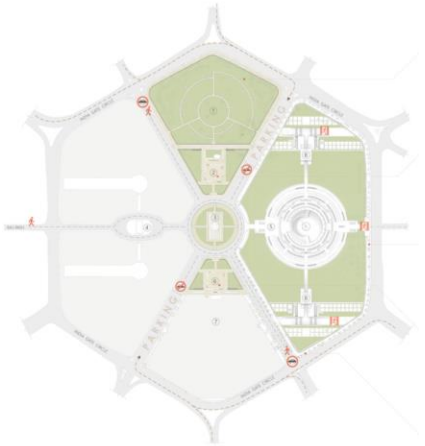
Area : 109265 m2 / approx. 26 acres
Designed by : WEBE Architects , Chennai.
Completed year : 2019
Average footfall : 50,000 ppl/day.
Planting Design: Savita Punde, Design cell, Gurgaon
Structural Consultant: Roark Consulting Engineers
Mep Consultants: Edifice – Delhi, ATE
Lighting: AWA lighting Designers
Artist: Lt.Col Arul Raj
Bronze Murals: Ram Vanji Suta.

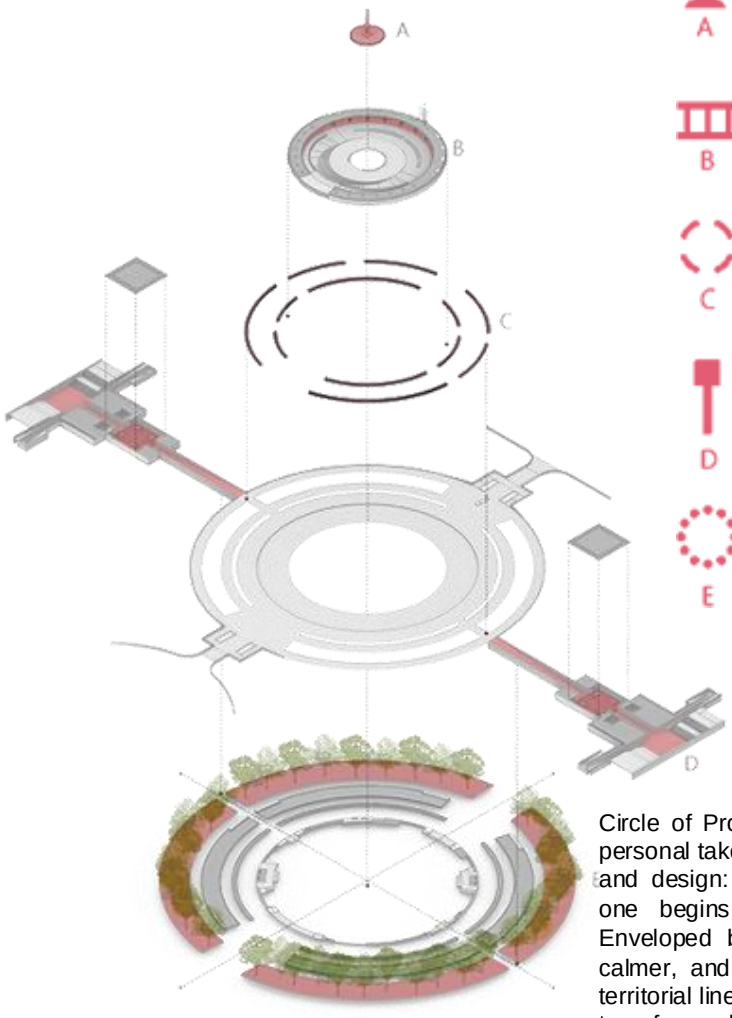
NATIONAL WAR MEMORIAL

Master plan

Legend:

1. Paramvir Stal
2. Pramvir Stal plaza
3. Chhatri
4. India Gate
5. National war memorial complex
6. Children's park plaza
7. Existing children's park





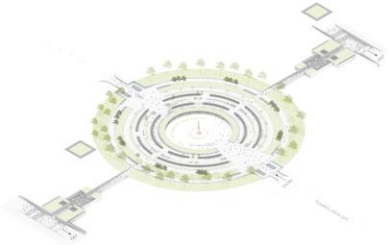
A CIRCLE OF IMMORTALITY

B CIRCLE OF BRAVERY

C CIRCLE OF SACRIFICE

D PATH OF WAR

E CIRCLE OF PROTECTION



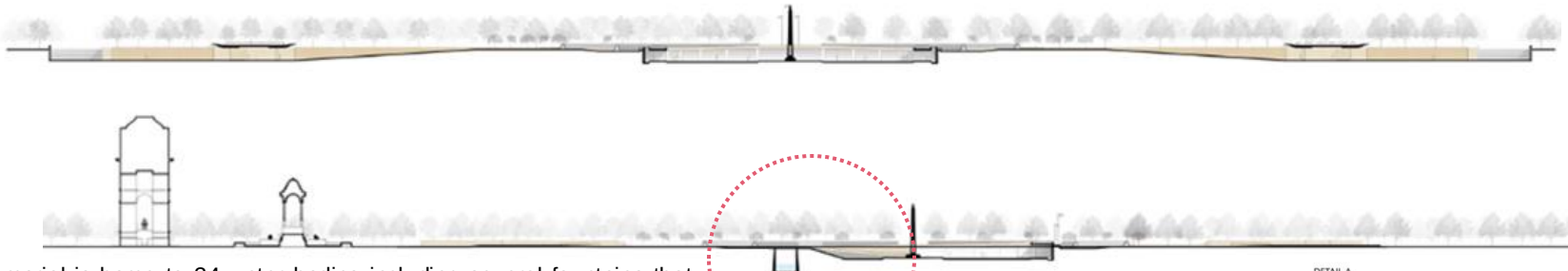
Circle of Protection and the Path of War are profoundly a personal take of the design team, on conveyance of 'emotion and design: establishing symbol and memory'. On arrival, one begins their journey at the Circle of Protection. Enveloped by 690 trees, the memorial area is relatively calmer, and protected from the outside. It personifies the territorial line of control, The soldiers who are still there trying to safeguard us in places unseen. The ordered arrangement of the trees reflect the disciplined life led by them."

NATIONAL WAR MEMORIAL COMPLEX
SPACE VS ACTIVITY VS COMPLEX

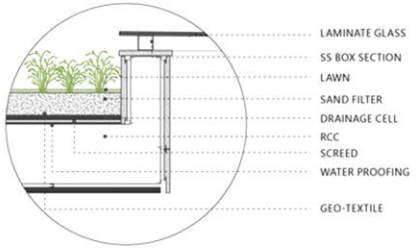
SPACE DURING NATIONAL CEREMONIES

SPACE DURING DAILY CEREMONIES

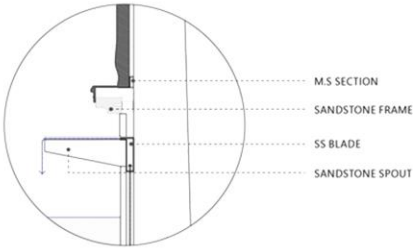
SPACE DURING EVERYDAY



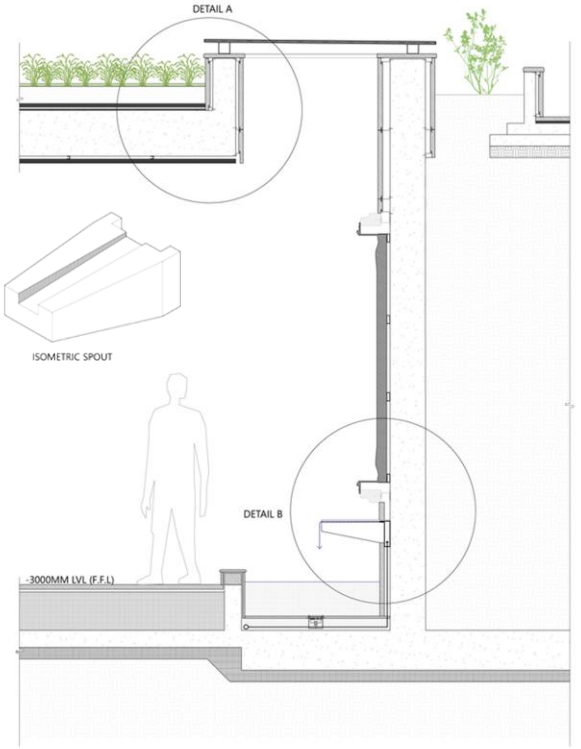
War Memorial is home to 34 water bodies including several fountains that use water from a 1.45-million-liter storage tank which has been designed to harvest rainwater. Located near the beautiful Rajpath and Delhi's gorgeous central vista, the war memorial makes for a great spot that must be visited.



DETAIL A
SCALE 1:25



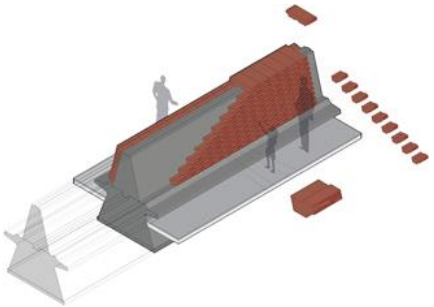
DETAIL B
SCALE 1:25

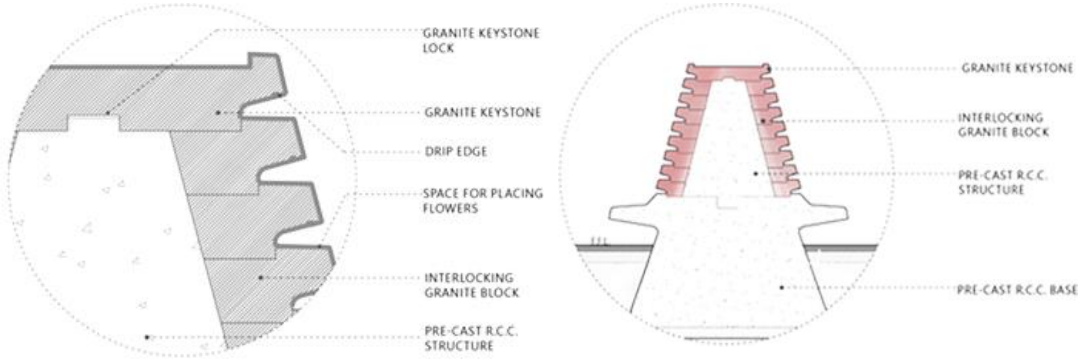


SECTION THROUGH YUDH PATH

SECTION THROUGH NORTH AND SOUTH GALLERY

section of the wall





Detail of the wall

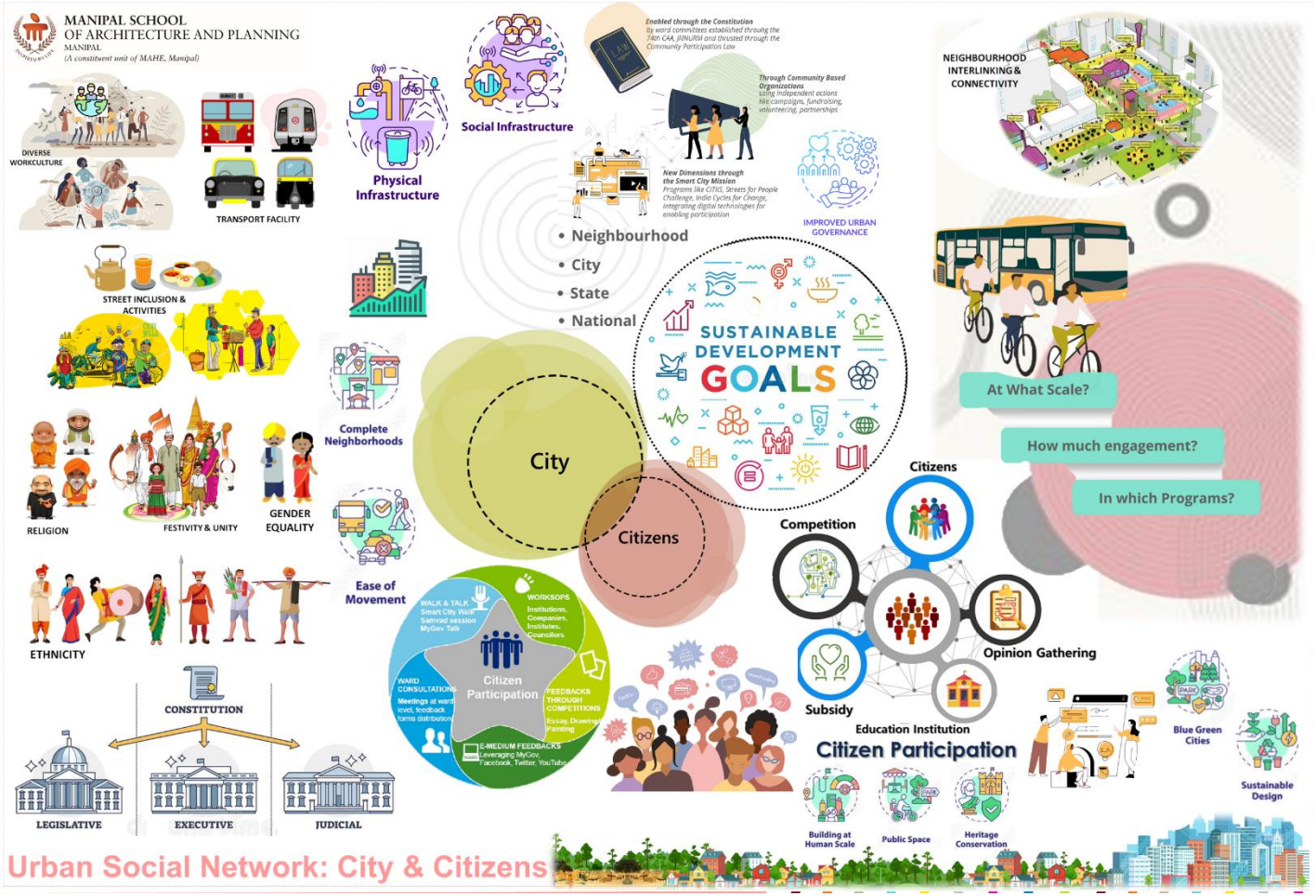
ARC 7105 URBAN SOCIOLOGY

COURSE OBJECTIVES:

To understand and apply knowledge of socio-spatial, sociocultural and socio-economic aspects to comprehend urban development.

PROJECT BRIEF:

Apply theories to comprehend Space and Urban Social Structure, Conflicts between quality of life, environmental conservation, and livelihood of the people; Migration to the city, Urban poverty, Informality and homelessness; Social networks, Spatial Dispossession; Occupancy Urbanism; ethnic conflicts, immigration, housing and slums, transport justice.



STUDENT: BRINDA KOTHARI (223710005)
FACULTY: VIDYA SAGAR REDDY G

ARC 7202 THESIS

URBAN AGRICULTURE In the tropical tempered climatic zone of Bengaluru

AIM :

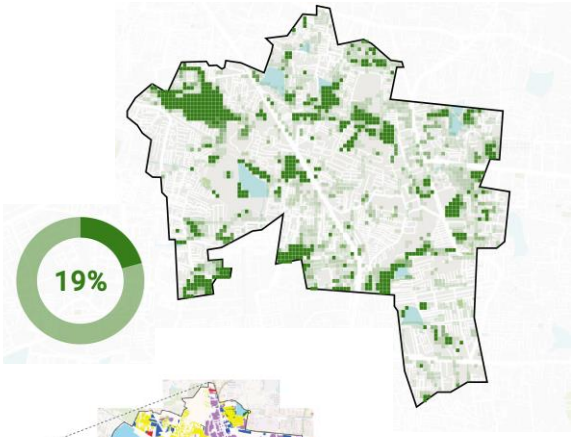
Aim is to design part of Bangalore city to increase green in an Urban development, contributing towards Sustainable development and measuring its impact on the environment.

OBJECTIVES :

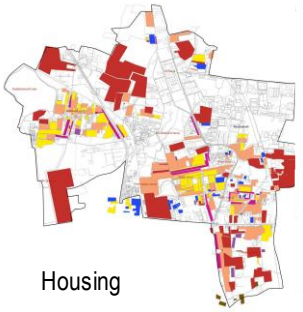
1) To identify the various produce that can be grown suitable for Bengaluru soil, climate and space available.
2) Define opportunities for various spaces and typologies of Bengaluru built environment creating a matrics of suitable systems for each existing and new forms.
3) To review the impact of Urban Design measures towards ecology and environment aspects.

ISSUE IDENTIFICATION :

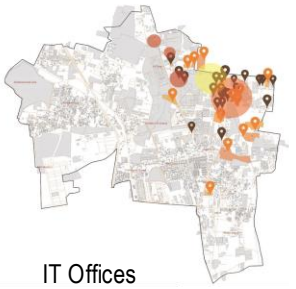
-The total population in this ward is estimated 63,000
-The thumb rule for providing vegetation in order to mitigate urban heat island and to offer quality green space, there should be 10 trees/person
-As per the generated tree cover map, there are only 0.3 trees/ person in this ward currently.
- This highlights a substantial gap between the existing green infrastructure and the recommended standard, emphasizing the need for strategic urban design interventions to enhance vegetation



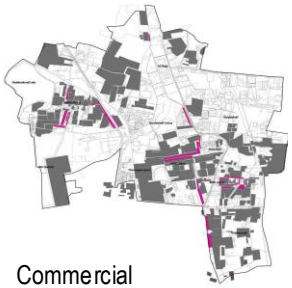
TYPOLOGY OF BUILDINGS IN THE WARD:



Housing



IT Offices



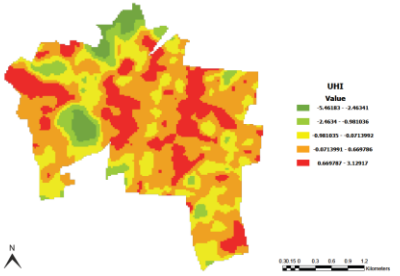
Commercial

-The variety in housing types implies that the ward caters to diverse preferences, potentially accommodating various house hold sizes and lifestyle choices.
- The array of mixed-use developments presents an opportunity to promote green initiatives by strategically incorporating green spaces, parks, and sustainable landscaping within and around these typologies. This inclusive design caters to diverse socioeconomic backgrounds.

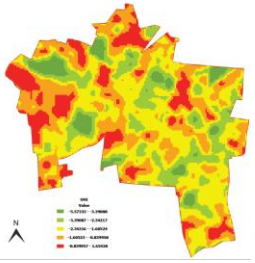
SITE SELECTION : Doddanekundi Ward near Whitefield, Bengaluru

URBAN HEAT ISLAND EFFECT AT A MACRO SCALE

SUMMER MAY 2023



WINTER DECEMBER 2023



- The urban heat island effect highlights how urbanization and infrastructure development contribute to higher temperatures in urban areas .
- This underscores the urgency of addressing UHI effects through mitigation measures such as increasing green spaces, promoting sustainable urban design planning, and engaging communities in climate-resilient practices.

STUDENT: DIVYA JYOTHI S (223710006)
FACULTY: DEEPIKA SHETTY
MANIPAL SCHOOL OF ARCHITECTURE AND PLANNING

URBAN AGRICULTURE In the tropical tempered climatic zone of Bengaluru

DESIGN STRATEGIES :

Central Nodes

Urban-level interventions in the central nodes, including the creation of urban green plazas, which serve as focal points for community gatherings and activities, fostering social cohesion and interaction among residents.

Habitat Connections

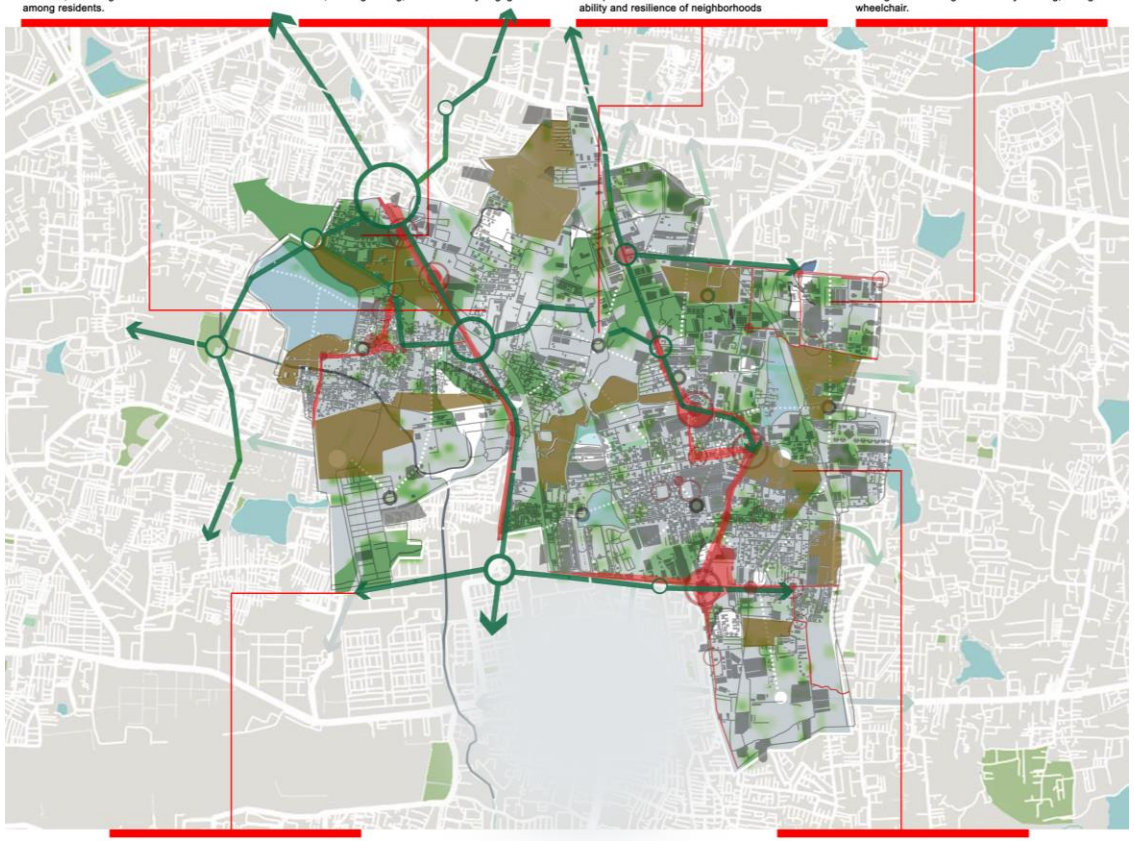
Habitat connections through the Miyawaki forest method in urban areas facilitate biodiversity conservation, ecosystem restoration, climate resilience, urban greening, and community engagement.

Neighbourhood Centers

These centers integrate green infrastructure such as community gardens or urban farms, providing residents with opportunities for hands-on involvement in food production and cultivation which enhance the livability and resilience of neighborhoods

Neighbourhood Greenways

are pedestrian and bike friendly green streets and trails that link neighborhood centers, parks, schools natural areas and other key community destinations making it easier to get around by walking, biking or wheelchair.



Major Corridors

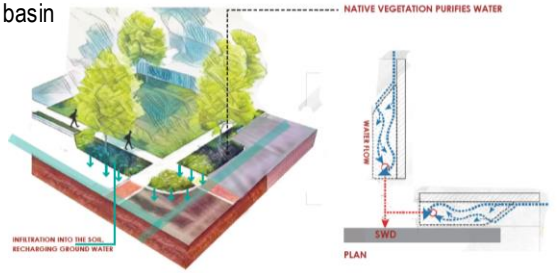
Implementing major corridors or civic corridors with continuous green canopy serves as an effective strategy to seamlessly integrate nature into the urban fabric, incorporating native plant species along these corridors.

Utilization of Underutilized spaces

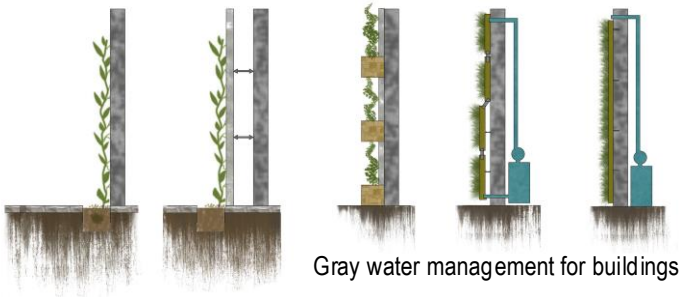
Transforming vacant lands into productive urban farms, renting vacant lands to individuals and organizations providing access to land, water, and technical support.

MASTER PLAN GUIDELINES :

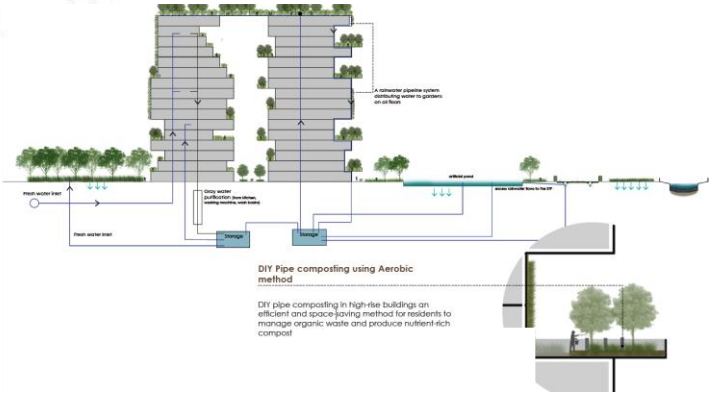
Street intersection basin



Types of green walls that can be incorporated to create shading and cooling effects on building facades



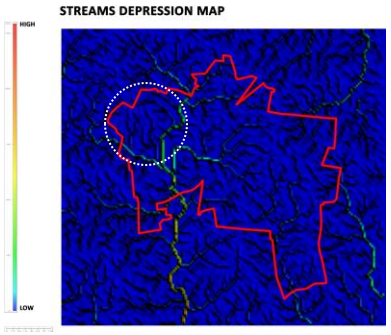
Gray water management for buildings



STUDENT: DIVYA JYOTHI S (223710006)
FACULTY: DEEPIKA SHETTY

URBAN AGRICULTURE In the tropical tempered climatic zone of Bengaluru

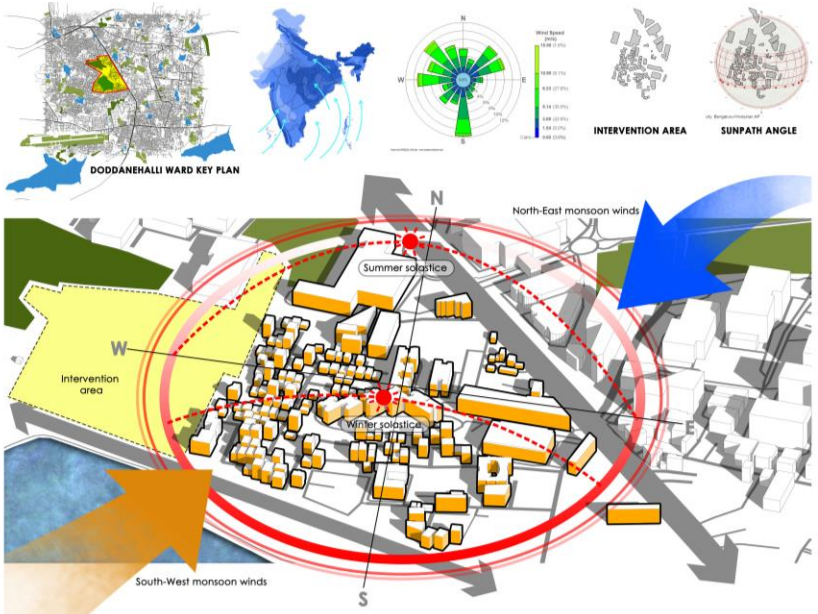
DEMO AREA FOR DESIGN



The green-light and blue/orange mixed thick line suggests the most depressed stream lines across the ward. Hence they are considered as the first order stream lines. harnessing them as a natural ecological element will be a sustainable practice in design

LAKE NEXT TO THE SITE

SUNPATH STUDY

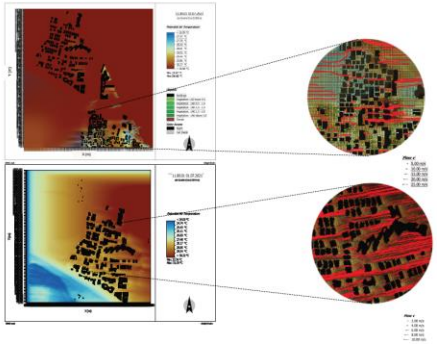


Guideline for existing buildings : Implementing green covers on existing buildings exposed to direct sunlight throughout the day, to mitigate heat gain and enhance thermal comfort levels.

Walls exposed to South sun light can be covered with green

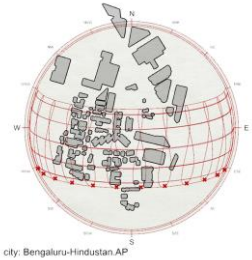
Terrace gardening as a means to foster Neighbor collaboration within a healthy ecosystem

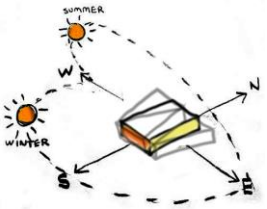
URBAN HEAT ISLAND EFFECT AT A MICRO SCALE



- The ENVI-met simulation results indicate a significant improvement in the surrounding environment following the implementation of green strategies on south walls and rooftops of buildings.
- The areas previously marked in red have transitioned to orange and yellow hues, signifying a reduction in temperature by 3 degrees Celsius.

BUILDING ORIENTATION TO MINIMIZE HEAT ABSORPTION





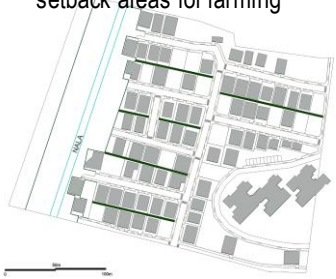
Position buildings so that their shorter sides face south, reducing direct exposure to intense sunlight.

STUDENT: DIVYA JYOTHI S (223710006)
FACULTY: DEEPIKA SHETTY

URBAN AGRICULTURE In the tropical tempered climatic zone of Bengaluru

DESIGN DEVELOPMENT

Utilizing unused spaces, such as setback areas for farming

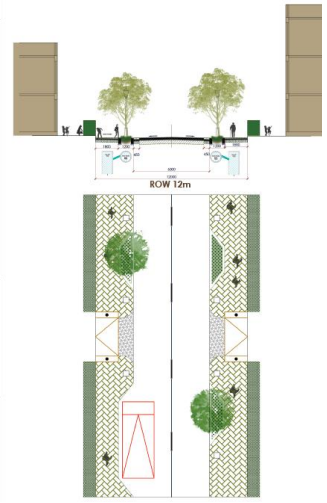


Terrace gardening

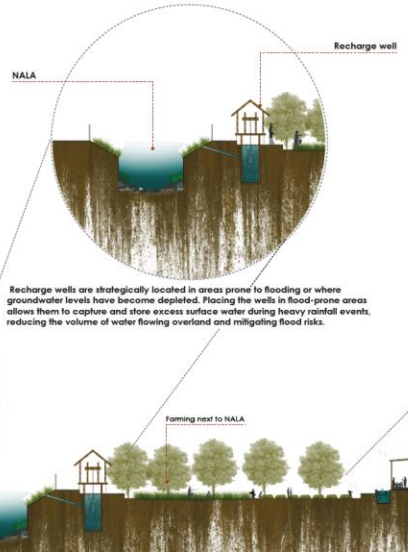
Engaging in farming activities within the buffer zone of a NALA : 25m stormwater runoff

Green Initiatives

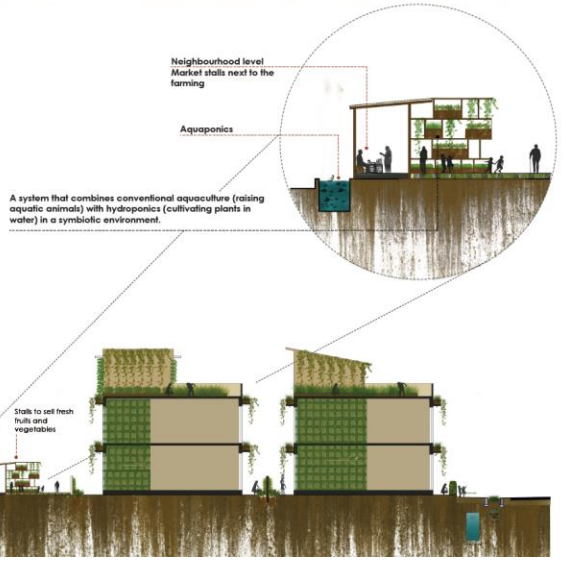
Street cross section of Local Road



Facilitating Recharge wells to Mitigate Flooding



Educational platform to inspire creative ideas among young people



STUDENT: DIVYA JYOTHI S (223710006)
FACULTY: DEEPIKA SHETTY

ARC 7202 THESIS

Encouraging Active Mobility

COURSE OBJECTIVES:

The intent of the studio is that students will be able to demonstrate an ability to comprehend the nature of urban challenges and to develop pertinent solutions with the help of knowledge grasped through the course. The thesis project would work as of acquired knowledge and wisdom to choose the design strategy or process accordingly.

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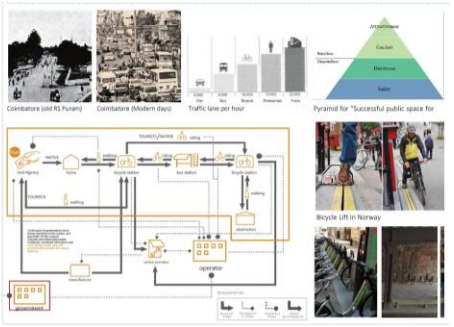
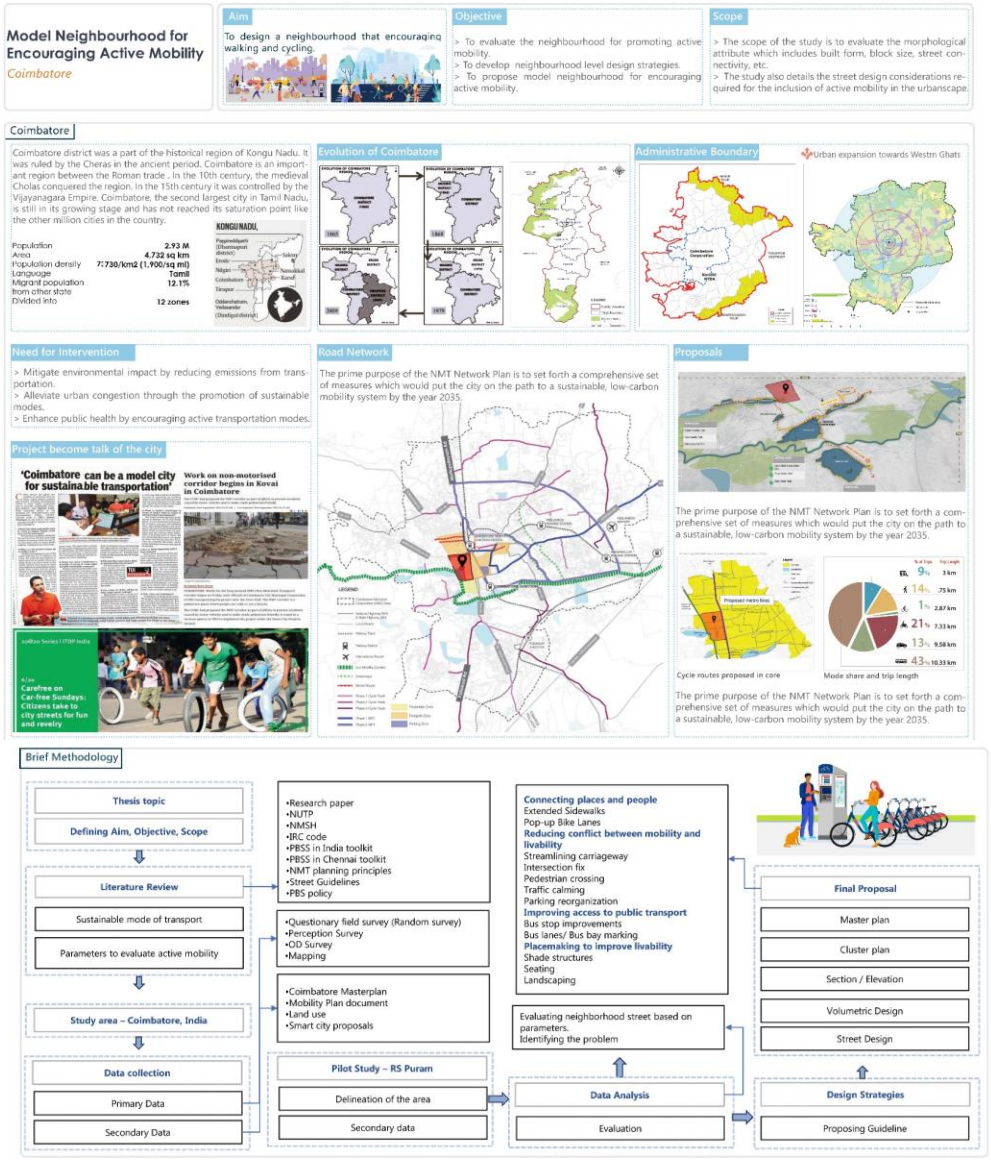
PROJECT BRIEF:

"Model Neighbourhood" framework aimed at promoting active mobility in urban settings. The foundation of the Model Neighbourhood is built upon the principles of creating pedestrian-friendly environments that prioritize safety, accessibility, and aesthetics. Key components include the development of well-connected and well-maintained sidewalks, dedicated cycling lanes, and green spaces.

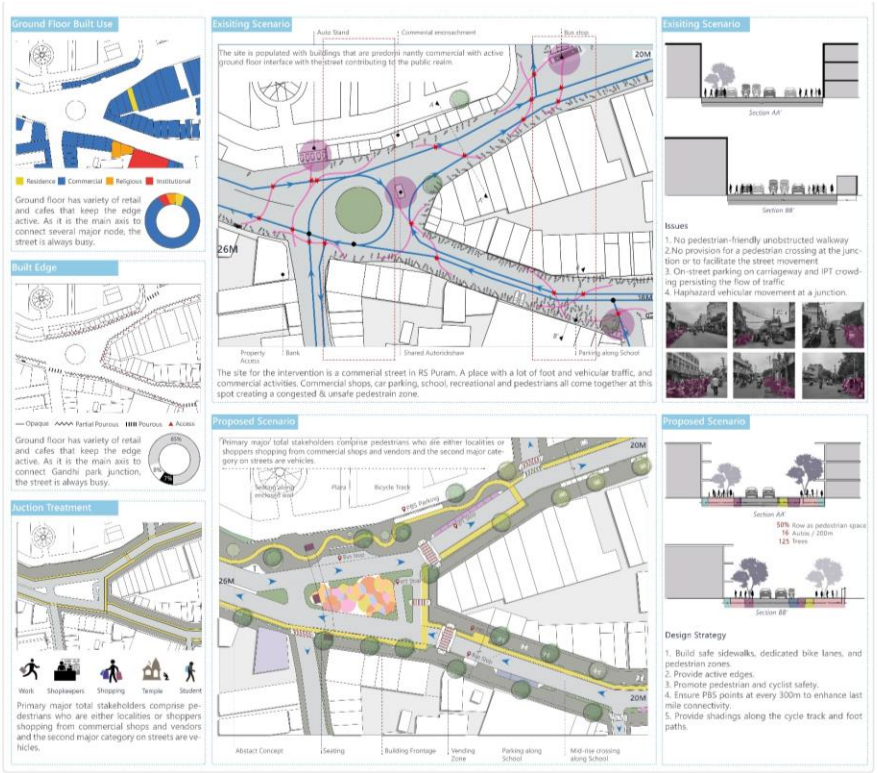


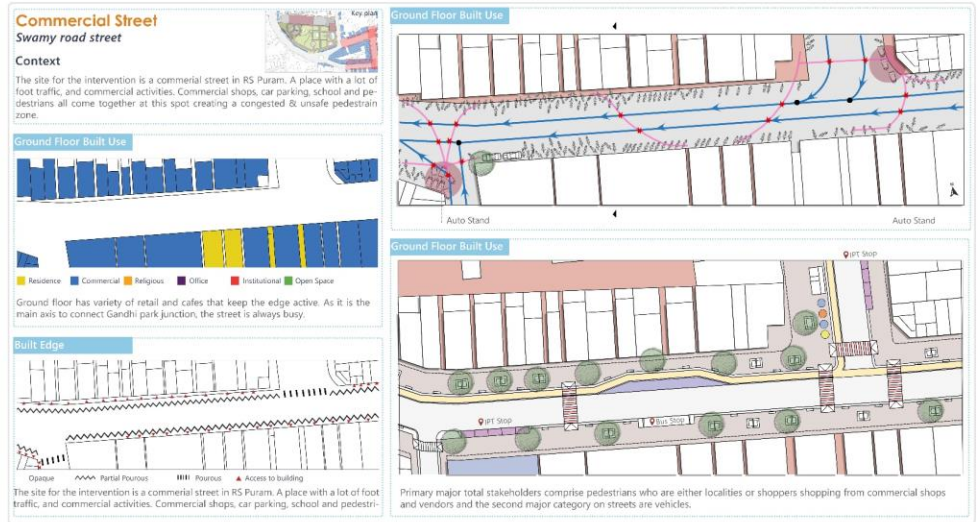


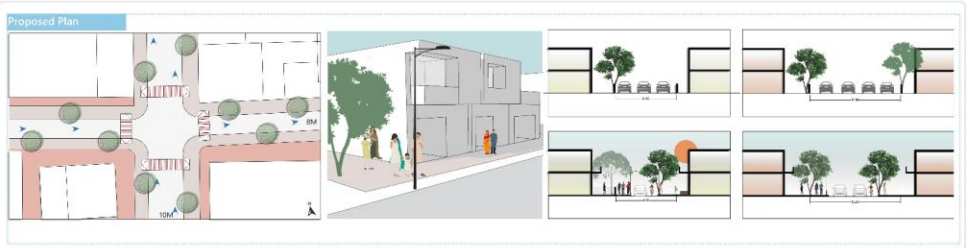
STUDENT: NANDHINI A (223710001)
FACULTY: KUMAR GAURAV

ARC 7202 THESIS

Model Neighborhood Encouraging Active Mobility







STUDENT: NANDHINI A (223710001)
FACULTY: KUMAR GAURAV

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2023-24

MSAP

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CONTENT

As provided by respective students & faculties. Collected by MSAP Repository team.